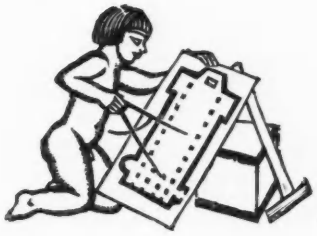

TURNING THE CORNER

THE almost complete cessation of municipal and private building enterprise which took place during the last few months of 1931 led to a considerable increase in the number of architects out of work. Draughtsmen were dismissed for no incompetence of their own, and the independent architect was faced not with a dwindling income, but with an income that had vanished altogether. To meet this emergency the R.I.B.A. immediately appointed an "Architects' Unemployment Committee" which, in conjunction with the Architects' Benevolent Society, issued an appeal for funds to provide maintenance grants until such time as an adequate scheme of work could be organized.

The R.I.B.A. started the scheme with a donation of £500, and subscriptions were immediately received from architects and their staffs, both private and municipal, and from the Allied Societies. The most suitable type of work to be done by those in need of relief had to be carefully considered. It was decided that it must be useful public work, and that it should not compete in any way with ordinary architectural or town-planning practice. The London Society and the London Survey Committee organized the scheme so promptly that work was able to begin at once, and a start was made measuring up seventeenth- and eighteenth-century buildings in London. The fund increased, more men were taken on, and elevational drawings of the principal London streets were made on the same lines as the original street façades of Tallis and Salway, a hundred years ago. The principal work, however, has been the surface utilization survey of the built-up areas adjoining the County of London boundary. This work is an essential preliminary to the town-planning of London itself, yet the available 25 in. ordnance maps are at least 10-15 years out of date, frequently more, and, although the information is sometimes in the possession of the local authority, every road in the area had to be visited to check the deposited plans and to determine the areas occupied by industries, open spaces—and public buildings. The immense amount of alterations and additions to the existing maps show the necessity for this survey, and the thoroughness with which it has been done.

Outside London, work has also been found in the areas of the Allied Societies, and a proportion of the R.I.B.A. grant was reserved for their use. The fund needed sustained support, and the level of the contributions was maintained, with the welcome addition of 1,000 guineas from a sale of drawings and a dance held at the Building Exhibition. The total number of architects employed during the first year was 90, working for three days a week and drawing National unemployment benefit for the remainder of the time. That the scheme received the full support of the architectural profession is shown by the current figures: 117 out of the 256 applicants were given employment, and the amount paid out in salaries is not far short of £11,000.

The work done under this scheme, now on exhibition in Bedford Square, shows that far more work has been done than it is possible to mention here; numerous measured drawings have been made, both in London and the provinces, of buildings with architectural merits, particularly of those which are in danger of demolition. All the work done under the scheme is available to any other members of the profession who may be in search of information, and it is extremely fortunate that the surface utilization survey should have been made at a time when the question of town planning is looming more largely in the public mind. Now that the increased activity in the building trade has reduced the volume of employment among architects to a normal level, the scheme must come to an end. The R.I.B.A. is, however, contemplating a scheme to carry on this work as far as possible, to provide employment for the residue who, it is feared, will always exist in a crowded profession. If the scheme succeeds, and secures some outside help, it will be possible to go on with this work which is so necessary, yet which no public authority has the funds to carry out. No large town can be properly replanned without an immense amount of data, and this data must be kept constantly up to date.

That the whole scheme has been so useful and so successful reflects great credit on its organizers. Professional societies are frequently accused of apathy and indifference, but here the R.I.B.A. has acted with commendable promptitude, and its suggestions have been wholeheartedly supported by the rank and file of the profession. Architecture has few glittering financial prizes and it is no mean achievement for a relatively small profession, hit harder than almost any other by an unprecedented slump, to be able to support its unemployed with such efficiency, and at the same time to perform so useful a public service.

The Architects' Journal
Westminster, S.W.1
Telephones: Victoria
9212-7
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Buildable
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London

NOTES & TOPICS

RUISLIP AGAIN

I AM sorry for the chairman of the Ruislip-Northwood Urban District Council, whose letter to the press comes like the cry of a Daniel from the lions' den. Little had he imagined that being chairman of a district council would involve him in a battle of the styles, a battle as bloody as any arena saw, with Christians on a Bernard Shaw pattern.

*

But in his letter the chairman made an admission when he stated that the Ruislip case was the first case submitted to the Panel, for it must be obvious that quantities of deserving cases exactly fitting the constitution of Advisory Panels were rising up all over the district, and yet this is the first case to be tackled.

*

Other Panels we know of find their work among the lower orders of speculation and bad building, and manage to exercise their powers in a manner that is beneficial to the general level of local building, yet refrain from this lopping off of blooms that thrust their heads above the rest and carry the marks of architectural conscience.

*

The Panels were never set up to arbitrate upon the merits of architects' designs. They were intended to improve the lower levels of bad building by kindly advice and help. This is what they should continue to do—or disappear.

WATERLOO BRIDGE AND SIR OWEN WILLIAMS

So Sir Owen Williams has renewed his offer of a design for a new Waterloo Bridge, the erection of which he is prepared to undertake for a sum considerably below the other estimates for rebuilding. The design was a plain enough statement of structural facts; and it ought to have pleased Mr. Morrison, who began the destruction of a more gracious solution with such gusto the other day.

*

But the Highways Committee of the L.C.C. has declined Sir Owen's offer. Really, Mr. Morrison, can you afford to ignore the extra thousands you would save on this job, with all the slum clearance and rehousing you want to do?

COTSWOLD ART AND CRAFTSMANSHIP

From August 3 to September 2 there is to be an exhibition at Chipping Campden, Gloucestershire, of the products of the arts and crafts movement, for that movement still lives and breathes in the Cotswolds. Its vitality is sustained by a number of competent craftsmen and designers, among whom Gordon Russell, Peter Waals and Edward Gardiner are numbered.

*

The atmosphere of the exhibition is not likely to be marred by what might be called "machine-hate." The advance copies of the catalogue I have seen are beautifully printed by the Alcuin Press, at Campden, which is so ably directed by Mr. H. P. R. Finberg, and the show promises to be worthy of the centenary year of William Morris.

*

I find in the introduction to the catalogue a reference to the "exhibitions of ghastly 'hand-made' rubbish" which I condemned a few weeks ago as a dishonour to the name of the great man who revived interest in hand-made things. I think "Topsy" would have been pleased with this Campden show. He must often have walked over there in the days when he resided temporarily in the Tower on Fish Hill.

BACK TO APPLIED ORNAMENT

In an article in *The Evening Standard* last Friday, Mr. Peter Downe described under the title of "Sculpture for the Small House," the use of sculptured "insets" of stone which can be let into the walls, the sleek, plain, simple walls of the modern house. In houses now being erected for the modern homes exhibition at Gidea Park, some of this inset ornamental stonework will be used.

*

The "insets" are being executed by Mr. H. Wilson Parker, who has collaborated with Mr. L. W. Thornton White in their design. I wonder if we are in for a good old English reaction from the untroubled simplicity of surfaces that has characterized the modern movement? Maybe Mr. John de la Valette will shake a few things out of his sleeve next January, which will stimulate public taste for rather more decorative surroundings.

*

I like at this moment to recall the words of Mr. Roger Fry in the memorandum that appeared in the Appendix to the Gorell report on Art and Industry. He suggested that design in industry is menaced by the idea that "when an object fulfils its function perfectly, it is, *ipso facto*, beautiful and a work of art. Though such a theory would at least spare us the horrors of futile decoration it would

The memorial tablet to Sir Mervyn Macartney, a former surveyor of St. Paul's Cathedral, which was unveiled in the crypt of the Cathedral on June 28, by Sir Giles Gilbert Scott, P.R.I.B.A. Mr. Godfrey Allen, F.R.I.B.A., Surveyor to St. Paul's, designed the memorial, and it was executed by Mr. Laurence Turner, F.S.A.

none the less prevent any real development of artistic design."

*

Functionalism is not enough. There is a bleakness about architectural nudism which can only be modified by an understanding of texture and colour and by the judicious introduction of decoration; but, "spare us the horrors of futile decoration . . ."

PLANNED INFORMATION

I need hardly say that I am the proud possessor of the first edition of *The Information Book*, and that I am continually referring to it.

*

Meanwhile I study, and try to collect, the sheets as they appear week by week in this JOURNAL; but, hard as I try to keep them systematically all together, I find that the vital one which I require at any particular moment is invariably missing.

*

Consequently I salute the publisher, who has now issued a stiff cover in which the sheets can be filed as they appear. The publisher is, too, a knowing fellow. He understands that most of the preceding sheets will have been mislaid —at least all the really important ones—and so he has promised to replace them. For that he has my respect and affection.

*

Incidentally, I find that these information sheets almost eliminate the need for my carefully tended file of advertisements. It is at least true to say that the individual announcements of manufacturers take on a new significance, besides being far easier to find and use, when worked in conjunction with the "sheets."

WHO CARES ABOUT CHURCHES

The Central Council for the Care of Churches is a remarkable body, for it contains one Bishop, two Deans, five Archdeacons, five Canons, but no architect. Certainly Sir Cecil Harcourt Smith, and Mr. H. B. Walters, F.S.A., who are members, know a good deal about art, but it is rather surprising that the Chairman of this Council, Dr. Foxley Norris, the Dean of Westminster, has not invited any architect to advise.

*

Architects, however, will be glad to hear that in the opinion of the Central Council, "a much higher artistic level is now being reached in many areas where modern work is concerned," and there are "an increasing number of modern Churches of real originality and distinction."

THE HOMES OF THE FUTURE

I have just finished reading a book called *The Birth of the Future*, written in exquisite journalese by one Ritchie Calder, who is (according to his publishers) 27 years of age, and, after being a police-court reporter in Dundee, joined *The Daily Herald*, where "his work brought him, more or less by accident, in touch with the great scientists. . . ."

*

His chapter on "the homes of the future" is partly based on an interview with Mr. Joseph Emberton, whom he describes as "one of the scientist-architects who are thirty years ahead of their time, and who are fighting convention and are trying to plan for the needs of the Future." It all seems to boil down to "blocks of flats run on democratic lines."

*

In the chapter on "the future of the machine" he makes the not unfamiliar reflection that if Wren's plan had been adopted London might have been spared an acute traffic problem today. The popular press mind, making discoveries in town-planning, is apt to acclaim the obvious with a fervour that astonishes designers and confuses laymen. The publishers say that this book has been described by a famous scientist as "the textbook of the new world movement." I don't think any architect would endorse that description.

THE LAYMAN'S COMPLAINT ABOUT ARCHITECTS

When I hinted last week that all was not well with the kitchen, when the architect plans it, I was forgetting another sore place in the house: the garage. It is often maddeningly mean in size. I'm not talking of a speculative builder's garage with Tudor exterior; but an "architect-built" garage, designed, presumably, for a motor scooter.

*

The man who was complaining to me said he was still friendly with the architect who built his house. He was so nice about the garage: he (the architect) said: "Oh, people always say that their garages are too small." And then followed the usual technical laugh, and the layman was put in his place.

*

It is the weakness of many professions that their practitioners imagine that clients are always cretins.

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

80 per cent. of the single family dwellings in the United States have been built without employing an architect 6

A protest against the appointment of an English architect in connection with the reconstruction of the Grangegorman Hospital, Ireland .. 6

The power house at the Ford Factory, Dagenham, is called upon to provide as much current as would normally be needed by a town with fifty thousand inhabitants 15

The fifth of our series of Information Supplements is devoted to Insulated Construction 21

THE RADCLIFFE LIBRARY

A library for Liverpool Cathedral is to be included in the section now under construction, and plans prepared by Sir Giles Scott have been approved by the Executive Committee (states *The Quarterly Bulletin* of the Cathedral Committee). It will be known as the Radcliffe Library, in honour of Sir Frederick Radcliffe, for 21 years chairman of the Cathedral Executive Committee.

BUILDING CENTRE COTTAGES

The Building Centre Cottages, Bush House, Strand, at present the headquarters of the Under Forty Club and the Committee of the New Homes for Old Exhibition are shortly to be demolished to allow for extensions to Bush House.

HOUSING IN U.S.A.

According to a study on housing just published by an American, Mr. E. F. Bemis, it is estimated that 80 per cent. of the single family dwellings in the United States have been built without employing an architect. In recent years a large number of moderately-priced houses have been built from architects' plans, but these plans have often been purchased ready-made from home service bureaux or other agents. Mr. Bemis states that where an architect is employed to prepare an original design with specifications, frequently 4 per cent. is charged, and a further 2 per cent. for supervision.

He takes the view that the American architect has failed to see his opportunity for public service in the design of the small home. The Conference set up by the President on Home Building and Home Ownership stressed the opinion that "the design of the average small American dwelling is seriously defective." Interesting figures are given with regard to architects and housing. There are said to be 12,000 architects in the States, of whom 4,000 are engaged in residential work and probably do not design more than one house per month. On this basis they design only about 50,000 houses per year as against a normal demand of about 400,000 houses.

THE ARCHITECTS' DIARY

Thursday, July 5

VICTORIA AND ALBERT MUSEUM. *In the Central Hall, South Kensington, S.W.7. Exhibition of English Silversmiths' Work, old and modern, showing the development of various domestic types. Open during July.*

R.I.B.A. *At 7 Bedford Square, W.C.1. Exhibition of work done under the Architects' Emergency Scheme. Open until further notice.*

Monday, July 9

ROYAL SANITARY INSTITUTE. *At Bristol. Annual Congress. Until July 14.*

DUDLEY'S NEW MUNICIPAL BUILDINGS

The Earl of Dudley, on June 27, laid the foundation stone of Dudley's new municipal buildings, which are being erected at a cost of £60,000, on the site of the former municipal buildings.

The architects are Messrs. Harvey and Wicks, of Birmingham, whose design was placed first in a competition held some two years ago.

PROTEST AGAINST THE APPOINTMENT OF AN ENGLISH ARCHITECT

Following is an extract from the current issue of *The Irish Builder and Engineer*:

"The National University of Ireland graduates have made a protest to the Board of the Grangegorman Mental Hospital against the appointment of 'a foreign architect' in connection with the reconstruction of the hospital, 'while several Irish architects, fully qualified and competent, who had taken a university degree in architecture in the School of Architecture of the National University, which was the only one of its kind in Ireland, had been passed over.' It was stated that the matter had been referred to President de Valera, and was under consideration. It appears that a selection Board, under the Appointments Commission, recommended the appointment of Mr. E. Williams, F.R.I.B.A., Liverpool, but it is not quite clear whether the appointment was finally sanctioned."

BLACKBURN CATHEDRAL

Plans have been passed for an extension of Blackburn Cathedral, estimated to cost £200,000. Mr. W. A. Forsyth, F.R.I.B.A., is the architect.

SOCIETY OF GRAPHIC ART

The fourteenth annual exhibition of the Society of Graphic Art will be held at the Royal Institute Galleries, 195 Piccadilly, W., from July 9 to July 30.

EXHIBITION OF R.I.B.A. DRAWINGS

The South Wales Institute of Architects, in conjunction with the Welsh School of Architecture, recently held an exhibition of the R.I.B.A. Prize Drawings in the Studios of the Welsh School of Architecture, The Technical College, Cardiff.

R. I. B. A.

COUNCIL MEETING

Following are some notes from a recent meeting of the Council of the R.I.B.A.:

The Retiring Hon. Secretary: The Chairman (Mr. H. S. Goodhart-Rendel, vice-president) referred to the extremely valuable work which Mr. Sydney Kitson had done for the Institute and the profession during his six years' tenure of the office of hon. secretary and on his proposition it was resolved by acclamation that a very cordial vote of thanks be passed in favour of Mr. Kitson.

Mr. Edwin Gunn: The cordial thanks of the Council were conveyed to Mr. Edwin Gunn for his valuable services over many years as the R.I.B.A. representative upon several committees of the British Standards Institution. Mr. Gunn has found it necessary to resign his membership of these committees owing to his departure from London.

R.I.B.A. Architecture Medals: Mr. H. J. Rowse [F.] (Liverpool) was appointed to represent the Council upon the jury which has been set up in connection with the award of an R.I.B.A. Architecture Medal in the area of the Birmingham and Five Counties Architectural Association.

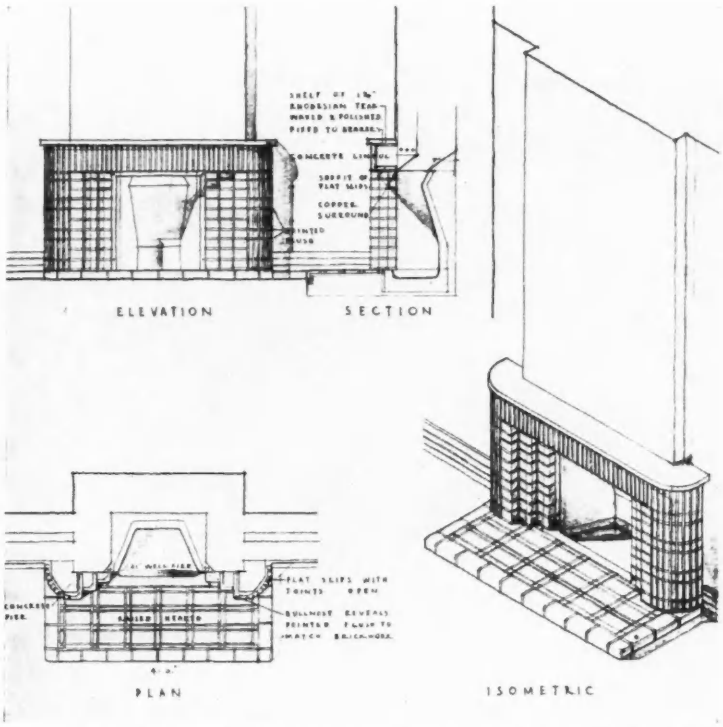
British Waterworks Association: Mr. R. J. Angel [F.] and Major C. F. Skipper [F.] were appointed as the R.I.B.A. representatives on the Standing Committee on Water Regulations of the British Waterworks Association for the ensuing twelve months.

The General Council for the National Registration of Plumbers: Mr. Alan E. Munby [F.] was appointed to represent the Institute at the annual meeting of the General Council for the National Registration of Plumbers.

Permanent Scheme of Employment in the Architectural Profession: The proposals submitted by the Architects' Unemployment Committee for the setting up of a permanent scheme to deal with unemployment in the profession were approved in principle and the Committee have been asked to formulate a definite scheme.

Competitions for Town Planning and Improvement Schemes: The Council approved the report of the Competitions Committee in respect of their negotiations with the Town Planning Institute upon the control of competitions for town planning and "improvement schemes."

It has been agreed with the Town Planning Institute that in order to facilitate the application of the appropriate regulations for competitions, the Royal Institute of British Architects and the Town Planning Institute should in future differentiate between "town planning" and "architectural" competitions. Competitions involving the design, erection and supervision of buildings should be deemed to be "architectural" and governed by the R.I.B.A. Regulations for Architectural Competitions, while those involving the general design and grouping of buildings, but not their erection and supervision should be recognized as "town planning" competitions



The winning design, by H. E. Buxton, in the competition for the design of brick fireplaces. See Competition News below.

and governed by the Competition Regulations of the Town Planning Institute.

The Town Planning Institute Regulations have been revised in consultation with the Competitions Committee and will bear the following footnote :—" These Regulations have been framed in consultation with the Royal Institute of British Architects."

" Directions to Assessors " and " Answers to Questions " : Upon the recommendation of the Competitions Committee it has been agreed to insert a note in the " Directions to Assessors " drawing attention to the desirability of ensuring that questions received from competitors should be submitted to the assessor by the promoters in an anonymous form.

R.I.B.A. DANCE CLUB

Under the auspices of the Social Committee the R.I.B.A. Dance Club has organized a farewell dance to take place at the Institute on Monday, July 16. The price of the tickets will be 7s. 6d. each, or 25s. for four, and the numbers will be limited. Applications for tickets should be made as soon as possible to Mrs. J. A. Slater, 8 Wellgarth Road, N.W.11.

COMPETITION NEWS

STAND FOR THE BUILDING EXHIBITION

The premium of £100 for a preliminary design for a stand for Venesta, Ltd., at the Building Trades Exhibition has been awarded to :—

Mr. F. Skinner, c/o Tecton, 57 Haymarket, London, S.W.1.

The four premiums of £10 each have been awarded to :—

Mr. A. N. Baldwinson, A.R.A.I.A., of 12 Bedford Place, W.C.1.

Mr. George H. Bray, A.R.I.B.A., 61 Curzon Street, W.1.

Mr. Thomas Gordon Cullen, of 132 Green Lanes, Stoke Newington, N.16.

Mr. Jack Howe, of 176, Baker Street, Enfield, Middlesex.

The assessors of the competition were :—Mr. H. de C. Hastings (Editor of *The Architects' Journal*) ; Mr. W. L. Wood (Editor of *The Architect and Building News*) ; Mr. W. T. Plume (Editor of *The Builder*) ; Mr. E. Maxwell Fry, A.R.I.B.A., nominated by the Editor of *The Architectural Review* ; Mr. Henry Rutherford, managing director of Venesta, and Mr. John Gloag.

The winning design will be published in our next issue.

BRICK FIREPLACES

The result of the competition for the design of brick fireplaces (organized by the Iffley Brick Fireplace Co., in conjunction with the Building Centre), has been announced as follows :

Design placed first (£25) : Mr. H. E. Buxton, of 211 Galton Road, Warley Woods, Birmingham.

Design placed second (£10) : Mr. Herbert E. Jenner, of 19 Woodbastwick Road, Sydenham, London, S.E.26.

Design placed third (£5) : Mr. A. Douglas Robinson, F.R.I.B.A., of 104 Queen Victoria Street, London, E.C.4.

The Iffley Brick Fireplace Co. are considering, under Clause 5 of the Conditions, the purchase of certain other designs submitted, and each competitor will be notified direct.

An exhibition of the winning designs, together with a selection of the other designs submitted, will be on view at the Building Centre from Monday next, July 9.

Competitions Open

July 16.—Sending-in Day. Proposed Council School, Dudley. The competition is limited to architects having an office within 15 miles radius of Dudley. Assessor, H. T. Buckland, F.R.I.B.A. Premiums : £150, £100 and £50. The last day for application for questions was May 7. Designs should be submitted to the Director of Education, Education Offices, St. James' Road, Dudley.

July 31.—Sending-in Day. Proposed Municipal Sanatorium and Children's Hospital, Belfast. Competition limited to architects who have resided in Northern Ireland since March 1, 1933. Assessor : R. S. Wilshere, F.R.I.B.A, Premiums : 500, 200 and 100 guineas. The last day for questions was April 28. Designs should be submitted to the Town Clerk, City Hall, Belfast.

August 17.—Sending-in Day. Proposed new Municipal Offices for the Swinton and Pendlebury Urban District Council. Assessor : J. R. Adamson, F.R.I.B.A. Premiums : £150, £100, £75. Last day for questions was June 11. Conditions (deposit one guinea) from the Clerk to the Council, Council Offices, Swinton, Manchester.

August 31. — Sending-in Day. Proposed Memorial Assembly Hall at Methodist College, Belfast. Assessor : Mr. R. S. Wilshere, F.R.I.B.A. Competition is open to architects resident in Ireland. Premiums : £100 and £50. Designs must be submitted to Mr. Wilshere at the Education Offices, Belfast, not later than 10 a.m. on Friday, August 31. The last date for questions was July 2.

September 22.—Sending-in Day. Civic Centre, Tunbridge Wells, for the Corporation of Tunbridge Wells. Assessor : E. Berry Webber, F.R.I.B.A. Premiums of £300, £200, £100 and £75. Conditions are now obtainable (deposit £1 1s.) from Mr. J. Whitehead, Town, Clerk, Tunbridge Wells. The last day for submission of designs is September 22.

October 1.—Sending-in Day. Proposed Municipal Assembly Halls, Wolverhampton, for the Wolverhampton Corporation. Assessor : C. Cowles Voysey, F.R.I.B.A. Premiums : £350, £250 ond £150. Conditions from the Town Clerk, Town Hall, Wolverhampton. Last day for questions was May 21. (Deposit £1 1s.)

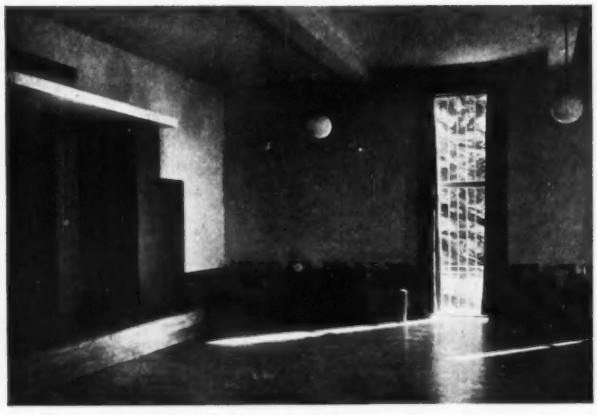
THIS ARSHETECTURE

A bank ought, surely, to look like a bank, conveying a sense of stability, of dignity and of resources adequate enough to be devoted to ornament as well as utility. The treatment itself—in other words the style—will often depend upon the predilections of some high official of the company . . . Where opportunity offers the building should harmonize with its surroundings. But amid modern street architecture probably the best advertisement obtainable from a dissimilarity of treatment would be to have the façade well designed on traditional lines.—*From the International Banking Number of " The Times Trade and Engineering Supplement."*

MASONIC LODGE, BOCKING: BY SIR JOHN

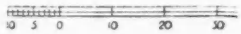
DELL AND WAINWRIGHT

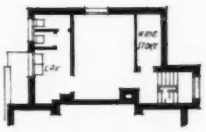
The Lodge is situated in the Causeway, Bocking, on the outskirts of Braintree, in Essex. The elevations are finished with pale cream rendering, with plinth and piers of mottled black glazed bricks. Parapets are of 2 in. blue York stone, with a recessed course of sky blue tiles underneath. All the brick facings are finished with a flush vertical joint and raked out horizontal joints. The photograph above is of the side elevation, showing the side entrance to the Temple.

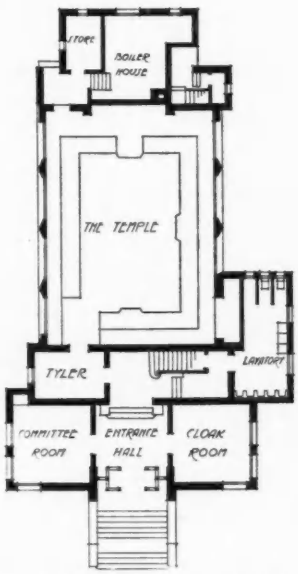


Left: the dining hall on the first floor. The tall windows open in the lower portion on to small balconies.

FIRST FLOOR PLAN

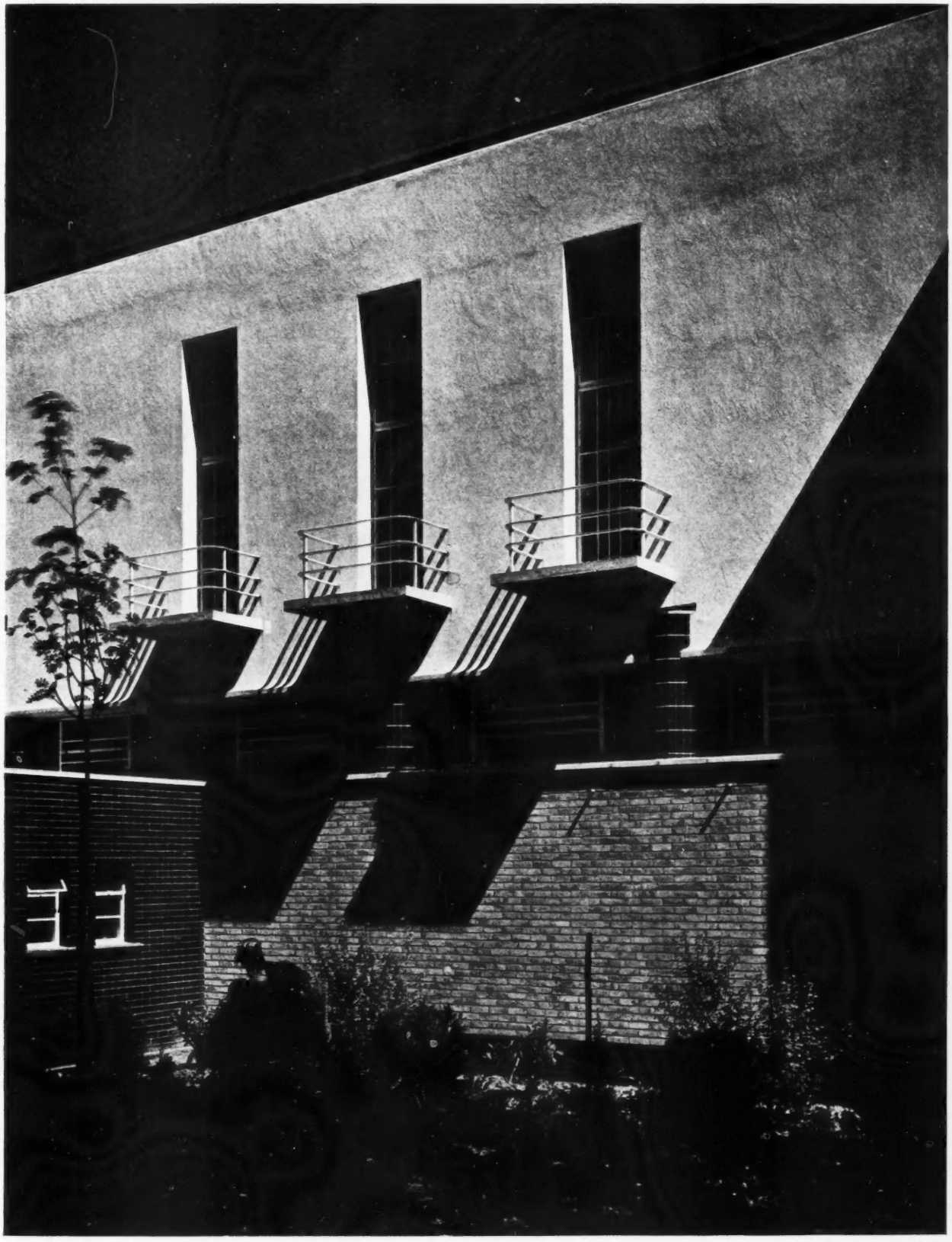






GROUND FLOOR PLAN

BURNET, TAIT AND LORNE AND D. G. ARMSTRONG



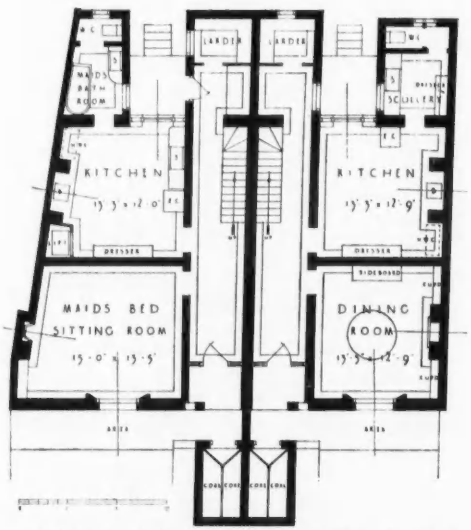
DELL AND WAINWRIGHT

A view from the garden, showing the Dining Hall and Temple windows.

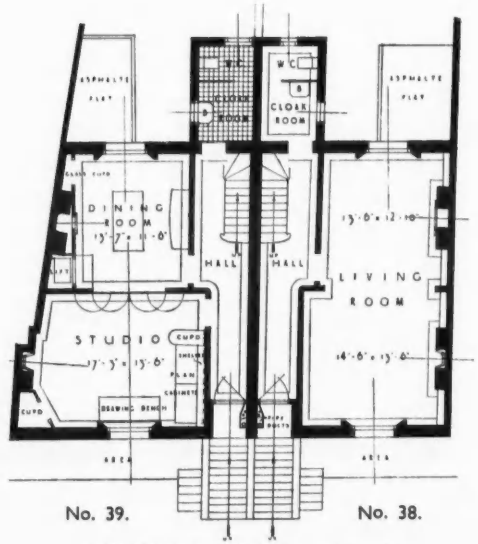
TWO HOUSES IN SOUTH GROVE, HIGHGATE

[DELL AND WAINWRIGHT

The four houses illustrated above were, as originally built, identical. The left hand pair has recently been remodelled by Mr. C. H. James, and the resultant change in the character of the elevations is positively startling, considering the small amount of structural alterations involved. The sun-blinds and their boxes have been removed from the ground floor, and the vermiculated keystones of the round-headed windows received suitable attention. The substitution of a dwarf wall for the original railings has made the approach seem less forbidding, but the greatest difference is due to the "cleaning-up" of the rain-water and soil pipes, which are now brought down inside the building in a duct (see plan below).



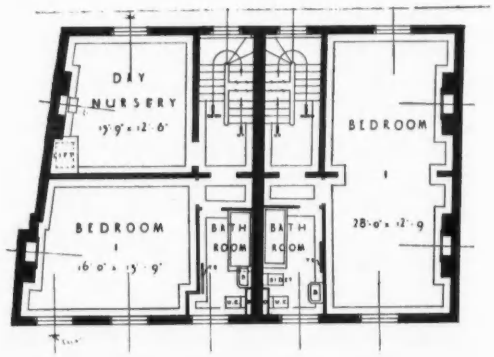
LOWER GROUND FLOOR PLAN



No. 39. No. 38.

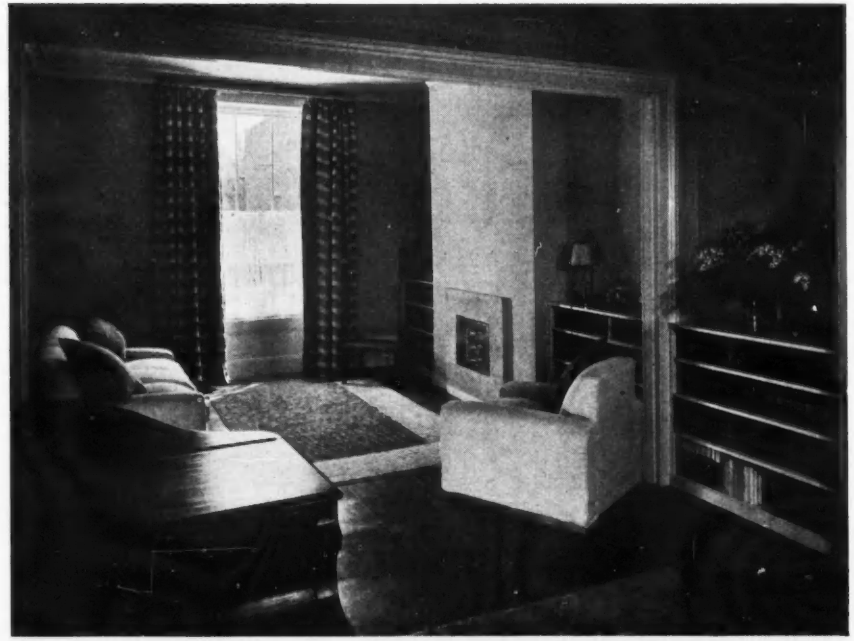
GROUND FLOOR PLAN

RE-DESIGNED BY C. H. JAMES



FIRST FLOOR PLAN

DELL AND WAINWRIGHT



Above, the ground floor studio of number 39; the floor is in plywood squares, and the settee is made up of two bottom halves of ordinary plan chests, with a mattress on the top. Right, the living room of number 38.

LETTERS FROM READERS

DANIEL ROTH

ROBERT DE BURGH

OLD SCHOOL TIE

ARCHICONOMIST

Ruislip

SIR,—Much apposite comment has been passed on the unfortunate Ruislip case, and a new problem has to be faced thanks to the "disservice" to architecture which you have boldly proclaimed. There is little in the discussion with which one cannot agree, but may I be permitted to offer some small defence for the Panel whom you have, rather unfairly I feel, castigated.

The duties of a Panel are clearly not concerned with an analysis of the plan or construction of the building before them, both of which points may justifiably be left to the client and the architect. The question of siting, which might arise in some cases, does not enter into the Panel's review in this case. It is essentially on matters of elevation that the Panel has to exercise its prerogative, and whoever should be unfortunate enough to fail in the test could claim, as you have done, that a group of architects has imposed its personal tastes on a designer holding qualifications equal to their own. For it is not the diploma that tests the architect. Messrs. Connell and Ward would be the first to admit that a design on the lines of their Ruislip houses would not pass the Institute's examination or win the Rome Scholarship. By obtaining these qualifications first and then departing boldly into the new field, there is a suggestion that the diplomas are not a test of skill, but rather a preliminary obstacle to be overcome before tackling the larger one of the local Panel. I suggest that the designers of these houses have clearly indicated by the freedom of their designs that they themselves do not recognize the R.I.B.A. or any other diploma as the ultimate test of a designer's skill, and we need not therefore stigmatize the Panel for taking the same view.

Actually, no Panel could voice the feeling of the whole profession on the vexed subject of elevations, for there is no single, unanimous verdict. At best they can but forward the view of enlightened members of the profession. Although we may consider them somewhat conservative (a failing which is notoriously on the right side), there are some names on the panel to whom we would all willingly assign the description "enlightened." Since the Panel had to be prepared to enforce its own views on somebody at some time, its members are rather to be commended on their courage in boldly ignoring any outward claims to personal privilege. They judged the design on its merits, and, to do them justice, many, if not all, enlightened architects (unless enlightenment be allowed only to architects under 30 years of age or thereabout) would agree with them in their personal tastes.

With regard to the references to construction and foreign origin in the Panel's report, there does seem to be a departure from the terms of reference, but even here there is something to be said in defence. If we were to explain to a lay council why we do not like neo-Tudor houses we would probably have to mention that the design was a falsification of construction, that it was a fallacy to think that Tudor elements were essential to a thoroughly English design, and that a broad sofitted gable was not the obvious way to roof an octagonal bay, all raising issues of construction, national origin, and unreasoned preference for a particular roof, just as the Ruislip Panel has done. Their report is a clumsy way of explaining their own preferences simply because preferences for certain forms or appearances cannot be explained by ordinary processes of reasoning. We cannot say why some shapes are more pleasing than others but we can honestly recognize that they are.

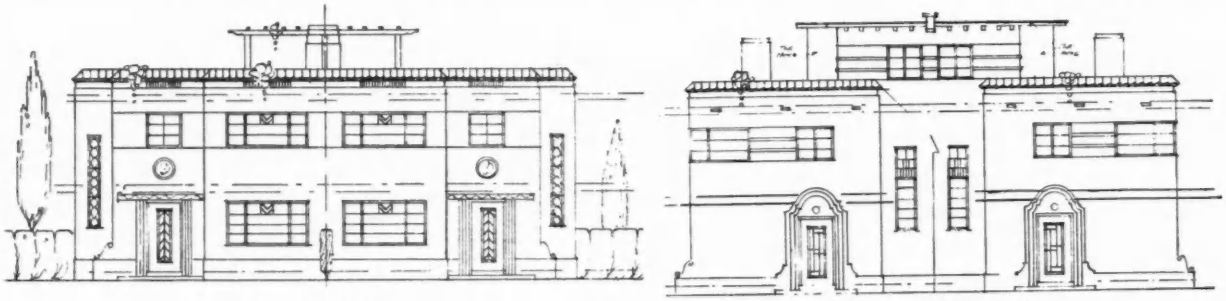
Lest I stand committed too far by these rather laboured points, I would like to say that these views are uttered without any criticism of the designs themselves. In fact, I am for the camp of the misunderstood moderns. But I do feel that the Ruislip Panel is not worthy of the contumely that has fallen upon it. If something has gone wrong, it is the Panel system that has failed, and not the Panel that served the system faithfully.

DANIEL ROTH
London

SIR,—Although placed by circumstances in a somewhat favourable position to view the battle of Ruislip, I have refrained from entering the lists until the mists of battle showed signs of clearing.

I wish to do so now in defence of the Panel system and the Ruislip-Northwood Urban District Council. I am encouraged to do so by Mr. R. S. Wilshere's letter in your issue for June 21, whose views I feel sure admirably express a large body of temperate architectural opinion. Any architect who will take the trouble to inspect Messrs. Connell and Ward's original working drawings will see at once why they were rejected by the council (perhaps somewhat hurriedly) under the powers given them in their Town Planning Act, having in view the fact that their committee consisted of laymen.

This design seems to me to be a plain, unadorned, engineering, straightforward statement of facts, but is this enough in the field of domestic architecture? Surely, as Mr. Wilshere says in his letter, the house to live in should be pleasing in itself, whether "ancient or modern," and should



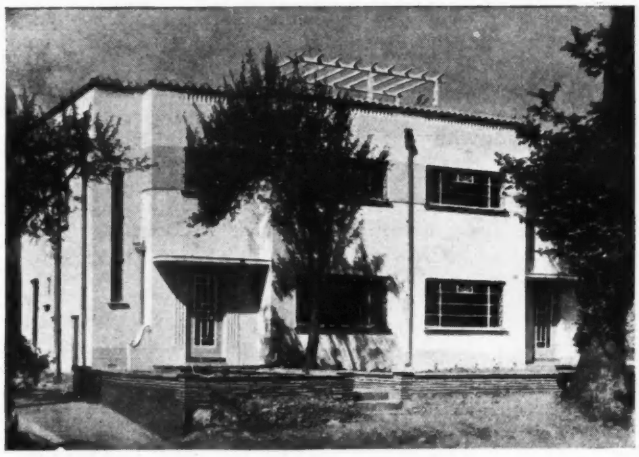
Elevations of the houses in the Ruislip neighbourhood referred to in the letter from Mr. Robert de Burgh on this page.

possess an æsthetic appeal to the finer emotions.

That the Ruislip Council and the panel did not reject Messrs. Connell and Ward's design just because it was modern in treatment is proved, I think, by the enclosed photograph and elevations of a similar class of house which were passed by this council without comment, and are now built and being built. Use has been made of colour, both in the glazed pantiles protecting the parapet walls to the flat roof and on the stucco finished walls. Logical advantage has been taken of the character of this latter material to accent the principal entrance by the introduction of restrained ornament as some refinement seemed called for in what might have otherwise been a strictly utilitarian statement of facts.

If your readers have an opportunity of comparing these designs I think they will agree that Mr. James MacQuedy's "cautionary tale," also in your issue for June 21, is an unfair attack upon the intelligence and taste of the council, the panel and also of at least some speculative builders in the Ruislip-Northwood area.

ROBERT DE BURGH
East Horsley, Surrey



The photograph of the house in the Ruislip neighbourhood referred to in the letter on this and the facing page.

SIR,—May I take exception to one phrase in the leading article in your issue for June 7: "of design below the level of literacy, i.e., of designs that are not by architects."

While we all know of architects whose works show little of the taste which one would expect as the result of their intensive studies, and, indeed, of committees of architects whose collective opinions on æsthetics are incredibly ludicrous, one is also forced to admit that many buildings designed by men with no educational qualifications equal in merit those of the average architect.

One can no more sharply distinguish between architects and non-architects than between the "public school men" and the "cads" so beloved of the Western Brothers.

OLD SCHOOL TIE
London

Economics for the Architects

SIR,—Mr. Edwin Williams's letter was an informative and extremely interesting one. However, I wish to quarrel with his statement, "In confining monetary reform to the sphere of building alone is he not showing a more acute political sense than is displayed by those who make a frontal attack upon the financial system as a whole?" Note that the powers that be did not allow Guernsey to continue its scheme. Moreover, I would be extremely surprised if J. 47485's scheme were ever allowed to come into operation.

You cannot cure a patient by treating symptoms. You cannot cure cancer by administering aspirin; what is needed is the knife. Architecture is the most obvious expression of an age, and is a symptom. What sort of an age is expressed by the jerry-built Jacobethan house, the Roman bank building, the chaste Georgian block of flats, the "modernistical" cinema, the slum, the "Octopus," and the general appalling, chaotic ugliness of our architecture to-day? I suggest—one of complete spiritual bankruptcy. Now, the spiritual life of a community depends essentially upon its economic life. I maintain, therefore, that the architect as a lover of order and beauty should attack, before anything else, the true cause of the disease—the finance-capitalist system.

I claim that there is no other solution to our problem than the Douglas Social Credit Scheme, that its logic is irrefutable, and that it is the ineluctable result of that greatest of revolutions in the life of the *homo sap.*—the machine. I claim also that Machiavellian principles cannot obtain the Social Credit State. It can only be obtained by open propaganda and organized mass pressure. There is no other way.

May I add that there is in existence an as yet small, but highly organized, decentralized body known as the Green Shirt Movement for Social Credit, who have as their aim the three Social Credit fundamentals—

(i) The opening of the National Credit Office.
(ii) The issuing of the National Dividend.
(iii) The application of the Scientific Price Adjustment.

And finally I ask with our Green Shirt friends, "Would a maggot starve because the apple was too big?"

ARCHICONOMIST
London

WHITE MARBLE TOMBSTONES

Mr. William Haywood, F.R.I.B.A., Honorary Secretary of the Birmingham Civic Society, speaking at the joint conference of the National Association of Cemetery and Crematorium Superintendents and the Federation of Cremation Authorities in Great Britain, held at Birmingham last week, discussed "the chaos of white marble which now defaces many of our municipal cemeteries, owing partly to the latitude of official regulations, and partly to present methods of tombstone manufacture."

"White marble tombstones," he said, "are invariably aggressive, and when many such stones are massed together, the general effect is so unsatisfactory that there is a strong case, powerfully supported by public opinion throughout the country, for suppressing the use of white marble altogether."

SCARBOROUGH'S NEW HOSPITAL

The foundation stone of the new hospital, Scarborough, was laid by Mr. C. C. Graham last week. The architect is Mr. Wallace Marchment, F.R.I.B.A., whose design was placed first in an open competition held in 1932.

L I T E R A T U R E

DESIGN FOR 1934

[*By J. M. Richards*]

The Studio Year Book of Decorative Art, 1934. Edited by C. G. Holme. London : The Studio, Ltd. Price 7s. 6d.

THE *Studio Year Book* can always be relied upon to provide each spring an excellent anthology of the past year's achievements in the province of applied art—" applied " being used not in the common sense of an antithesis to " fine " wherein some kind of inferiority is implied, but as a label to distinguish art that is conditioned from its inception by the search for a solution to a given problem from the more subjective art that is created *in vacuo*. To make this distinction is not to say that " fine " art does not also consist in the solution of a problem ; but the problem there is evolved in the course of creation, not presented to the artist as the terms, as it were, of his engagement.

This year's edition, except for a most unfortunate introduction, is as interesting as always. The material included naturally varies in the standard of design. The English houses shown are remarkably cautious in their exteriors, and it is hard to believe that there was no native material available from which the editors could have selected something comparable with the good foreign work illustrated, and more in keeping with the rational spirit that dominates the rest of the book. A far higher standard is reached in the interiors ; though even in these the English examples, with a few exceptions, lack the assurance and precision found in similar work abroad, and it is a little disturbing to find as the authors of these exceptions few names but those with which we are already familiar—that appear year after year. The consistency of these few designers is to be praised, but, if a logically humanist instead of a merely stylistic approach to problems of design is to become the universal one, it is time that the unselfconscious practice of it began to spread beyond the comparatively small circle of already well-known designers represented by the best English work in this book. The furniture, fabrics and equipment are also, on the whole, a sound selection. The bathrooms are beastly.

I have mentioned an unfortunate introduction. It is indeed disappointing to find under the *Studio's* usually so progressive imprint, in an annual publication in whose sensible outlook one had such confidence, an introductory article of the most reactionary nature which is a complete abrogation of all that modern rationalism stands for.

This introduction, by Mr. John de la Valette, is entitled " Back to Decoration ? " and seems particularly foolish when followed by a hundred or so pages of illustrations that are themselves the best disproof of his denial of the vitality and social suitability of modern design.

One had hoped that we should hear no more of those tiresome comparisons of modern living rooms with operating theatres and modern furniture with dentists' chairs, but Mr. de la Valette trots them all out again and as humourlessly as usual. They mean no more than the other joke (which Mr. de la Valette omits to make) about hanging the modern picture upside down.

He persistently misunderstands the modern designer's approach to his problem, looking at the results only as the negation of ornament on a surviving stylistic basis, instead of as the direct outcome of a different way of thinking.

This is what he says : " We are getting so near to ruling out all that is decorative, that the alleged art which is left is becoming indistinguishable from mere utility . . . Long and persistent propaganda on the part of Continental Europeans has convinced the people, both in Britain and America, that everybody else knows more about art than they do. The most dreary outcome was that in 1933, all over the world, even in England, where people have in most matters such a solid opinion of themselves, they started aimlessly imitating a few ideas hatched out—rightly or wrongly, we need not argue that now—by theoretical æsthetes in countries with whose feelings neither the British nor the Americans have much in common." Why the modern designer should always be sneeringly labelled " æsthete " by his opponents is hard to discover. He is actually far more a practical man than the one who indulges in airy talk about Art and Beauty, but the term is used by Mr. de la Valette half a dozen times in three pages as a term of abuse of some of the most logically conceived and efficiently carried out interiors in the book—for instance of the Italian bedroom by Pier Giulio Magistretti on page 78, and of the Austrian living room by Ernst Lichtblau on page 86.

It is difficult, too, to find evidence in the illustrations of the reviving spirit of applied decoration which Mr. de la Valette is pleased to observe. The examples he commends show more nearly the surviving influence either of the Paris exhibition of 1925 or of an Art and Craft movement of even earlier date ; they are at any rate right off the main stream of contemporary design. What it is exactly that he looks for is never really defined beyond the " decorative element once more in the home " and " joy and beauty for its own sake " ; he also has a horror of " functionalism " and " bareness " though anxious at the same time to be up to date. Perhaps the green china cats whimsically placed on either side of the stainless steel fireplace in the living room by Stanley Hall and Easton and Robertson on page 71, provide the kind of joyful relief that Mr. de la Valette requires. Certainly they are not functional, yet they could belong to no other age but this.

As a conclusion to his introduction he employs another well-tried appeal—to the *woman in the home.* " More encouraging than anything else about 1933," he says, " is that women have begun to reassert themselves, and to go against the dictates of the solemn kill-joys, the æsthetes, the theoretical designers, and, worse than all the lot, the many who write about art. To Madame I look for salvation in 1934."

It is perhaps hard on *The Studio Year Book*, which is as full as ever of interesting work, to have concentrated so critically on the few pages of introduction ; but it is necessary to express the hope that the *Studio* do not intend to accept Mr. de la Valette's opinions as the ones on which their scale of values should be based. They have done useful propaganda work in the past in encouraging a higher standard of design in this country ; we would notice the loss if a " Back to Decoration " reaction just at this time were to deprive us of the *Studio's* influence as a broadcasting medium with enlightened and progressive opinions.

Publications Received

Modern Acoustics. By A. H. Davies, D.SC. London : G. Bell & Son, Ltd. Price 26s. net.

Synthesis in Architecture : the contemporary process. By Lionel B. Budden. Liverpool : The University Press. Price 1s. net.

Perspective Theory and Practice and Geometrical Drawing. By W. R. Dean and H. Jolly. Humphrey Milford : Oxford University Press. Price 5s. net.

Design in Modern Life. Edited by John Gloag. London : George Allen and Unwin Ltd. Price 10s. 6d. net

●

The Price of " Preparation of Schemes and Orders under the Town and Country Planning Act," by S. Pasco Hayward, is 10s. 6d. net., not 21s. as stated in our recent review.

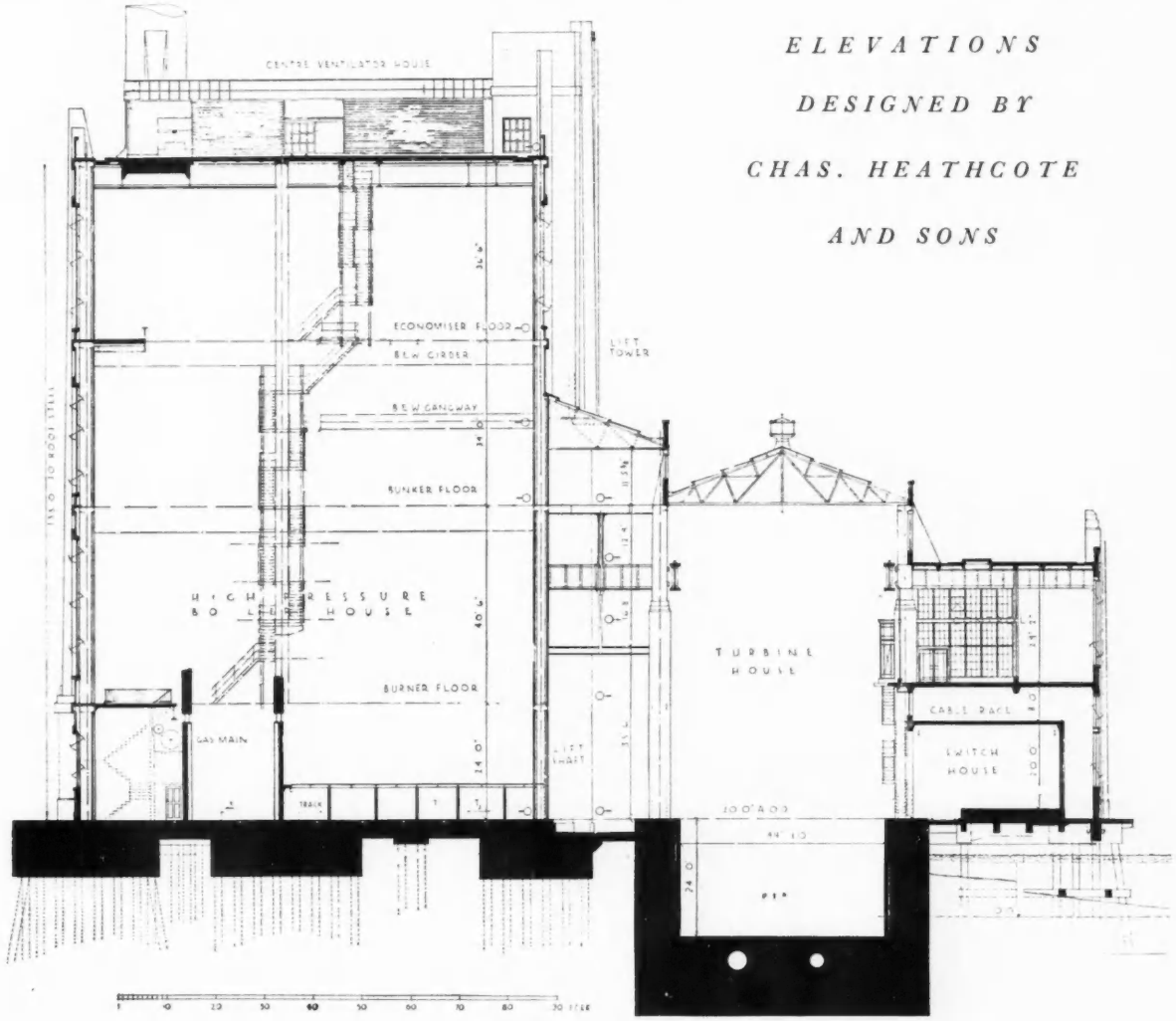
POWER HOUSE, FORD FACTORY, DAGENHAM

ELEVATIONS

DESIGNED BY

CHAS. HEATHCOTE

AND SONS



CROSS SECTION

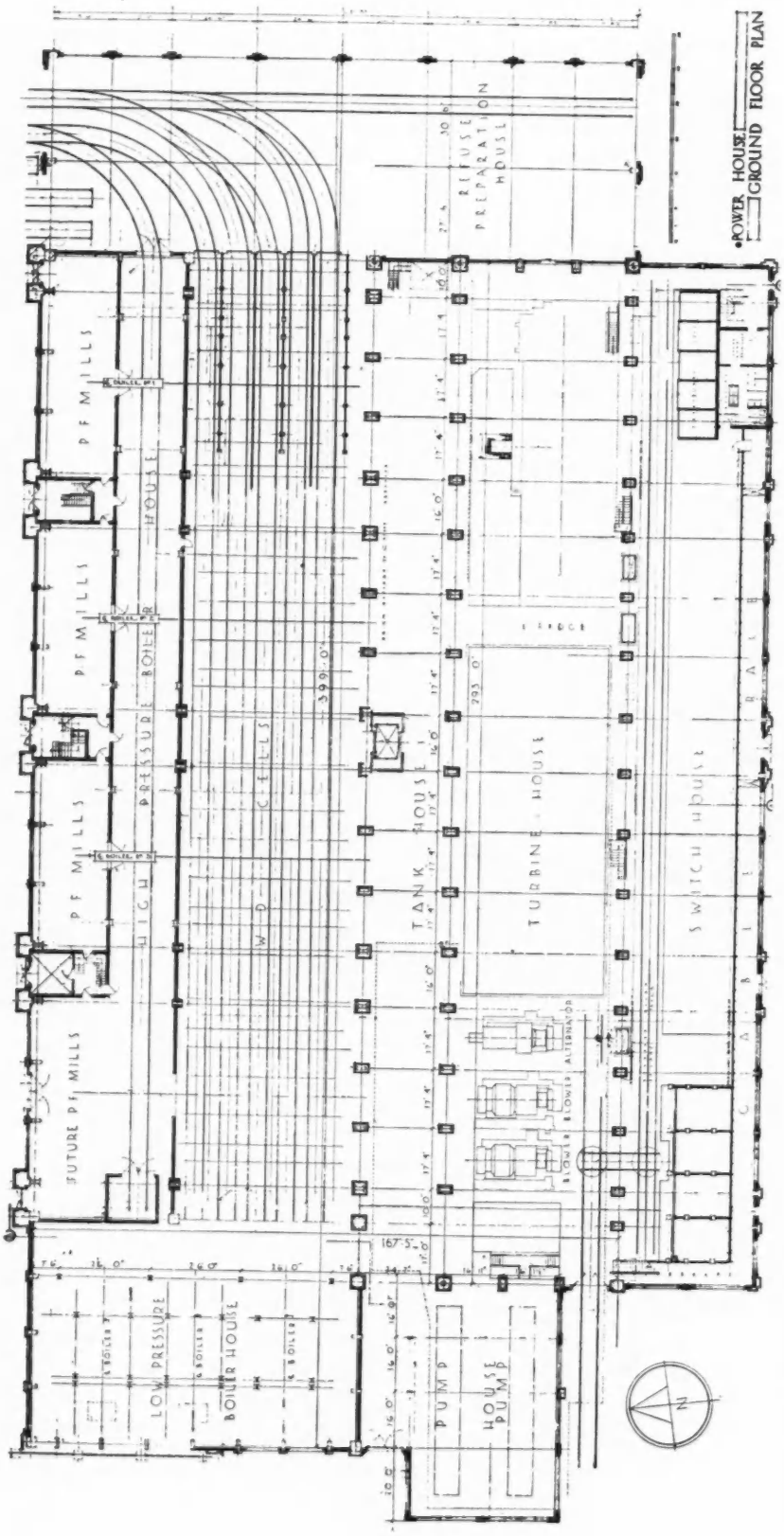
When completed, the new Ford factory at Dagenham will be capable of producing 200,000 cars a year, and the power house, here illustrated, is called upon to provide as much current as would normally be needed by a town with some fifty thousand inhabitants.

The site was extremely poor, a disused rubbish dump on marshy ground, and the whole of the factory is carried on piles with an average length of 45 ft.

The building is divided into a high pressure boiler house for four boilers (three of which are now installed), low pressure boiler house, turbine house, switch house, pump house and refuse preparation house. The fuel used is either pulverized coal or gases from the refuse destruction plant, or a combination of the two systems. There is a further alternative method of firing by means of gases from the adjacent blast furnace and arrangements have also been made for the possible use of this gas in conjunction with refuse.

EVERARD

POWER HOUSE, FORD FACTORY, DAGENHAM



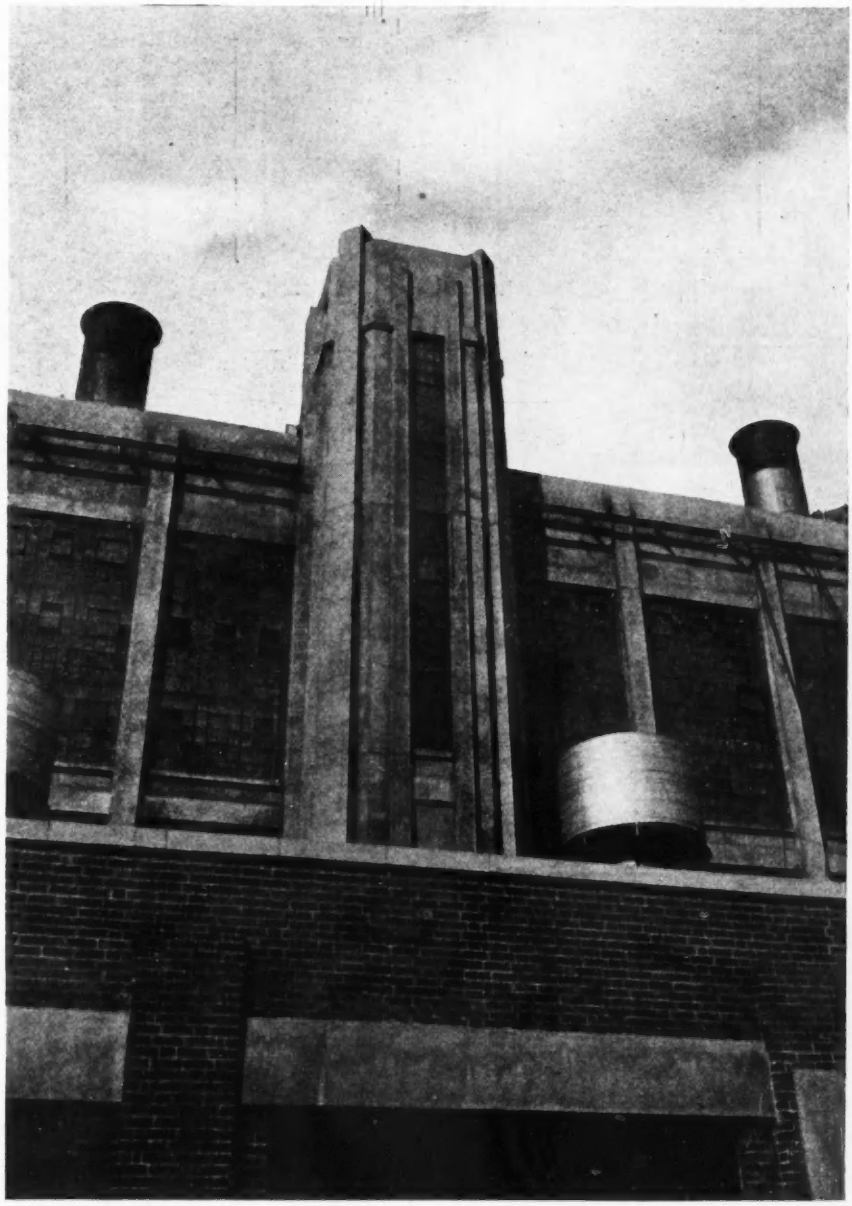
ELEVATIONS DESIGNED BY CHAS. HEATHCOTE AND SONS

The building is steel-framed, the exceptionally heavy mountings for the high pressure boilers being designed to form a single unit with the steelwork supporting the outside carcassing of the building.

To allow for possible future expansion the north side of the high pressure boiler house, which is about 140 ft. high, has its enclosing "wall" made so as to be easily removable. The wall is in cement stucco on a foundation of metal lathing, and considerable trouble has been taken to remove all possible causes of crazing or cracking. No part of the wall is more than 2½ in. thick where it is finished on both sides, and where only one face is exposed this thickness is reduced to 1½ in. The whole of the plaster work is carried on removable steel framing designed to form an economical fixing for the metal lathing. The plaster is in three coats to each finished face, each coat having its own system of splayed expansion joints with bitumastic filling. For the finishing coat (wood float finish) these joints were arranged at internal angles. The other walls of the boiler house, where they appear above the adjoining roofs, have been built in the same way. In order to avoid any lack of continuity in the plastering, the whole expanse of the wall was completely scaffolded from end to end and from top to bottom and the gangs worked to a regular system of advance each day, and no work was allowed to stop off except at the prearranged line of an expansion joint.

WORKING DETAILS : 77

WALL STRUCTURE • FORD POWER HOUSE • CHAS. HEATHCOTE AND SONS

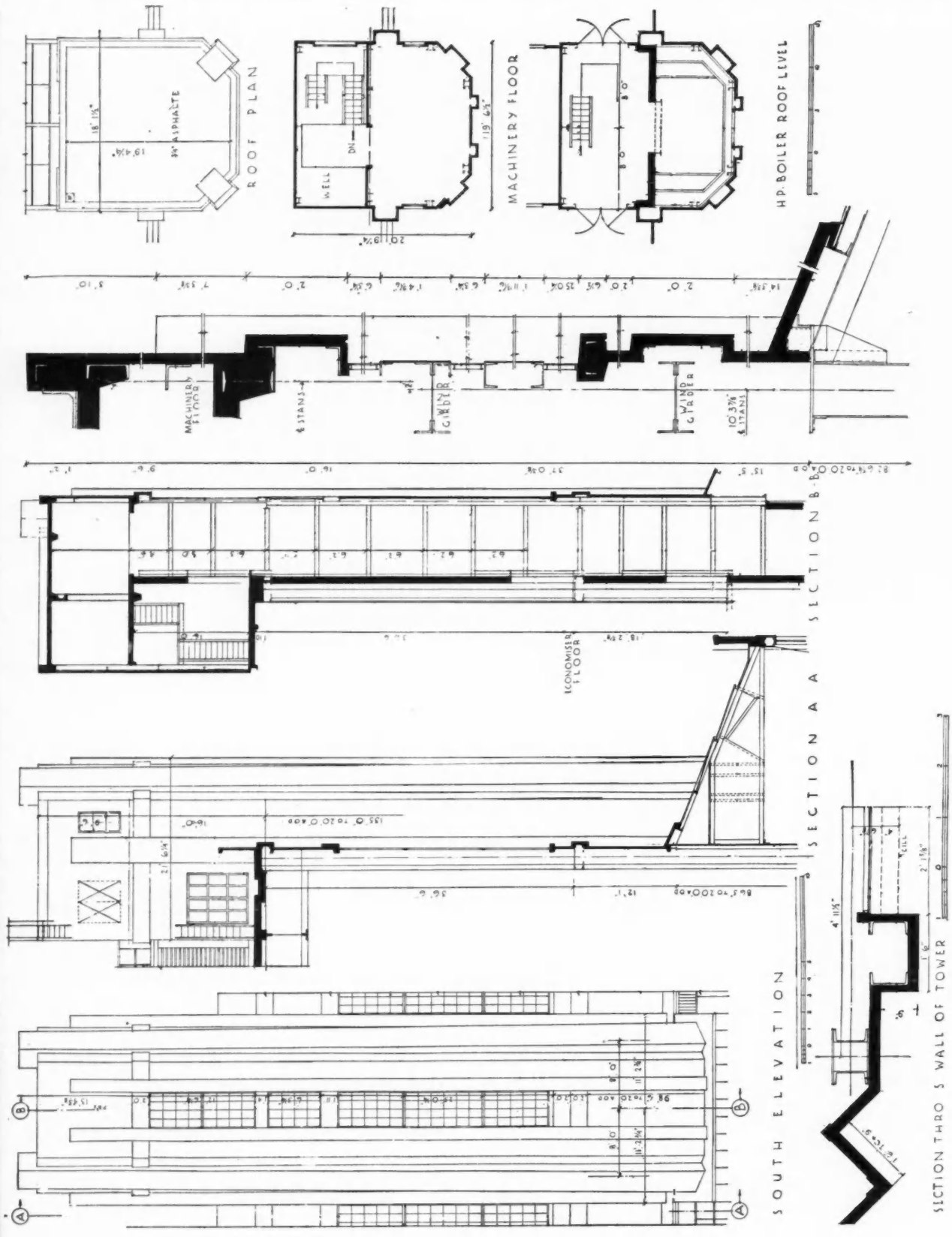


EVERARD

These buildings have cavity walls where brickwork has been used and all plastered features are of hollow construction on light steel framework. Where the rendering is run direct on to the brickwork great care was taken not to rake the joints more deeply than was absolutely necessary to provide an adequate key, since deep rakings tend to produce unequal contraction and subsequent cracking. Varying thicknesses of plaster were avoided as far as possible and any dubbing out was done in coats not more than ¾ in. thick.

WORKING DETAILS : 78

WALL STRUCTURE • FORD POWER HOUSE • CHAS. HEATHCOTE AND SONS



Plans, elevations and sections of the power house lift and staircase tower illustrated overleaf.

WORKING DETAILS : 79

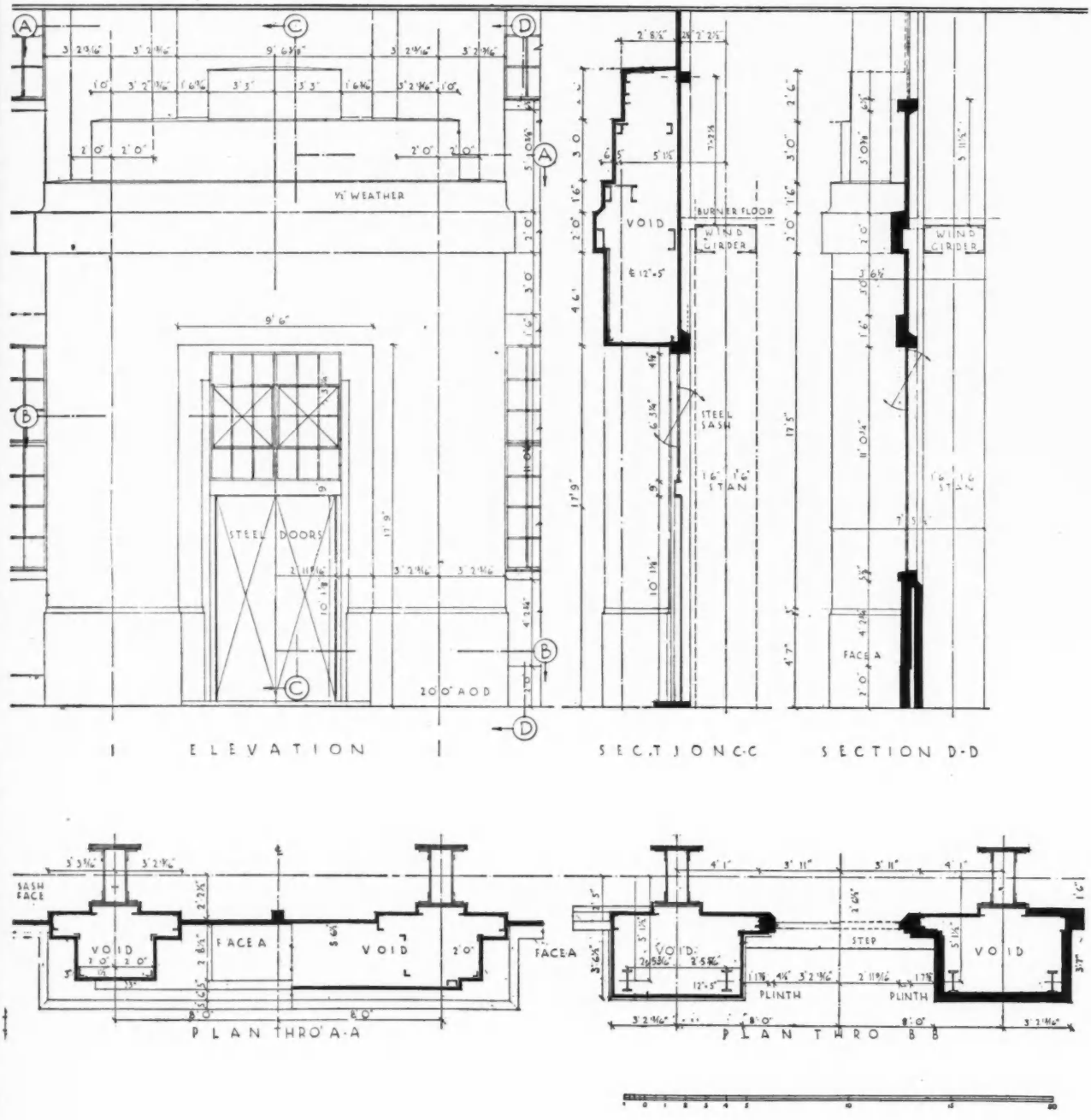
WALL STRUCTURE • FORD POWER HOUSE • CHAS. HEATHCOTE AND SONS

EVERARD

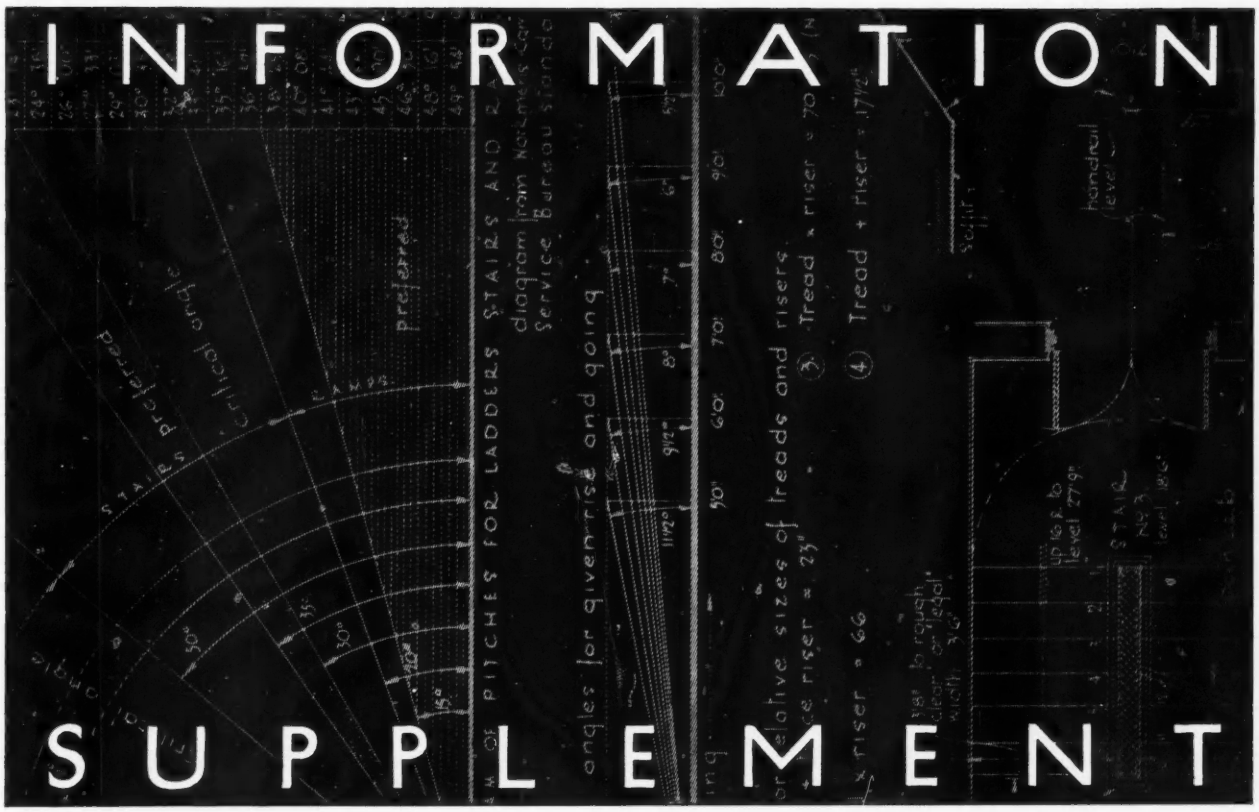
This wall structure is particularly remarkable for the care which has been taken to prevent crazing and cracking. As the drawings overleaf show, the greater part of the wall is hollow, and it consists of cement rendering on metal lathing, the lathing being supported on a light steel frame.

WORKING DETAILS : 80

WALL STRUCTURE • FORD POWER HOUSE • CHAS. HEATHCOTE AND SONS



Plans, elevations and sections of the main entrance feature.



5: INSULATED CONSTRUCTION

[*BY C. W. GLOVER, A.M.Inst.C.E., L.R.I.B.A.*]

Heat losses and the transmission of sound or vibrations all give rise to a definite loss of efficiency in any building. The cost of heat losses may be exactly calculated, but the disturbance and irritation produced by unwanted noise is less easy to assess. In the fifth of our series of Information Supplements are given methods of calculating heat losses and the annual savings effected by a given amount of insulation; analytical details of costs and efficiency are also given for the estimation of sound insulation and absorption, with tables of the degree of absorption required.

CONTENTS

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Insulation against Vibration ..	27
The Design of Damping Devices	28
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INTRODUCTION

THAT it is *desirable* in modern buildings to secure the maximum insulation against the vagaries of the weather, the transmission of vibration and noise and the loss of heat, has long since been accepted, but few realize the economic *necessity* of providing such insulation.

The use of the minimum of material in wall panels in framed buildings necessitates the application of the latest principles of insulated construction and the following general notes, together with data on typical details, should be of assistance to the designer.

INSULATION AGAINST THE WEATHER

One of the first functions of a building is to provide adquate insulation against the vagaries of the weather and this has in the past been obtained by the use of walls of a thickness which from the point of view of strength has provided an unnecessarily large factor of safety.

In modern construction the insulation of a structure against the weather consists principally in providing an outer skin, impervious to moisture and constructed in such a manner as to be reasonably airtight. The traditional forms of surface treatment of buildings, which have evolved since primitive man's first essay into the realms of construction, have been plastered mud, timber, stone, brick, and later a more or less waterproof plastic material formed variously of limes, cements and plasters.

To-day there is a wealth of variety of external surfacing materials available to the constructor, but not all of the newer materials can be said to have survived the test of exposure to the elements for any considerable time. Accelerated scientific tests have afforded a guide to the use of these materials, but the conditions likely to obtain in any particular case must have very careful consideration.

Wind and Rain

There is a paucity of reliable scientific

data upon the exclusion of wind and rain from structures of various designs and constructed in various materials, but the work at present being undertaken at the Building Research Station may be productive of useful evidence.

The in-leakage of air through cracks in jointing material and through porous wall materials is of considerable importance especially in exposed positions.

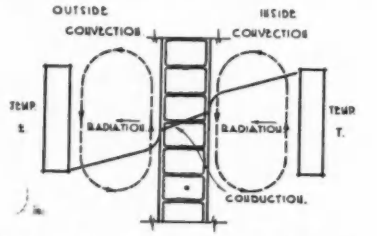
Mr. F. C. Houghton at the Laboratory of the American Society of Heating and Ventilating Engineers in Pittsburgh demonstrated that a 13 in. unplastered brick wall subjected to a 15 miles per hour breeze allowed an air in-leakage of as much as 9·35 c. ft. of air per sq. ft. of exposed wall surface per hour.

Even assuming that the above result shows a slightly greater rate of infiltration than that which would represent average conditions in this country, it is evident that the brickwork commonly used in housing construction and covered with a substitute for plaster, may allow such an influx of cold air as to render the maintenance of comfortable conditions a comparatively expensive matter.

Brickwork is not impervious to moisture. The ordinary brick, which absorbs no more than "one-sixth of its dry weight after 24 hours' immersion in water" may provide a pleasing texture and a surface capable of "breathing with the weather," but may eventually suffer wastage owing to the disintegrating effect of frost and the dissolving effect of rain.

The reduction of the amount of porous wall material possessing capillary structure will normally be an advantage and the use of impervious jointing materials is at all times desirable.

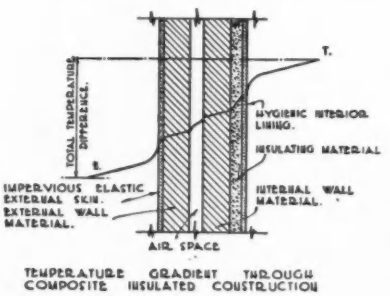
The modern necessity of providing adequate thermal insulation increases the heat gradient in wall constructions, and consequently accentuates the relative movement



TEMPERATURE GRADIENT FROM AIR INSIDE TO AND THROUGH A WALL TO AIR OUTSIDE (DIRECT PASSAGE OF AIR THROUGH WALL NEGLECTED)

Fig. 1

of the surfaces due to expansion and contraction. The lamination of the wall into a composite construction consisting of materials of differing moduli of elasticity, desirable from the point of view of sound



TEMPERATURE GRADIENT THROUGH COMPOSITE INSULATED CONSTRUCTION

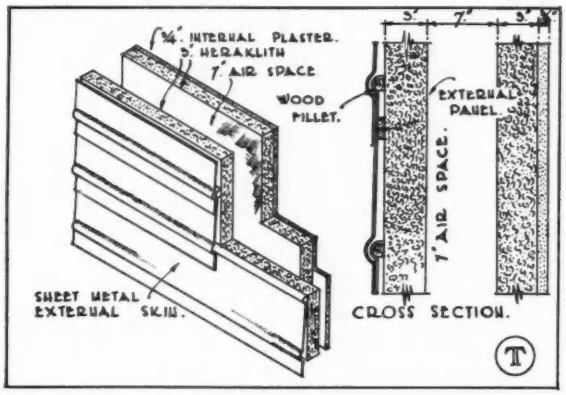
Fig. 2

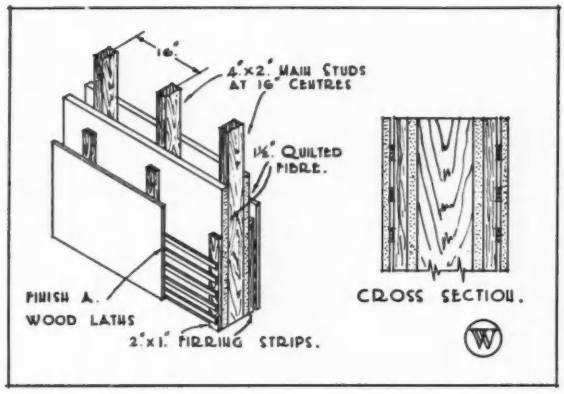
Construction No.	Sketch (Fig. 1).	COST—EFFICIENCY ANALYSIS OF WALL CONSTRUCTION. CONSTRUCTION.	A Cost.	B Heat Transmitted per hour per sq. ft. per °F. temp. diff. B.Th.U.	C Thermal Insulation Cost Coeff. (A × B). Cost Coeff.	D Estimated Sound Insulation of Construction in Decibels. db.	E Cost per sq. ft. per decibel of Insulation (A ÷ D). Cost per db.	F Heat and Sound Insulation Cost Coeff. (C × E). Coeff.	G Weather Insulation Efficiency. W.I.U.	H Weather Insulation Cost Coefficient (A ÷ G). Coeff.	J Heat, Sound and Weather Cost Coefficient (F × H). Coeff.	K Sound Absorption in O.W.U. per sq. ft. of Inferior Surface. O.W.U	L Cost per sq. ft. per O.W.U. (A ÷ K). Cost per O.W.U
1	Z	4½" brick. No finish	1/1	0·53	6·9	50	0·26	1·79	10	1·3	2·3	0·031	34/11½
2	Z	4½" brick rendered cement outside. ¾" ordinary plaster inside.	1/4	0·43	6·9	55	0·29	2·001	40	0·4	0·8	0·025	53/4
3	Z	4½" brick rendered cement outside. ¾" Dekoosto plaster inside.	2/8	0·37	8·7	55	0·58	5·046	40	0·85	4·3	0·30	8/10½
4	Z	9" brick. No finish	1/8½	0·36	7·38	53	0·38	2·804	26	0·79	2·2	0·031	55/1
5	Z	9" brick rendered cement outside. ¾" ordinary plaster inside.	1/11½	0·31	7·18	58	0·40	2·87	50	0·47	1·35	0·025	78/4
6	Z	9" brick rendered cement outside. ¾" Dekoosto plaster inside.	3/4	0·27	14·8	58	0·68	10·06	50	0·8	8·05	0·30	11/1
7	Z	14" brick. No finish.	2/5	0·27	7·83	57	0·508	3·97	42	0·69	2·74	0·031	78/–
8	Z	14" brick rendered cement outside. ¾" ordinary plaster inside.	2/8	0·24	7·68	62	0·516	3·96	60	0·53	2·1	0·025	106/8
9	Z	14" brick rendered cement outside. ¾" Dekoosto plaster inside.	4/0½	0·22	10·67	62	0·78	8·32	60	0·81	6·75	0·30	13/6
10	Z	18" brick. No finish.	2/11½	0·22	7·81	58	0·61	4·76	60	0·6	2·86	0·031	95/5
11	Z	18" brick rendered cement outside. ¾" ordinary plaster inside.	3/4	0·20	8·0	66	0·60	4·8	70	0·57	2·74	0·025	133/4
12	Z	18" brick rendered cement outside. ¾" Dekoosto plaster inside.	4/8½	0·18	10·17	66	0·856	8·7	70	0·81	7·0	0·30	15/8
13	Y	2" precast concrete slab. 7" reinforced concrete. 2" cork. ¾" plaster.	4/3	0·11	5·6	83	0·61	3·42	80	0·64	2·2	0·03	141/8
14	Y	2" precast concrete slab. 7" reinforced concrete. 2" Heraklith. ¾" plaster.	4/–	0·15	7·2	85	0·57	4·10	80	0·6	2·46	0·03	133/4
15	X	4½" brick cement rendering on fibre board outside. Fibre board lining inside.	1/8	0·27	5·4	55	0·36	1·94	70	0·29	0·56	0·3	5/6
16	X	4½" brick cement rendering on fibre board outside. Plaster on fibre board inside.	1/9½	0·25	5·4	58	0·37	2·0	70	0·31	0·62	0·03	59/8
17	X	9" brick cement rendering on fibre board outside. Fibre board lining inside.	2/4	0·22	6·2	58	0·48	2·98	75	0·37	1·1	0·3	7/9
18	X	9" brick cement rendering on fibre board outside. Plaster on fibre board inside.	2/5½	0·20	5·9	61	0·48	2·83	75	0·39	1·1	0·03	81/11
19	W	Stud partition 1½ quilted capok each side finished with lath and plaster on battens.	2/10	0·07	2·4	73	0·46	1·10	—	—	—	0·025	113/4
20	W	Stud partition with 1½ quilted capok each side finished with fibre board on battens each side.	3/–	0·06	2·2	73	0·49	1·08	—	—	—	0·3	10/–
21	V	⅛" polished plate glass exterior. 6" reinforced concrete. 2" cork. ¾" plaster.	7/10	0·11	8·6	75	1·25	10·75	90	1·0	10·75	0·03	261/–
22	U	⅛" polished plate glass exterior. 9" brick. ½" fibre board on battens. ¾" plaster.	7/–	0·15	12·6	73	1·15	14·50	85	1·0	14·5	0·03	233/–
23	T	Sheet metal exterior on battens. 3" Heraklith. 7" air space. 3" Heraklith ¾" plaster.	2/10	0·06	2·0	80	0·43	0·86	85	0·4	0·344	0·03	94/5

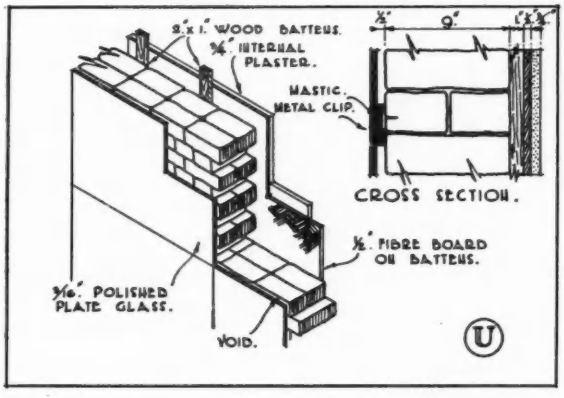
Fig. 3

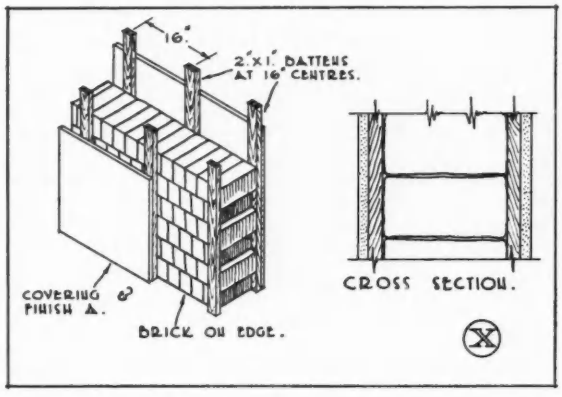
insulation, merely serves to aggravate this position. Furthermore, the "moisture movement" noticeable in most building materials can only be minimized by maintaining a constant degree of dryness. All these considerations lead inevitably to the desirability of providing an elastic and durable waterproof skin.

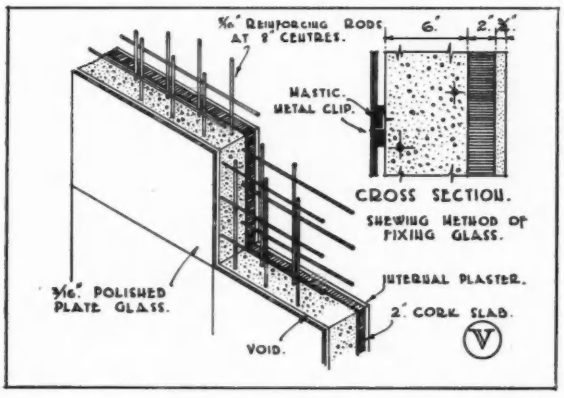
The constructor has now a wide choice of treatments, from the tile facings, mosaic, marble slabs, and plaster of the Romans, the glazed tile surfacing so popular on the Continent, the painted stucco of Georgian London, and the washable glazed terra-cotta of the Victorian era. Modern treatments include among variants of the foregoing, an assortment of surfaces of Portland cement rendering, sprayed treatments of











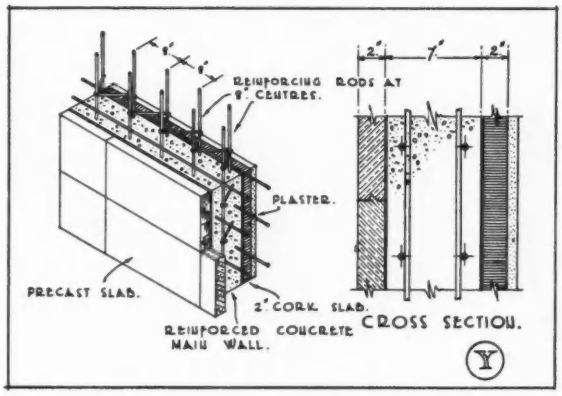
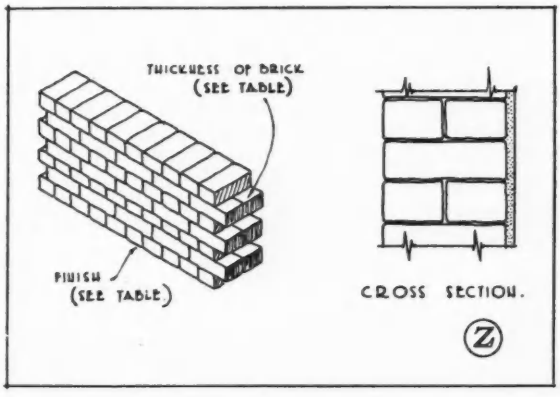


Fig. 3 (a)



Examples of modern wall construction. The seven sketches reproduced on this page should be read in conjunction with the table reproduced on the facing page.

various materials, applied slabs of both real and imitation marble, granite, etc., glass in sheet and mosaic form, and sheet metals.

Examples of modern wall constructions are reproduced in Fig. 3a.

Thermal Insulation

The present demand for the elimination of waste emphasizes the need for the minimization of heat loss by the provision of improved thermal insulation.

This is usually effected by the use of special materials or form of construction, or both, by which the passage of heat is resisted.

Heat transmission is best understood by considering the effects of radiation convection and conduction generally as depicted in Fig. 1.

Heat is conveyed from the warm objects inside by radiation and convection to the inner wall surface, thence by conduction through the material of the wall, and finally by radiation and convection of the air outside.

The process of heat transmission through composite and insulated construction can be understood by consideration of Fig. 2.

THE ECONOMICS OF INSULATION

Generally

In the economic "balance sheet" of insulated construction considerable weight must be given to the minimization of the injurious effects of dampness, noise and vibration.

It is not easy to assess in terms of currency the value of immunity from noise annoyance or acoustic interference, neither is it easily possible to appraise the respective merits of various forms of insulation against the weather. The method of comparison on a cost basis given in Fig. 3 will, however, serve as a guide to the architect.

Thermal Insulation

The domestic coal stoves and heating appliances at present in use deliver to the house interior at best only 60 to 70 per cent. of the total heat in the fuel and the economic use of the available heat is almost entirely a matter of efficient insulation.

In cold storage and refrigeration plants where a temperature is maintained from 10 to 80 deg. below the outside temperature, it is found economical to use anything from 6 in. to 8 in. thickness of highly insulating material, yet the majority of householders in this country attempt to maintain similar temperature differences in the winter without the provision of any effective insulation whatever.

Provision of suitable insulation in houses effects a saving in fuel costs of anything up to 40 per cent. and the cost of the installation of the thermal insulation is usually recovered in the first heating season.

The cost of insulating a new house will vary considerably according to the variety and thickness of insulating materials used, but it seldom exceeds 5 per cent. of the total cost of the building.

The fuel saving in tons of coal per annum can be calculated by the following formula: Annual fuel saving in tons of coal =

$$\frac{T_0 - T_1 \times H \times t \times A}{C \times E \times 2240}$$

Where T_0 is the coefficient of heat transmission of the uninsulated construction in B.Th.U. per hour per sq. ft. per deg. F. difference in temperature.

T_1 is the coefficient of heat transmission of the insulated construction.

$(T_0 - T_1)$ is the B.Th.U. saving per hour per sq. ft. per deg. F.

H is the number of hours duration of the heating season (usually taken as 5,040 hours).

t is the temperature difference (for roofs this is usually taken as 35 deg. in this country).

A is the area of construction considered (sq. ft.).

C is the average calorific value of the coal (say 12,000 B.Th.U. per lb.).

E is the average heating efficiency of the installation when burning coal (say 50 per cent.).

The insulation of roofs is the most fruitful source of economy in fuel and the calculation given in Fig. 4 taken from an actual example of a small factory installation is of interest.

From the above it will be seen that when everything is taken into account the better construction is the cheaper.

The figures given in Fig. 5 are also of interest in this connection.

Data	Bare corrugated Iron	Steel roof deck, insulated with ½ in. fibre board, covered with bituminous roofing
Thermal conductivity (B.T.U.'s/sq. ft./hr./°F./	1·5	0·358
Fuel consumption (lbs., steam/hr.)	4,050	2,870
Area sheeting (squares)	770	770
Life (years)	10	20
	£	£
Capital cost of sheeting	1,440	4,900
Capital cost of heating plant	2,780	1,920
Total	4,220	6,820
Annual charges :	£	£
Interest on capital at 5 per cent.	211	341
Sinking fund for sheeting at 5 per cent. for life as above	115	145
Sinking fund for heating plant for 25 years	59	40
Cost of fuel	2,000	1,400
Cost of maintenance	20	96
Total annual charges ..	2,405	2,022

Fig. 4

Uninsulated constructions.	Insulation.	Annual saving in tons of coal per 1,000 sq. ft. of exposed surface.
Asphalte roof on 1 in. boarding.		
	½ in. Fibre board*	3·47
	¾ in. ,,	3·92
	1 in. ,,	4·55
	1½ in. ,,	4·88
Asphalt or built up roofing on "Trus-con" concrete roof. No ceiling.		
	½ in. ,,	4·42
	¾ in. ,,	4·95
	1 in. ,,	5·42
	1½ in. ,,	6·06
Built up roofing on steel roof deck.		
	½ in.	7·20
	¾ in. ,,	7·90
	1 in. ,,	8·42
	1½ in. ,,	9·29
Corrugated iron roof.		
	½ in. ,,	17·60
	¾ in. ,,	18·75
	1 in. ,,	19·60
	1½ in. ,,	20·80
9 in. concrete wall plastered on inside.		
	½ in. ,,	3·56
	¾ in. ,,	4·05
	1 in. ,,	4·40
	1½ in. ,,	5·01
Wall with 4½ in. brick external face over 8 in. hollow clay blocks plastered on inside.		
	½ in. ,,	1·10
	¾ in. ,,	1·30
	1 in. ,,	1·45
	1½ in. ,,	1·74

* Figures obtained on TenTest Fibre Board.

Fig. 5

Costs of Sound Absorption

In comparing the costs of sound-absorbing materials, it is not sufficient merely to consider the cost of the material per sq. yd. but fixing and finishing costs, together with area required, must be considered.

The prices of materials should be compared on the basis of cost per 100 open window units of absorption for the "finished" work.

The Economy of Noise Abatement

Noise abatement invariably results in an increase in efficiency, the value of which can be definitely assessed.

A 5 per cent. increase in efficiency effected in noise abatement by acoustical treatment in an office is representative of a saving of 5 per cent. unproductive expenditure in wages.

The acoustical treatment usually works out at 50 to 60 sq. ft. per employee, and on this basis the cost of the acoustical treatment does not usually exceed half the first year's saving.

Sound Insulation Costs

In matters of practical construction thermal and sound insulation must be considered together; indeed, true economy in construction is not obtained unless the most economic degree of insulation to heat and sound is simultaneously provided.

Examples of Wall Constructions

The wall constructions depicted in Fig. 3a on page 23 are described in the table below. This table also gives

in col. A the approximate cost per sq. ft. finished,

in col. B the heat transmission in B.Th.U. per sq. ft. per hour per deg. F. difference in temperature,

in col. C the thermal insulation cost coefficient (A×B) (the lower this figure the more economic the thermal insulation),

in col. D the estimated sound insulation of the construction in db. between 300 and 1,200 cycles frequency,

in col. E the cost per sq. ft. per decibel of sound insulation,

in col. F the "heat and sound insulation cost coefficient" (C×E)—the lower this figure the more economic the construction from the consideration of thermal and acoustic insulation combined,

in col. G the weather insulation efficiency of the construction in "weather insulation units" (note in the absence of any accepted method of measuring the relative weather resistances of different constructions the writer has assessed the constructions given in "weather insulation units" arbitrarily chosen),

in col. H the weather insulation cost coefficient (A÷G) (the lower this figure the more economic the construction from the point of view of insulation against the weather),

in col. J the heat, sound and weather cost coefficient (F×H) (the lower this figure the more economic the construction from the point of view of insulation against heat, sound and weather combined),

in col. K the sound absorption in O.W.U. per sq. ft. of interior surface,

in col. L the cost per sq. ft. per O.W.U. of sound insulation (A÷K). (The lower this figure the more economic from the point of view of sound absorption on the interior.)

The table does not pretend to be exhaustive but illustrates a method of comparing the cost of various representative constructions on the basis of their respective efficiencies.

The qualities of strength, durability and suitability will, of course, have an influence upon the selection of any particular construction, but the method given enables the value of insulation to be assessed on a first cost basis.

Of the 23 constructions given

No. 23 is the most economic from the point of view of thermal insulation.

No. 1 is the most economic from the point of view of sound insulation.

No. 15 is the most economic from the point of view of weather insulation.

No. 23 is the most economic from the point of view of heat and sound insulation.

No. 15 is the most economic from the point of view of heat, sound and weather insulation.

If U=thermal transmission or the total amount of heat expressed in B.T.U.'s transmitted in one hour through one square foot of wall, floor or ceiling for a difference in temperature of 1° F. between the air on each side.

K_1, K_2, K_3, etc., are the thermal conductivities of the various materials making up the wall, floor or ceiling, expressed in B.T.U.'s per hour per square foot per degree F. difference in temperature for 1 in. thickness of each material.

T_1, t_2, t_3, etc., are the corresponding actual thicknesses in inches of the various materials making up the wall, floor or ceiling, and S^1, S° are the surface factors for the inside and outside respectively.

Then $U=$

$$\frac{1}{\frac{1}{S^1}+\frac{t_1}{K_1}+\frac{t_2}{K_2}+\frac{t_3}{K_3}+\ldots\text{etc.}+\frac{1}{S^\circ}}$$

Adjoining is a list of conductivities K for

THERMAL CONDUCTIVITIES OF VARIOUS BUILDING MATERIALS AND INSULATORS
"K" in B.T.U./sq. ft./inch thickness/deg. F.

Material	Weight Lb. Cub. Ft.	Mean Test Temp.	K.	Inside Surface Factor, S^1	Outside Surface Factor, S° (Wind 15 m.p.h)	Remarks
Air space 0·128″ thick		80	2·819			Not proportional to thickness
,, 0·250″ ,,		,,	1·702			
,, 0·364″ ,,		,,	1·492			
,, 0·493″ ,,		,,	1·390			
,, 0·713″ ,,		,,	1·295			
,, 1·000″ ,,		,,	1·280			
,, 1·500″ ,,		,,	1·270			
Asbestos cement sheeting	123	86	2·70	1·40	4·2	
,, millboard (pressed asbestos)	60·5	,,	0·84	,,	,,	
Eel grass between Kraft paper	4·6	90	0·26	,,	,,	
,, ,, ,,	3·4	,,	0·25	,,	,,	
Sugar-cane fibre board	13·2	,,	0·34	,,	,,	
Pure cork board	14·0	,,	0·34	1·25	3·75	
,,	10·6	,,	0·30	,,	,,	
,,	7	,,	0·27	,,	,,	
Cork board with asphaltic binders	14·5	,,	0·32	,,	,,	
Flax fibre felt	13·0	,,	0·31			
Gypsum between heavy paper	53·5	,,	2·60	1·4	4·2	
Hair felt	13·0	,,	0·26			
,,	11·0	,,	0·26			
Dry cellular gypsum	30	,,	1·00			
,, ,,	24	,,	0·77			
,, ,,	12	,,	0·44			
Wood pulp board	16·9	,,	0·34	1·4	4·2	
85% Magnesia, 15% asbestos	19·3	86	0·51	1·45	4·35	
Gypsum plaster	46·2	,,	2·32	1·4	4·2	
Granulated cork $\frac{3}{16}$″	8·1	90	0·31			
Slag wool	10·0	,,	0·27			
,,	21·0	,,	0·30			
Sawdust	—	86	1·04			
Shavings	—	,,	0·71			
Shredded paper with silica binder	4·2	94	0·28	1·5	4·5	
Hair and asbestos fibres felted	7·8	90	0·28			
Woods. Balsa wood .. across grain	20·0	90	0·58	1·40	4·2	
,, ,,	8·8	,,	0·38	,,	,,	
,, ,,	7·3	,,	0·33	,,	,,	
Cypress ,,	28·7	86	0·67	,,	,,	
Maple ,,	44·3	,,	1·10	,,	,,	
Mahogany ,,	34·3	,,	0·90	,,	,,	
Virginia pine ,,	,,	,,	0·96	,,	,,	
White pine ,,	31·2	,,	0·78	,,	,,	
Asbestos sheet	48·3	110	0·29	1·4	,,	
,, board, corrugated	20·4	110	0·48	1·6	4·8	
Brickwork in lime (dry)	132	100	4·00	1·4	4·2	
,, ,, (wet)	—	—	5·00	1·4	,,	
Cement mortar	—	—	8·00	0·93	2·79	
Concrete 1-2-4 (stone)	140	110	8·30	1·30	3·9	
2″ Hollow clay tile plastered both sides	120	110	1·00	0·93	2·79	For thickness stated
4″ ,, ,, ,,	127	105	0·60	,,	,,	,,
6″ ,, ,, ,,	124·3	110	0·47	,,	,,	,,
Cellular concrete	40	75	1·06	1·4	4·2	
,,	50	,,	1·44	,,	,,	
,,	60	,,	1·80	,,	,,	
,,	70	,,	2·18	,,	,,	
Breeze concrete	110	,,	5·20	1·40	,,	
Pumice concrete	73	—	1·62	1·50	4·5	
Fibre board of liquorice roots	16·1	81	0·34	1·4	4·2	
Wood lath and lime plaster	—	75	2·0	1·3	3·9	Thickness as used
Glass				1·50	4·5	
Glass Silk	10	40	0.21	1·5	4·5	

COEFFICIENTS OF TRANSMISSION U
(Still air within and 15 m.p.h. movement without)

	U		
Single window and skylights	1·13		
Double window and skylights	0·45		
Triple window and skylights	0·281		
Doors with thin wood panels	1·10		
Solid wood doors 1″ thick	0·563		
,, 1¼″ thick	0·485		
,, 1½″ thick	0·432		
,, 1¾″ thick	0·421		
,, 2″ thick	0·382		
,, 2½″ thick	0·321		
,, 3″ thick	0·277		Figures for 9″ thickness
9″ solid fletton brickwork (dry)	0·70	1·4	4·2
9″ cellular ,, ,, ,,	0·59	1·4	4·2

Fig. 6

various building materials and insulators, compiled from the published results of tests by various authorities.

The method of calculating the heat loss through walls of various constructions may be seen from the calculations below.

Heat Loss Computations

As an example of the general principles of heat loss computation the following data and calculations are given relative to the small factory building shown on Fig. 7.

Data

Breathing line temperature 5 ft. from floor, 60° F.

Inside air temperature at underside of roof (10 ft. above breathing line, and allowing additional 2 per cent. per ft. above breathing line) = 1·2 x 60 = 72° F.

Mean inside air temperature at walls. (Mean height of walls = 7·6 ft.) and allowing additional 2 per cent. per ft. above the breathing line = 1·05 x 60 = 63° F.

Similarly mean inside temperature against glass = 64·2° F.

and mean inside temperature against doors = 61·2° F.

Temperature at floor level 60 − 5 = 55° F.

Transmission Coefficients U calculated as in examples given in Fig. 6.

Walls	.. ..	$U = 0{\cdot}245$
Roof	.. ..	$U = 0{\cdot}610$
Floor	.. ..	$U = 0{\cdot}521$
Doors	.. ..	$U = 0{\cdot}382$
Windows	..	$U = 1{\cdot}130$

Infiltration Coefficients

Window clearance (assumed $\frac{1}{16}$ in.) = 1·6 B.T.U. per ft. per hr. per deg. F.

Door Clearance (assumed $\frac{1}{8}$ in.) = 3·2 B.T.U. per ft. per hr. per deg. F.

Calculations.

Section of Building.	Surface area or cracks length. (a)	Transmission co-efficient U. (b)	Temp. Diff. (c)	Exposure Factor. (d)	Total B.T.U. (abcd)
N. Wall					
Brick ..	531	0·245	53	1·15	7,930
Doors ..	144	0·382	51·2	1·15	3,238
Cracks ..	84	3·2	51·2	1·15	16,416
W. Wall					
Brick ..	1,068	0·245	53	1·15	15,961
Glass ..	432	1·130	54·2	1·15	30,427
Cracks ..	168	1·6	54·2	1·15	16,754
S. Wall ..					
Brick ..	531	0·245	53	1·00	6,895
Doors ..	144	0·382	51·2	1·00	2,823
Cracks ..	84	neglected.	51·2	neglected.	—
E. Wall					
Brick ..	1,068	0·245	53	1·00	13,868
Glass ..	432	1·130	54·2	1·00	26,458
Cracks ..	168	neglected.	54·2	neglected.	—
Roof ..	4,500	0·610	62	1·00	170,190
Floor ..	4,500	0·521	20*	1·00	46,890
Total Heat Loss in B.T.U.'s per hour ..					357,850

* Ground temperature taken as 35° F.

Heat Insulating Materials

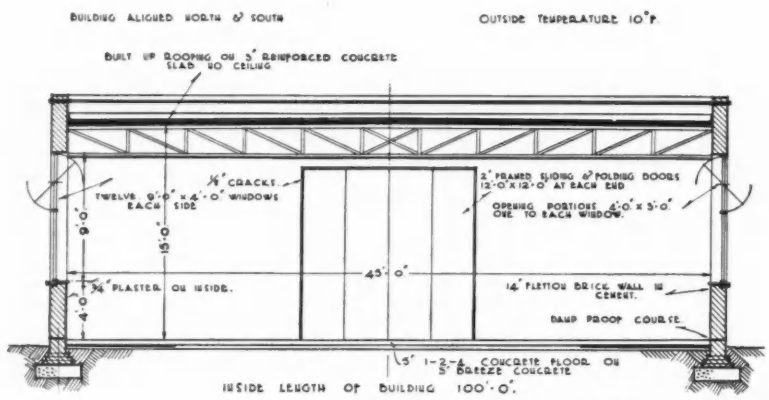
Good insulating material will usually equal in thermal resistance about 14 times its thickness in ordinary building material.

The high insulating properties are almost entirely due to the fact that the structure of the material contains inert air cells. The more numerous and minute these be, the better the insulation.

A cellular nature is obviously superior to a porous one and if the material is not normally non-hygroscopic it must be protected in use to maintain its normal condition of dryness.

Absorption of moisture may result in a reduction in the insulation coefficient by as much as 50 per cent., whilst of course, absorbed water will increase the danger of disintegration by frost.

The substances usually employed are charcoal, pumice, slagwool, cork—both granulated and in slab form—compressed reeds or straw, wood shavings, cemented with a siliceous binder, quilted eelgrass, crumpled metallic foil, felted fibres, cellular minerals, aerated cement and cellular concrete. Those substances which are of organic origin have obvious defects; but those which maintain their cellular structure under load, remain chemically inert and are impervious to moisture, are to be preferred.



CROSS SECTION OF FACTORY BUILDING.

Fig. 7

Colour

The most satisfactory exterior colour for an insulated wall or roof is white, and the next in efficiency is red. Grey, green brown and black are much more absorbent of heat, whilst corrugated surfaces, possessing greater radiating area, are less effective than flat surfaces for insulation. Non-metals radiate heat much more rapidly than metals of a similar surface.

From the point of view of the limitation of heat loss by radiation, the exterior surfaces of buildings should preferably be flat, white and metallic.

SOUND INSULATION.

Air-borne sounds may be transmitted to an adjoining room in three ways :—

(a) By direct passage of air waves through openings in the wall, through ventilators, etc.

(b) By vibration of the dividing medium itself as a diaphragm which by its motion recreates sound waves on the farther side ; and

(c) By direct transmission of elastic-wave motion through the dividing medium which imparts to the air at the farther side a wave motion exactly timed to that of the origin.

Air-borne sounds are most effectively stopped by massive and rigid walls that do not have openings for pipes or ventilators, though the construction of the wall itself, apart from the question of rigidity, has an important bearing upon the degree of insulation.

For the transmitted sound to be a minimum—i.e., for the greatest sound insulation—the sound energy dissipated in other ways must be a maximum.

(*a*) The reflected sound will be large in proportion to the incident sound if the reflecting surface is " hard."

(*b*) The sound absorbed by conversion to heat energy will be increased by using " laminated " construction with the inner layer very absorbent of sound.

(*c*) The sound energy absorbed as mechanical energy will be increased by using heavy " massive " construction.

(*d*) The diaphragm-like vibration can be minimized by the adoption of "rigid" construction.

Classification (Sound-deadening)	Sensation Units reduction	Remarks
Exceptionally good.	120	Conversation inaudible.
	110	
	100	
	90	
	80	
Very good.	70	
Good.	60	
Fairly good.	57	Conversation barely audible, but unintelligible.
Poor.	53	
Bad.	50	
	40	Conversation audible but unintelligible unless voice is raised.
	30	Conversation audible and intelligible.
	20	
Very bad.	10	
	0	

Fig. 8

LOUDNESS SCALE.

Physical Intensity Ratio. Exterior Noise.		Loudness in Decibels above Threshold. Interior Noise.
	Threshold of Feeling.	
Thunder	1,000,000,000,000	120
High-pitch loud whistle		
Aero-engine at 10 ft.	10^{11}	110 Circular saw
Gun fire		Noise in aeroplane
Express train 12 ft. away	10^{10}	100 Busy boiler shop
Roaring lion—10 ft.		
Pneumatic drill at 20 ft.	10^{9}	90 Express passing underground station
Niagara Falls		Noisy factory
Noise in underground railway	10^{8}	80 Loud radio
Heavy traffic—New York		Restaurant kitchen clatter
Heavy London traffic	10^{7}	70 Busy typing office
Average motor car at 20 ft.		Loud speech
Average street noise	10^{6}	60 Cinema projecting booth
Quiet street		Department store
Quiet auto. at 20 ft.	10^{5}	50 Average restaurant
		Average office
City streets at night	10^{4}	40 Loud whisper at 5 ft.
		Quiet office
Suburban streets at night	10^{3}	30 Cat purring—average residence
		Theatre audience
Quiet garden—London	10^{2}	20 Average whisper at 4 ft.
		Child's whisper
Rustle of leaves in breeze	10	10 Threshold of intelligibility
		"Uncanny" silence
	1	0
	Threshold of Audibility.	

Fig. 8a

Rigidity

A partition may be bulged by pressure of sound, and if the periodicity of the sound waves corresponds with the natural period of vibration of the partition, the transmitted sound would be "increased" in loudness by resonance.

MEASUREMENT OF SOUND INSULATION

There are 120 separately perceptible steps in loudness of sound throughout the full range of audibility, and each step is called a "sensation unit."

An insulation classification scale is given in Fig. 8.

The scale of loudness sensation given above provides a ready means of measuring the value of sound insulation or of assessing the reduction required by comparison with the commonly known sound levels stated against the scale. (Fig. 8a.)

As an example, if it be required to reduce the loudness level of the noise in the average busy street (60 db.) to that of a quiet office (30 db.), an insulation of at least 60—30=30 db. would have to be provided in the dividing medium be it *wall, window,* or *door.*

There is no simple formula for the calculation of sound insulation of composite construction, but the insulation of homogeneous partitions is proportional to the log. of the weight per sq. ft.

The insulation in db. $= 14{\cdot}3 \log_{10}$ wt. per sq. ft. + 22.7 db., and the following values are of interest —

Mass per sq. ft. of wall area.	Insulation in db. at 512 v.
1 lb. wt.	22·7
5 ,, ...	32
10 ,, ...	37
20 ,, ...	41
40 ,, ...	45
60 ,, ...	48
100 ,, ...	51·3
400 ,, ...	60

In porous-flexible materials the sound insulation in db. is proportional to the thickness of the material.

Thus a 10-fold increase in the thickness of a flexible porous material like hair felt will bring about a 10-fold increase in the sound insulation, whereas a 10-fold increase in the thickness of a rigid non-porous partition, say, from 10 to 100 lb. wt. per sq. ft., will only bring about an increase of insulation from 37 to 51.3 db., i.e., less than a 2-fold increase.

Note that to provide an insulation of 60 db. by means of a solid non-porous wall a mass of 400 lb. per sq. foot would be necessary—say, a 40 in. brick wall.

Owing to the slow rate of increase of insulation with weight of partition it is generally uneconomic in practice to provide for insulation greater than 45 db. solely by mass and rigidity.

Note that a solid 9 in. brick wall has an insulation of 53 db., whereas two separate 4½ in. brick walls have a combined insulation of 90 db. !

In panels of homogeneous nature mass and rigidity are the determining factors, but when the construction departs from homogeneity, structure becomes of predominating importance.

Tests on construction of various kinds appear to show quite definitely that in practice refraction effects may be ignored, and that it is necessary only to consider the diaphragm-like vibrations.

An increase in stiffness and/or mass will therefore improve the sound insulation of a wall.

Cross connections are very detrimental to the sound-insulating value of lath and plaster or similar partitions. The one side should be constructed entirely independent of the other by the use of staggered studding.

An air space is generally better than a filling material, unless the filling material is quilted (to prevent its settlement and tight packing) and fixed to one side only.

INSULATION AGAINST VIBRATION

Structural Vibrations

The full effect of sound transmission through the members of a structure are but imperfectly realized. Vibration in one part of the structure is conveyed easily through the continuity of solid material and by setting up resonant vibrations recreates sound waves in a position often very remote from the original source of sound.

If the design of the structure precludes any possibility of breaking continuity of structural contact, very special endeavours must be made to prevent linings of all rooms coming in structural contact with the framework of the buildings.

An effective method of control lies in the interposition of an elastic discontinuity in the path of the vibrations.

Sound Insulation in a Steel-framed Building

Isolation of structural vibration in the various members of a steel-framed building may be effected by the use of lead and asbestos cloth sheets, as shown in Fig. 9.

Note that in isolated connections, bolts sheathed in asbestos and bitumen must be used in place of rivets which would provide hard structural contact.

The use of isolator pads on every principal joint in a steel-framed building would

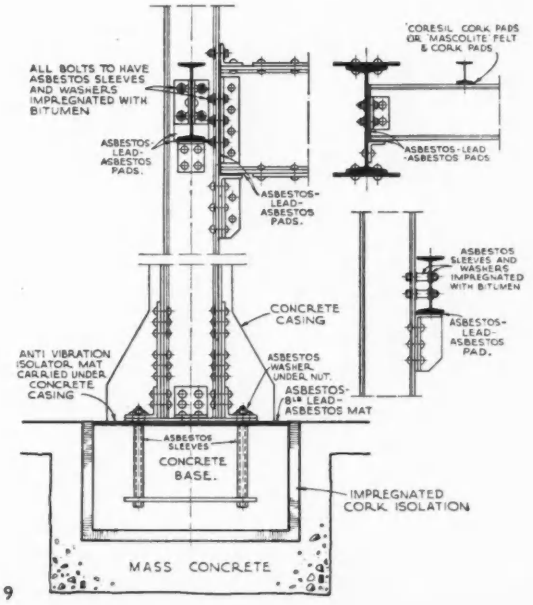


Fig. 9

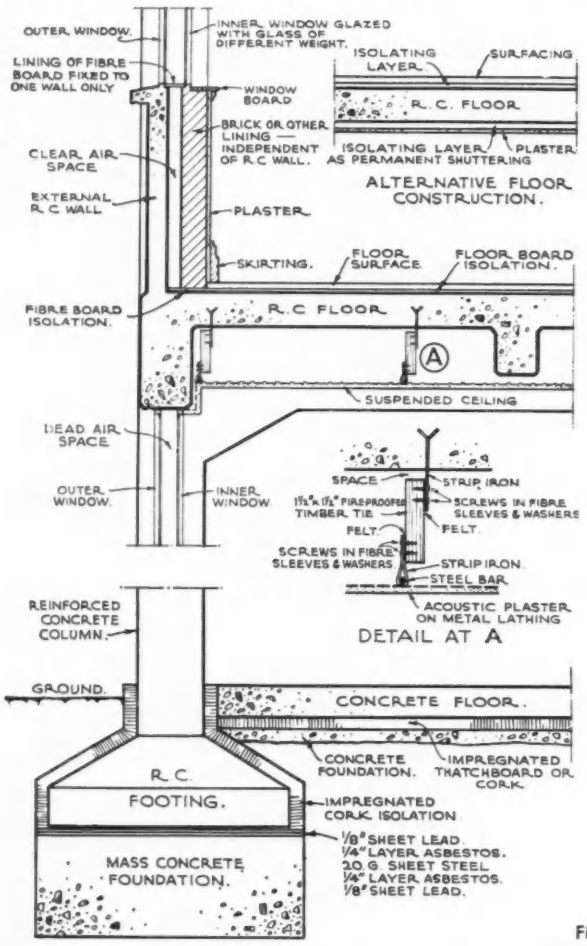


Fig. 10

reduce the general rigidity of the whole and so permit greater freedom in vibration.

It will usually be sufficient to isolate only the member shaken in the case of localized vibration, but to use pads under all foundations when earth vibrations have to be dealt with.

Sound Insulation of Reinforced Concrete Buildings

The use of resilient pads under the bearing of pre-cast reinforced concrete units of a structure offers a solution in this type of construction, and the reinforced concrete floors in brick buildings can be similarly dealt with.

On the other hand, *in-situ* constructed monolithic reinforced concrete buildings, from the mere nature of their design, are admirably suited to the effective transmission of vibration, and loaded reinforced concrete floors may act as very effective sounding boards in a framed reinforced concrete structure.

The effects of mass and rigidity have, however, a damping influence and it is not easy to determine in any particular design just the degree of discontinuity of structure, affecting as it does the overall rigidity, which would be productive of the greatest resistance to the transmission of noise and vibration.

The consensus of opinion inclines to the view that structures of reinforced concrete give less cause for complaint than those of steel-framed construction.

There is no doubt that, for the minimization of vibration and noise in reinforced concrete buildings, the following points need careful attention :—

(1) Foundations should be built upon a resilient layer having the requisite elastic strength and "compliance," and particular care should be taken to prevent the arrangement becoming waterlogged, as water transmits vibration with the greatest facility.

(2) The various members of the structure should be isolated from each other by resilient pads of lead and asbestos, where such an arrangement would not result in serious loss in structural rigidity.

(3) The interior surface of all rooms should be carefully isolated from the structural elements. (See Fig. 10.)

Machinery Vibration

In rotating parts eccentricities give rise to vibrations at frequencies equal to the speed of rotation, and at the "critical" speed the frequency of the vibration corresponds to the natural period of the machine on its support—a coincidence which is marked by an alarming increase in the amplitude of vibration.

There are as many "critical speeds" as there are modes of vibration.

Quiet machinery is usually secured by close attention to the following points :—

(1) The vibromotive forces should be kept down to the minimum by

(a) carefully balancing reciprocating parts,

(b) keeping reciprocating parts as light as possible,

(c) dynamically balancing all rotating elements to eliminate unbalanced centrifugal forces and whipping effects, and/or

(d) by the provision of a dynamic absorber tuned to neutralize the unbalanced vibration.

(2) Heavy, rigid frames should be provided.

(3) Loose and worn parts should be replaced.

(4) Smooth-meshed gearing and quiet, well-lubricated bearings should be used.

Human Susceptibility

Susceptibility to vibration is dependent upon the velocity of motion, the amplitude of vibration, the acceleration of movement, or the total impulse of the vibrating mass.

A vibration of frequency 1¼ per second and amplitude of ¼ mm. will usually be considered obnoxious, and a vibration having an acceleration of 2 ft. per second per second will cause annoyance.

In practice it is best to ascertain the dominant vibration of a machine at normal operating speeds and to design the mounting accordingly, since haphazard installation may aggravate the vibration. (See Fig. 11.)

Isolators

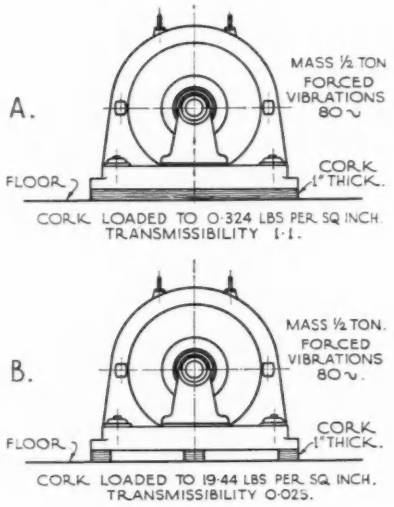
The most important properties of good isolators are elasticity and deflection, and the degree of success in isolation of vibration will depend upon the manner in which the relative magnitudes of these properties are adjusted.

It is usually found that a reduction in area of supporting pads will result in an improvement in isolation of vibration.

THE DESIGN OF DAMPING DEVICES

If a machine of mass m be supported on a resilient pad, as shown in Fig. 11, the natural frequency of the mass m on its elastic supports must be low compared with the frequency of the vibration to be isolated, otherwise the pad may be worthless.

The amount of vibration transmitted to the floor or foundation is determined by the elastic or viscous properties of the pad, and the "transmissibility" of the support is



COMPARISON OF THE DAMPING EFFICIENCES OF RESILIENT MACHINE SUPPORTS

Fig. 11

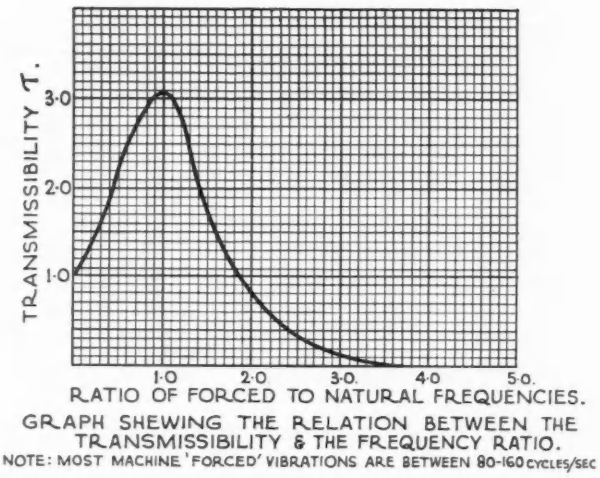


Fig. 12

given by the ratio of the vibratory force communicated with and without the isolating pad.

$$\frac{\text{Transmitted vibration with pad}}{\text{Transmitted vibration without pad}} = \tau = \sqrt{\frac{r^2 + \frac{1}{4\pi^2 n^2 c^2}}{r^2 + \left(2\pi nm - \frac{1}{2\pi nc}\right)^2}}$$

where c is the "compliance" of the pad (i.e., the reciprocal of the force constant or of the modulus of elasticity).

(Rubber has low elasticity but considerable compliance.

Steel has high elasticity but little compliance.)

r is the internal mechanical resistance owing to the viscous forces within the pad, and

n is the frequency of the vibration to be isolated.

The compliance c is calculated by observing the elastic deflection of a specimen loaded in compression for each additional unit of compressive force.

The compliance c for any elastic material will be directly proportional to the thickness and inversely proportional to the area of cross-section.

The internal resistance r can be ascertained from the "decay" curve by observing the successive amplitudes of the free vibrations of a known mass on a measured specimen of the resilient material, or by measurements of the rate of return of the displaced mass.

The internal resistance is directly proportional to the area of cross-section of the flexible support and inversely proportional to its thickness.

The resistance factor r is not so important as the compliance factor, and in approximate calculations may be regarded as zero.

Fig. 12 shows the relation between the transmissibility τ and the ratio of the frequency of the forced vibration to that of the natural vibration of the machine on its elastic support.

Examination of this curve will show that when the ratio of forced to natural vibrations is 1, i.e., when the natural frequency of the machine on its elastic support corresponds with that of the vibration to be isolated, a condition of resonance obtains and the vibration submitted will be three times that of the machine direct upon the floor without an isolator.

It will also be seen that when the ratio is three or more, there will be very little of the forced vibration transmitted to the floor or foundation.

In general, the elastic support should be sufficiently compliant and the mass supported should be sufficiently heavy to make the natural frequency of the arrangement low in comparison with the vibration to be isolated.

The isolator should have a relatively large compliance, should be loaded to its safe maximum within the elastic limit, and should have as large an internal resistance as is consistent with the above conditions.

The elastic support transmits all frequencies below about twice the natural frequency of the machine on its support, but isolates all frequencies above about

$$\frac{1}{\pi\sqrt{mc}}$$

Referring again to Fig. 11, it will be seen that in Case A with the machine supported on cork loaded to 0·324 lb. per sq. inch, the transmissibility is more than unity and the vibration transmitted to the foundations would be increased by the use of a pad loaded in this manner.

In Case B, the area of the cork support has been reduced to one-sixtieth of that allowed in Case A, and the transmissibility as calculated by the above formula is reduced to one-fortieth, thus emphasizing the advantage of stressing isolating pads up to the safe limit of elastic compression.

As there is such a paucity of reliable information upon the behaviour of materials under vibration, the writer is carrying out a comprehensive series of special tests on the physical properties of materials used singly or in combination as vibration damping pads.

Cellular, fibrous and felted materials are frequently found to change their nature under load, and therefore do not exhibit any clearly defined elastic limit.

A second series of tests is therefore in hand, with the object of tracing the compressibility and the rate of recovery of the specimens stressed up to loads of various intensity, and the behaviour of materials under repeated loadings is also being studied.

A third series of tests is being carried out on apparatus specially constructed to provide a direct measure of the damping factor of various isolation pads under varying conditions of loading, frequency and thickness.

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CONCLUSIONS

Undoubtedly the important points for the prevention of sound transmission in walls and partitions are :

(*a*) A hard reflecting surface on the outside of the wall.
(*b*) A non-homogeneous structure containing inert air cells.
(*c*) An air gap to prevent continuity.
(*d*) A layer of insulating material.
(*e*) A sound-absorbent surface facing the other room.
(*f*) A massive and rigid construction.

It is quite certain that the important points for the prevention of sound transmission through floors are :—

(1) A floating floor isolated from the walls.
(2) An isolating material of non-homogeneous nature between the floor covering and the floor proper.
(3) The floor proper (of massive and rigid construction) and
(4) A suspended ceiling.

IN PARLIAMENT

[BY OUR SPECIAL REPRESENTATIVE]

Waterloo Bridge

SIR WILLIAM DAVISON asked the Prime Minister whether his attention had been called to the fact that the L.C.C. proposed to disregard the twice-expressed opinion of Parliament that Waterloo Bridge should not be pulled down, notwithstanding the fact that this bridge was specially named by Act of Parliament and accepted by Parliament as the national memorial of the battle of Waterloo ; and whether, in view of the doubts which had been expressed as to the power of the L.C.C. to demolish Waterloo Bridge without the authority of Parliament, he would refer the question to the Law Officers of the Crown.

Mr. MacDonald said that he was not aware that any doubts had been expressed with regard to the L.C.C. powers to demolish Waterloo Bridge, but he understood that they had been advised by counsel that they had power to proceed with its demolition without the further authority of Parliament.

Sir William Davison : "Is my right hon. friend aware that under the ancient statute on which the L.C.C. rely for power to pull down Waterloo Bridge it is specifically provided that a bridge shall not be pulled down unless it is so much in decay as to render the taking of the same wholly down necessary or expedient ; and is he aware that the Royal Commission on Cross River Traffic, a statutory body appointed by Parliament, unanimously decided that the pulling of Waterloo

Bridge wholly down was neither necessary nor expedient?"

Mr. MacDonald: "If my hon. friend will supply me with these points, I will undertake to have them examined."

Amenities of the House of Commons

Mr. Clarry asked the First Commissioner of Works whether he would consider restoring and increasing the amenities of the House of Commons river terrace to members by raising the floor level of the terrace by at least 12 in. to enable members to see the river when occupying the chairs on the terrace.

Mr. Ormsby-Gore said that, apart from the expense, there were practical difficulties in the way of raising the level of the terrace by the amount suggested. He considered the possibility of raising the level of the terrace by 5 to 7 in. to that of the step at the base of the wall, but in view of the heavy cost involved—some £7,000 or £8,000—he decided to defer the work until such time as the major repairs to the paving itself became necessary.

Proposed Memorial in St. Stephen's Hall

Major Carver asked the First Commissioner of Works whether, in view of the fact that the centenary of the great fire at the House of Commons took place on October 16 this year, he would consider placing a memorial recording this occurrence in St. Stephen's Hall for the information of the public.

Mr. Ormsby-Gore said that he was of the opinion that public funds should not be expended on a memorial of this kind. If, however, any proposal were put forward to provide such a memorial out of monies privately subscribed, he would certainly be prepared to give the matter careful consideration.

Tenement Buildings: Proposed Committee

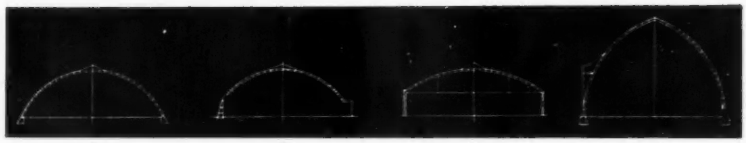
Mr. Fleming asked the Minister of Health whether he had anything further to report concerning the committee which he intended to set up to consider the construction of tenement buildings or flats on slum sites which had been cleared or were to be cleared.

Sir Hilton Young said that the constitution of the committee was now on the point of completion, and he hoped to be able to announce its membership and terms of reference in the course of the next few days.

Preservation of Dovedale

Mr. Mander asked the Minister of Health if he would state the present position with regard to the formation of a joint planning committee between the Staffordshire and Derbyshire county councils for the preservation of Dovedale.

Sir Hilton Young said that he understood that at a recent conference of local authorities in Derbyshire called by the Derbyshire County Council, a decision was taken to form a joint planning committee for an area comprising the portion of Dovedale which was in Derbyshire. So far as he was aware the two County Councils had not yet discussed the question of combining to form a joint committee for planning purposes.



TRADE NOTES

[*BY F. R. S. YORKE, A.R.I.B.A.*]

Coloured Asphalt

I HAVE received from the Limmer and Trinidad Lake Asphalt Co. a brochure describing Colourphalt. Described as a natural asphalt it is produced in four standard colours: red, brown, green and grey; the colours being guaranteed to be permanently the same throughout the thickness of the material laid down.

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It may be argued that such a material is unnecessary, in view of the fact that flooring compositions in a wide range of colours are already in existence, but the manufacturers claim one great advantage for the asphaltic material: it is elastic, and can absorb, without cracking, the slight movement that so often occurs when the inevitable expansion takes place in the concrete base.

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It should be especially useful in providing a surface of pleasant appearance on roofs and terraces that are overlooked from windows of high rooms in hotels and flats.

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A sheet of diagrammatic sections in the brochure illustrates the application of Colourphalt, in place of joists and boards, on the site concrete, in several types of house, where the asphaltic material acts as the dampcourse as well as the permanent floor, so saving excavation and brickwork.

Pressed Steel Roof Construction

In a new brochure produced by Horsley Bridge and Thomas Piggott, Ltd., there is a description of the Lamella system of roof construction, by which arched roofs are built from standard pressed steels units.

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The units are assembled in a series of diamond shapes to form a framework upon which any type of covering may be fixed. There are four component parts: Lamella bars, top and bottom purlins, and a pair of cover plates for each point of intersection. All are of pressed steel, and, in the main, of channel section. The bar is designed for mass production, and its shape developed to give maximum strength as a strut, without superfluous weight.

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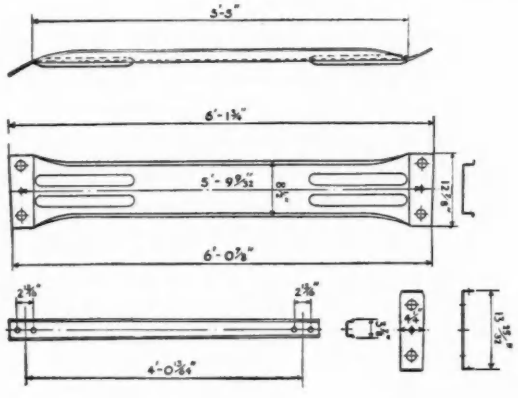
The simplest and most economical form of Lamella construction occurs when the complete structure is composed of Lamella bars, and the foundations take the thrust of the arch direct (Fig. 1 above). Fig 2 shows a type suitable for places of entertainment, etc., where unobstructed space is required. The buttresses or side walls are designed to take the thrust. Fig. 3 shows system for an open sided



Details of Lamella bar and top purlin as used at the Meteor Garage, Moseley.

A view showing the roof at the Smithfield Omnibus Station, Belfast.

or similar type of building, without buttresses, in which tie rods are provided at eaves level, so that the roof may be carried on stanchions or light walls. A system for lofty buildings is shown in Fig. 4. The thrust is taken directly by the foundations.

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At the Smithfield Omnibus Station at Belfast the building is open sided ; the roof is supported on girders and stanchions ; and tie rods take the thrust of the arch. The span is 79 ft. between centres of stanchions, and the mean length about 218 ft.

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Light diffusion is provided by continuous glazing along the ridge and near the eaves on either side. The covering is Ruberoid steel roof decking, of particularly high insulation value. The roof was erected entirely from portable trestles, all material being put in place by hand.

Manufacturers' Items

A little booklet, entitled *The First Hundred*, has recently been issued by Greenly's, Ltd., advertising agents, of 5 Chancery Lane, W.C. It is no larger than a pocket diary, and contains a hundred attractive reproductions in miniature of this firm's own House advertising. We understand that a limited number of copies are available. Principals of firms are invited to write on their business noteheading to Messrs. Greenly's for a copy.

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The British Electrical Development Association, of 2 Savoy Hill, W.C.2, have recently issued, in booklet form, the sixteen-page supplement entitled *Electricity and Rehousing*, published in THE ARCHITECTS' JOURNAL for May 17 last. "The E.D.A. Supplement," states the foreword, "has been reprinted for the information of all who are concerned in the rebuilding of our towns and for everyone who believes that the new construction should be free from the evils of the present slums." Copies of the booklet may be obtained on application to the Director and Secretary of the British Electrical Development Association, at the address given above.

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The Ioco Rubber and Waterproofing Co., Ltd., of Netherton Works, Anniesland, Glasgow, W.3, have recently issued a booklet dealing with Artoco panels. These panels, it is pointed out, are of two kinds. The first consists of specially treated plywood faced with fabric impregnated with the company's own Formapex synthetic resin of the Bakelite type and decorated with a variety of wood grains, colours and patterned effects. The other consists of the firm's own Formapex Cloth Miocarta, which is produced from fabric treated with Formapex synthetic resins decorated with a variety of colours, wood grains and fancy designs, and with a highly polished surface. In this latter range, thicknesses of $\frac{1}{4}$ in. and over are made up with specially treated plywood, the thickness of Miocarta being $\frac{1}{8}$ in. minimum. More than 30 different patterns and colours are available, and these are detailed in the pamphlet, together with particulars of the prices and thicknesses.

These Artoco panels are, it is claimed, particularly suited for schemes of interior decoration. The following advantages of Ioco panelling are set out in the booklet :

"The panels are produced in several colours, either plain or with appropriate wood grains, and artistic designs with a brilliant glass-like surface.

"Artoco panels are proof against damp, rot and vermin and are practically non-inflammable. The material possesses great mechanical strength, and cannot be fractured as in the case with porcelain, glass, or other refractory materials, yet it can readily be sawn or drilled.

"Artoco panels are not affected by dilute acids, mineral oils, petrol and organic solvents generally and are not damaged by burning cigarette ends or matches, which makes them ideal for restaurant tables, bar counters, etc.

"Standard size sheets are usually supplied, each 4 ft. by 2 ft., in thickness from $\frac{1}{8}$ in. to $\frac{1}{4}$ in., but for special purposes, such as table tops, etc., Artoco can be supplied up to 1 in. thick. Sawing, tapping, drilling, etc., are operations easily performed by ordinary wood-working tools on Artoco panels, which can be easily fixed in position by screws. For wainscotting, the usual procedure is to provide a flexible rubber beading to cover the join, screws being put in from the front and hidden by the overlap of the beading, and this can be carried out most artistically and, if necessary, with metal.

"Artoco panels need no special cleaning material. Should the necessity for cleaning arise, water, with ordinary soap if necessary, will do all that is required.

"Artoco panels effectively deaden noise and reduce vibration shocks.

"Artoco panels have the property of insulating both heat and cold, and thus it is easier to preserve rooms at equable temperatures."

Copies of the booklet are obtainable from the firm at the address given above.

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Messrs. Holophane, Ltd., of Elverton Street, S.W.1, have sent us a four page leaflet illus-

trating and describing a new colour lighting display sign—Duo Chrome Signs—which they have recently put on the market. The sign is obtainable in four types: The interior model, type A, is suitable for shop windows, showrooms, cinemas, theatres, cafés, etc., and is constructed entirely of sheet metal, bronze sprayed finish and is complete with specially designed prismatic reflectors. The text panel is removable so that alternative panels can be supplied and fitted when required to provide a variation of text. The sign can be suspended from two hooks or stand on flat as required. There is a magazine in the bottom which holds three spare colour slides of differing combinations. These colour slides are easily inserted in the slot provided for the purpose. A total of eight distinctive colour contrasts is obtainable from the four colour slides. This type can be enlarged to form the facia of a shop and can be made to any specified length or height. The minimum depth from back to front is approximately 7 ins. The back of the sign can be sunk flush into the brickwork if necessary. The surround of the sign can be modified to suit requirements.

The standard double-sided box-sign, type B, is arranged for exterior use. The sign can be read from two opposite directions. There is a protective glass panel on each side. Spare slides are provided, but no magazine is provided for storage, as in type A.

Type C is for use in shop windows as an interior facia sign incorporating the usual shop window reflectors. The sign can be suspended central in the windows or fixed close to ceiling and window in the normal position of the window lighting reflectors.

Type D is made for use vertically and can be used singly or as a double sign.

The leaflet is obtainable from Messrs. Holophane at the address given above.

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Hope's Door Fittings is the title of a brochure recently issued by Messrs. Henry Hope and Sons, Ltd., of Smethwick, Birmingham. It contains illustrations of the various locks, handles, letter plates, etc., manufactured by the firm, also several photographs of buildings for which Hope's door furniture was supplied. These include: Royal Hospital School, Holbrook (Buckland and Hayward, architects); Martin's Bank, Liverpool (architect, Herbert J. Rowse); Thames House and Imperial Chemical House, Millbank (architect, the late Sir Frank Baines).

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The offices of the Manchester Branch of W. T. Henley's Telegraph Works Co., Ltd., have been removed to Austin House, 23 Cumberland Street, Manchester, 3. Telephone No.: Blackfriars 7811 (2 lines).

LAW REPORT

ARCHITECTS' CLAIM FOR BALANCE OF FEES

Forbes and Tait v. *G. P. Hawkins, Ltd. Official Referees' Committee. Before Mr. S. R. G. Bosanquet, K.C.*

THIS was an action by Messrs. Forbes and Tait, architects, of Jermyn Street, S.W.1, against Messrs. G. P. Hawkins, Ltd., proprietors of the Dorothy Café, Sidney Street, Cambridge, to recover the sum of £722, the balance of fees they alleged to be due to them for professional services rendered, and work done in connection with the rebuilding of the Café for the defendants at the rate of 6 per cent. on the cost of work. The defence was a denial of liability. The defendants alleged that for a large part of the work no plans or specifications were prepared and that the plaintiffs had already received £4,518 for their work.

Defendants also alleged that in several respects the plaintiffs' work was unsatisfactory and in particular they claimed that the black hornbeam used for the ballroom floor proved to be unsuitable. They also counter-claimed for £5,500 to cover the cost of remedying the various defects and the damage to carpets and furniture caused by black dust coming from the ballroom floor.

Mr. T. J. O'Connor, K.C., and Mr. Lilley appeared for the plaintiffs and Mr. A. T. Miller, K.C., Mr. E. J. Remmer and Mr. C. H. S. Lawcross for the defendants.

After a lengthy hearing the parties arrived at a settlement of the action. Mr. Miller, addressing the Official Referee, said: "The parties are indebted for the facilities given to meet and discuss this case and I am happy to tell you that following the intimation from you last evening the parties at once got together with a view to seeing whether it was possible to put an end to this very protracted and expensive litigation. I am happy to tell you that we have succeeded in arriving at terms which so far as one can expect are satisfactory to both sides. I should like to say that my clients appreciate and realize in spite of all the heat of the conflict over details that they have a really beautiful and modern and commodius building, one of which they may well be proud and one that has earned the praise both of the Cambridge Preservation Society and the Illumination Congress.

"With that as a fundamental basis of the position it would be most unfortunate that the serious differences between the parties in relation to matters which are relatively small should continue, and having thrashed out those matters before you, my clients think that their terms are reasonable and proper, namely that the action should be stayed, the defendants to pay the plaintiffs £400, claim and counter-claim to be withdrawn, and each party to pay his own costs."

Mr. T. J. O'Connor, for the plaintiffs, Messrs. Forbes and Tait, said they were grateful to the Official Referee for his patient and courteus hearing of the case. Mr. Forbes appreciated very much the way Mr. Miller had made it plain that he was no longer under any imputation of incompetence in respect of this building that had been so highly praised.

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HOUSING

Mr. Geoffrey Shakespeare, Parliamentary Secretary to the Ministry of Health, received last week a deputation from the Building Industries National Council, introduced by Lord Amulree. The deputation consisted of:—

Sir Raymond Unwin, PP.R.I.B.A., and Messrs. Sydney Tatchell, F.R.I.B.A., R. Coppock, J. H. Barker, H. Halliday and E. C. Harris.

The deputation conveyed to Mr. Shakespeare their conviction that it is essential so to regulate housing activity as to maintain a steady flow of demand for and supply of building materials and labour. The Council offered their services towards this end, especially co-operation with the Ministry in the large housing and slum clearance campaigns they were undertaking.

Mr. Shakespeare replied that he contemplated continued housing activity for many years to come, and suggested that the Council should plan the supply of materials and labour to meet such a programme. Arrangements would be made from time to time to let the Council have all the information in possession of the Ministry of Health as regards the anticipated output of houses.

A CORRECTION

We regret that in our issue for May 31 we attributed the design of the flats at Worcester Park to "J. M. Sheppard and Son." It should have been, of course, "J. M. Sheppard and Partners."

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

Following are the names of the general contractors and some of the sub-contractors for the buildings illustrated in this issue:—

Howard Hall, Braintree (pages 8–9). General contractors, A. G. Wicks. Sub-contractors: Ames and Finnis, facing bricks; W. H. Collier & Co., carcassing bricks; Firmacrete, Ltd., artificial stone; Cocksedge & Co., Ltd., structural steel; Diespeker & Co., Ltd., floor tiles; Standard Flat Roofing Co., Ltd., special roofings; Crittal and Winterton, Ltd., central heating; Braintree and Bocking Gas Co., Ltd., gas-fitting; East Anglian Electric Supply Co., Ltd., electric wiring; Crittall Manufacturing Co., Ltd., casements, entrance gates; E. W. Beckwith, and F. Crittall (of Crittall Manufacturing Co., Ltd.), furniture, chairs, desks, etc., to Temple; Nobel Chemical Finishes, Ltd., "Dulux" finishes.

Power House, Dagenham (pages 15–20). General contractors, G. Percy Trentham, Ltd., who were also responsible for brickwork and stucco superstructure, concrete floors and railway sidings. Sub-contractors: J. Mowlem & Co., Ltd., foundations; Henry Hope and Sons, Ltd., roof glazing, lantern lights, steel sashes, window gearing, internal partitions and doors; Wolverhampton Corrugated Iron Co., Ltd., roofing; Cement Gun Co., Ltd., gunite gutters; Johns-Manville Co., Ltd., gutter linings; J. A. McCrea and Sons, Ltd., rainwater pipes, water services, plumbing, etc.; L. J. Speight, Ltd., glazing sashes; H. Hartley & Co., concrete gutter linings; Aiton & Co., Ltd., water mains and services; John Booth and Sons, Fireproof Shutters and Doors, Ltd., Haywards, Ltd., steel doors; G. A. Harvey & Co., wire mesh enclosures; H. G. Puley, birch handrailings; Diespeker & Co., Ltd., stairs; Waygood Otis, Ltd., electric lift; David Rowell & Co., Ltd., wrought iron balustrading; Grant and Livingston, batten plates, access ladders, etc.; Doulton & Co., Ltd., sanitary fittings; Babcock and Wilcox, Ltd., window cleaning runways and chequer platings, all boiler plant and the whole of the structured steelwork; Arthur Foster, steel-framed cable ducts; J. Keith and Blackman, Ltd., ventilating fans and ducts; Steelways, Ltd., chequer platings; Plastering, Ltd., all plasterwork; Trussed Concrete Steel Co., Hy-rib foundation for plastering; Limmer and Trinidad Asphalte Co., Ltd., roofing asphalte; British Thomson-Houston, all turbine and electrical equipment; Hope's Heating and Lighting Co., heating system for factory (as from the power house boilers); C. and T. Painters, external painting; Samuel Williams and Sons, piling manufacturer; Rowe Bros., "Sloane" valves for closets; Harris and Sheldon, lavatory doors; A. Goldstein, glazing; Empire Stone Co., stone dressings; Stoneware (1928), Ltd., facing bricks.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

BERMONDSEY. *Reconstruction.* The Works Committee of the B.C. has again considered the question of the reconstruction of the Neckinger depot, and recommends such reconstruction at a total estimated cost of £49,000.

BERMONDSEY. *Flats.* The Housing Committee of the B.C. recommends the development of the Elim Street area by the erection of a block of 61 flats, and a block of eight flats and shops, at a total estimated cost of £35,662.

BERMONDSEY. *Clinic.* In connection with the erection of the proposed clinic in Grange Road, the B.C. Health Committee reports that it has referred revised plans to a joint meeting of the Committee and the Maternity and Child Welfare Committee for approval. At a subsequent meeting of the joint Committees, the plans were approved, the estimated cost of the erection being £44,925.

CAMBERWELL, ETC. *Dwellings.* The Society for Improving the Condition of the Labouring Classes is to erect two blocks of 60 dwellings at Old Kent Road, Camberwell, and a block of 45 dwellings at Park Place, Lambeth.

CROYDON. *Hospital Additions.* The Corporation has obtained sanction to borrow £17,748 for the erection of a new block at Mayday hospital.

CROYDON. *Houses.* Plans passed by the Corporation: Three blocks of flats, London Road, for Messrs. Grace and Marsh, Ltd.; 11 flats, Stafford Road, for Mr. W. S. Daws; three houses, Witherby Close, for Messrs. E. H. Smith, Ltd.; block of flats, Park Hill Rise, for Mr. C. H. Chapman; 10 houses, Kynaston Avenue, for Estates Development (Thornton Heath), Ltd.; two houses, Addison's Close, for Mr. P. W. Reed; four flats, Spring Park Road, for Mr. S. C. Williams; two bungalows, Woodland Way, for Mr. W. Petty; 30 houses, Brookside Way, for Messrs. Connor and Timblick; two houses, Rutland Gardens, for Mr. C. J. Doyle; three houses, Northampton Road, for Mr. J. H. Martin; five houses, Addison's Close, for Messrs. Langs, Ltd.

EALING. *Houses and Flats.* Plans passed by the Corporation: Two bungalows, Harewood Avenue, for Mr. A. J. Bond; 14 houses, Greenford Road, for Messrs. Richard Costain, Ltd; eight houses, Lynwood Road, for Mr. S. H. West; 16 flats, Windmill Road, for Mr. H. A. Steel; 32 houses, Whitton Avenue, Northolt, for Messrs. Swannell and Sly; 48 houses, Conway Crescent, for Messrs. R. Lancaster and Sons; 126 houses, Croyde Avenue, etc., for Houselands, Ltd.; nine shops and flats, Ruislip Road, for Mr. R. Vaughan; four shops and flats, Bilton Road, for Messrs. Marrable Bros.; four houses, Mayfield Gardens, for Mr. J. W. Allen; factory, Aintree Road, for Therapeutic Products, Ltd.; four houses, Corringway, for Messrs. Haymills, Ltd.; eight houses, Baronsmede, for Messrs. J. Atherton & Co.; shops and flats, Little Ealing Lane and Windmill Road, for Mr. R. J. Hugh Minty; 50 flats, The Grove, for Messrs. Harold Bailey, Dudley and Farrier.

ISLEWORTH. *Casual Wards.* The Middlesex C.C. has approved plans for the erection of casual wards at Isleworth at an estimated cost of £21,000.

SOUTHERN COUNTIES

BOURNEMOUTH. *Houses, Shops, etc.* Plans passed by the Corporation: Two flats, Kinson Road, for Mr. J. H. Schofield; two houses, Columbia Road, for Mr. A. W. Wiles; four flats, Christchurch Road, for Messrs. Rosser and Sturman; four flats, Grantham Road, for Mr. S. Adams; two shops, Tuckton Road, for Mr. C. W. Williamson; six bungalows, Cox Avenue, for Mr. S. F. Brown; three houses, The Grove, for Mr. T. Fry; three houses, Meon Road, for Mr. F. Durrant; two houses, West Way, for Mr. E. W. Lancaster; two houses, Clingan Road, for Mr. W. Ward; two bungalows, Parham Road, for Mr. H. Burton; two houses, St. Peters Road, for Chine Investments, Ltd.

BOURNEMOUTH. *Café Reconstruction.* The Corporation has obtained sanction to borrow £15,000 for the reconstruction of the East Beach café.

GUILDFORD. *Housing.* The Corporation is seeking sanction to borrow £80,000 for housing advances.

EASTERN COUNTIES

LOWESTOFT. *Houses.* Plans passed by the Corporation: Two bungalows, Waveney Drive, for Mr. A. F. Spalding; four houses, London Road, for Mr. O. E. Gray; two bungalows, Yarmouth Road, for Mr. A. E. Ingles; two bungalows, Chestnut Avenue, for Mrs. J. Larter; five houses, Burton Street, for Mr. R. Lowe; two houses, Parkhill and Pleasurewood Farms, for E.S.C.C.; six houses, Colville Road estate, for Mr. D. Dowell. Plans submitted to the Corporation: Estate lay-out and two bungalows, "The Garden" building estate, Carlton Road, for Mr. E. Lincoln.

MIDLAND COUNTIES

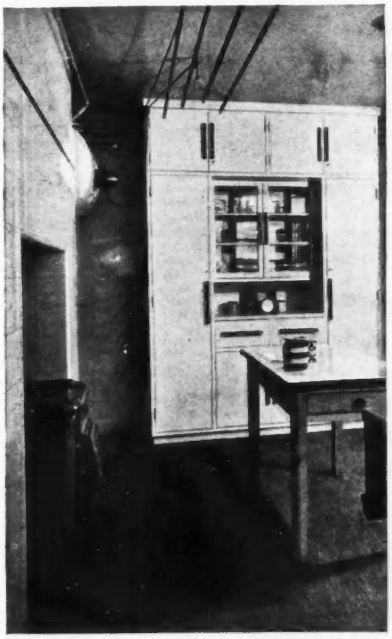
KIDDERMINSTER. *Houses.* The Corporation recommends the erection of 20 houses on the Foley Park estate, in addition to the 60 houses for which tenders are being obtained.

KIDDERMINSTER. *Houses.* Plans passed by the Corporation: Two houses, St. John's Avenue, for Mr. C. H. Hambleton; 15 houses, Franche Road, for Mr. G. Williams; two houses, Chester Road, for Mr. M. Harris; new road and 50 houses, Vicarage Farm estate, for Mr. S. I. King; two houses, Neville Avenue, for Mr. T. H. Kent; two houses, Neville Avenue, for Mr. R. Williams.

MANSFIELD. *Houses.* The Corporation recommends the erection of 34 houses in Chadburn Road and Houfton Road by direct labour.

STOKE-ON-TRENT. *Houses.* At the Highways and Plans Committee of the Corporation, a letter was received from the Ministry of Health stating that the Ministry had dispensed with the requirement of the maximum density of 12 houses per acre, in connection with the proposed erection of 90 houses at Colclough Lane, Goldenhill, by Mr. G. H. Wignall, and the Committee decided to inform Mr. Wignall that a density of 14 houses per acre would now be allowed.

STOKE-ON-TRENT. *Site Development.* The Corporation is to prepare plans in connection with the proposed development of the Palais de Danse site, and is to consider the question of the provision of an art gallery and central museum.



The kitchen of No. 38 South Grove, Highgate, designed by C. H. James. *See pages 10-11 of this issue.*

NORTHERN COUNTIES

BLACKPOOL. *Houses.* Plans passed by the Corporation: Six houses, Northgate, for Mr. W. Hutton; two houses, Knowle Avenue, for Mr. G. F. Boyce; 16 houses, The Croft, for Mr. A. A. Holt; two houses, Norbreck Road, for Mrs. Stott; four houses, Park Road, for Messrs. Render Wood, Ltd.; two houses, Albion Avenue, for Messrs. Streule and Briand; three houses, Hodgson Road, for Messrs. G. Hodgson and Son; 18 houses, Pembroke Avenue, for Sir L. Parkinson & Co.; three houses, Antrim Road, for Mr. R. Jackson; three houses, Kingscote Drive, for Mr. A. Wilson; 10 houses, Troughton Crescent, for Mr. J. E. Troughton; houses and shops, Clifton Drive, for Mrs. Brammer; two houses, Newton Drive, for Miss K. Yates; two houses, Burlington Road, for Mrs. Bourne; six houses, Kingscote Drive, for Mr. H. Grimbleston; four shops and houses, Fleetwood Road, for Mr. S. Brooks; 20 houses and four shops, Derwent Place, for Mr. S. Brooks; five houses and shops, Westcliffe Drive, for Messrs. N. Rideout; four houses, Gresham Road, for Messrs. Findlay and Watson; 29 houses, Wynwood Avenue, for Messrs. H. Fielding and Son; two houses, South Park Drive, for Mr. H. Eastwood; 12 houses, Lawson Road, for Mr. T. Southworth; film studio, Bispham, for Mr. O'Brien; 10 houses, Preston New Road, for Mr. H. G. Mason; five shops and houses, Martom Drive, for Mr. H. Eckersley; 23 houses, Montpelier Avenue, for Mr. S. Schofield; six houses, St. Anthonys Place, for Mr. Jas. Eaves.

DEWSBURY. *Houses, Roads, etc.* Plans passed by the Corporation: Two bungalows, Douglas Street, Thornhill Lees, for Mr. R. Thompson; four houses, Slaithwaite Road, Thornhill Lees, for Mr. H. Raynor; four houses, Torridon Road, for Messrs. C. V. Lee and F. T. Hall; five houses, Brewerton Lane, for Mr. J. Hemingway; three houses, Slaithwaite Road, for Messrs. A. T. and E. Brooke, Ltd.; two houses, Athlone Drive, for Mr. W. P. Ward; 10 houses, Headfield Road, for Ashfield Building Co.; new street, off Frank Lane, for Mr. W. C. Wakefield; two houses, Chapel Lane, for Mr. J. Brook; two new roads, near Valley Road and Frank Lane, for Mr. W. C. Wakefield; six houses, Falcon Road, and six houses, Cowper Street, for Mr. J. Tierney. Plans submitted to the Corporation: 12 houses, Wakefield Road, for Mr. E. V. King.

SOUTH SHIELDS. *Houses and Shops.* Plans passed by the Corporation: Lay-out of houses in Mortimer Road, Cauldwell Avenue, Cauldwell Villas, Page Avenue, and Warwick Road, for Mr. F. W. Newby, on behalf of Messrs. Henderson Bros.; house and shop, Eccleston Road, 10 houses and shop, Mowbray Road, alterations, "Northumberland Arms," Laygate Lane, and house and shop, Park View, Harton, for Messrs. T. A. Page and Son; two bungalows, Clyvedon Rise, for Mr. G. R. Smith; six houses, West Avenue, for Messrs. J. H. Morton and Son; shop and house, Prince Edward Road, for Mr. J. Stolliday. Plans submitted to South Shields Corporation: Two bungalows, Simonside estate, for L. and N.E.R. Benefit Homes; flats, 26 Saville Street, for Mr. H. Hill; flats, Penny Pie Stairs, for Mr. H. Hill.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I	II
			s. d.	s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A_1	Abergavenny ..	S Wales & M.	1 5	1 0½
A_2	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A	Addlestone ..	S. Counties	1 4	1 0
A_2	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie ..	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B_2	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne ..	N.W. Counties	1 5½	1 1½
A_2	Atherstone ..	Mid. Counties	1 4	1 0
B_2	Aylesbury ..	S. Counties	1 2½	11
B_2	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle ..	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry ..	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_1	Berwick-on-Tweed ..	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_2	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham ..	Mid. Counties	1 5½	1 1½
A_1	Bishop Auckland ..	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth ..	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton ..	N.W. Counties	1 5½	1 1½
A_2	Boston ..	Mid. Counties	1 4	1 0
A_2	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey ..	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A_2	Brighton ..	S. Counties	1 4	1 0
A	Bristol ..	S.W. Counties	1 5½	1 1½
B_2	Brixham ..	S.W. Counties	1 2½	11
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B_2	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
A	Burslem ..	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent ..	Mid. Counties	1 5½	1 1½
A	Bury ..	N.W. Counties	1 5½	1 1½
A_1	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE ..	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff ..	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A_2	Chelmsford ..	E. Counties	1 4	1 0
A_2	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester ..	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_2	Chichester ..	S. Counties	1 3	11½
A	Chorley ..	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A_2	Colchester ..	E. Counties	1 4	1 0
A	Colne ..	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON ..	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby ..	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorchester ..	S.W. Counties	1 2½	11
A	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N.E. Coast	1 5½	1 1½
A_2	EASTBOURNE ..	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorgan-shire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE ..	E. Counties	1 4	1 0
A_2	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S.W. Counties	1 2½	11
A	GATESHEAD ..	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	Gosport	S. Counties	1 4½	1 0½
A_2	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster ..	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B_2	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln ..	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A_2	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_2	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth .. & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton ..	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid. Counties	1 5½	1 1½
A_2	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford ..	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth	Scotland	*1 5½	1 1½
A_2	Peterborough ..	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A_2	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A_2	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby ..	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	Slough ..	S. Counties	1 4½	1 0½
A_1	Solihull ..	Mid. Counties	1 5	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud ..	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swadlincote ..	Mid. Counties	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A_2	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist. ..	N.E. Counties	1 5½	1 1½
A_2	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay ..	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD ..	Yorkshire	1 5½	1 1½
A	Walsall ..	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick ..	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid. Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby ..	Yorkshire	1 4½	1 0½
A	Widnes ..	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor ..	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A_2	Wycombe ..	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	11½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 8
Mason (Banker) . . . . . ,,	1 7
,, (Fixer) . . . . . ,,	1 8
Plumber . . . . . ,,	1 7
Painter . . . . . ,,	1 6
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 7
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 3
Timberman . . . . . ,,	1 3
Navvy . . . . . ,,	1 2½
General Labourer . . . . . ,,	1 2½
Lorryman . . . . . ,,	1 5
Crane Driver . . . . . ,,	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . . per ton	2 2 0
Blue Lias Lime . . . . . ,,	1 16 6
Hydrated Lime . . . . . ,,	3 0 9
Portland Cement, in 4 ton lots (d/d site, including Paper Bags) . . ,,	1 18 0
Rapid Hardening Cement, in 4 ton lots (d/d site, including Paper Bags) ,,	2 5 6
White Portland Cement, in 1 ton lots ,,	8 15 0
Thames Ballast . . . . . per Y.C.	6 3
¾" Crushed Ballast . . . . . ,,	6 9
Building Sand . . . . . ,,	7 3
Washed Sand . . . . . ,,	8 3
2" Broken Brick . . . . . ,,	8 0
¾" ,, ,, ... ,,	10 3
Pan Breeze . . . . . ,,	6 6
Coke Breeze . . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . . per F.R	0 9	1 1
Bends . . . each	1 9	2 6
Taper Bends . . ,,	3 6	5 3
Rest Bends . . ,,	4 3	6 3
Single junctions . . ,,	3 6	5 3
Double . . ,,	4 9	6 6
Straight channels . . per F.R.	1 6	2 6
¾" Channel bends . . each	2 9	4 0
Channel junctions . . ,,	4 6	6 6
Channel tapers . . ,,	2 9	4 0
Yard gullies . . ,,	6 9	8 9
Interceptors . . ,,	16 0	19 6
IRON DRAINS:		
Iron drain pipe . . per F.R.	1 6	2 6
Bends . . . each	5 0	10 6
Inspection bends . . ,,	9 0	15 0
Single junctions . . ,,	8 9	18 0
Double junctions . . ,,	13 6	30 0
Lead wool . . . lb.	6	—
Gaskin . . . ,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . . per M.	2 18 0
Grooved do. . . . . ,,	3 0 0
Phorpres bricks . . . . . ,,	2 17 3
Phorpres Cellular bricks . . . ,,	2 17 3
Stocks, 1st quality . . . . ,,	4 11 0
,, 2nd ,, ... ,,	4 2 6
Blue Bricks, Pressed . . . ,,	8 17 6
,, Wirecuts . . . ,,	7 17 6
,, Brindles . . . ,,	7 0 0
,, Bullnose . . . ,,	9 0 0
Red Sand-faced Facings . . ,,	6 18 6
Red Rubbers for Arches . . ,,	12 0 0
Multicoloured Facings . . .	7 10 0
Luton Facings . . . . ,,	7 10 0
Phorpres White Facings . . ,,	3 17 3
Phorpres Rustic Facings . . ,,	3 12 3
Midhurst White Facings . . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . . ,,	21 0 0
Headers . . . . . ,,	20 10 0
Bullnose . . . . . ,,	27 10 0
Double Stretchers . . . ,,	29 10 0
Double Headers . . . ,,	26 10 0
Glazed Second Quality, *Less* . ,,	1 0 0
,, Buffs and Creams, *Add* . ,,	2 0 0
,, Other Colours . . ,,	5 10 0
2" Breeze Partition Blocks . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 10
3" ,, ,, ,, . . ,,	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

	s. d.
The following d/d F.O.R. at Nine Elms:	
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . . ,,	2 11
York stone . . . . . ,,	6 6
,, ,, Sawn templates . . ,,	7 6
,, ,, Paving, 2" . . . F.S.	1 8
,, ,, 3" . . . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . . per M.	28 17 6
22" × 12" Marchionesses . . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . . ,,	15 10 0
18" × 9" Ladies . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, green ,, ,,	24 7 4
Best machine roofing tiles . . ,,	4 10 0
Best hand-made do. . . . ,,	5 0 0
Hips and valleys . . . each	9½
,, hand-made . . . ,,	10
Nails, compo . . . lb.	1 4
,, copper . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . as 1" F.S.	9
Deal, Joiner's . . . ,, ,,	5
,, ,, 2nds . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . . ,, ,,	4
Teak, Moulmein . . . ,, ,,	1 3
,, Burma . . . ,, ,,	1 2
Walnut, American . . ,, ,,	2 3
,, French . . . ,, ,,	2 3
Whitewood, American . . ,, ,,	1 1
Deal floorings, ¾" . . . Sq.	18 6
,, 1" . . . ,,	1 1 6
,, 1¼" . . . ,,	1 2 0
,, 1½" . . . ,,	1 5 0
,, 1¾" . . . ,,	1 10 0
Deal matchings ¾" . . . ,,	14 0
,, 1" . . . ,,	15 6
,, 1¼" . . . ,,	1 4 0
Rough boarding ¾" . . . ,,	16 0
,, 1" . . . ,,	18 0
,, 1¼" . . . ,,	1 6 0

Plywood, per ft. sup.

Thickness	¼"	⅜"	½"	¾"
Qualities	AA. A. B.	AA. A. B.	AA. A. B.	AA. A. B.
	d. d. d.	d. d. d.	d. d. d.	d. d. d.
Birch	4 3 2	5 4 3	7½ 6 4½	8½ 7 6
Alder	3½ 3 2	5 4 3	6½ 5½ 4½	8 7 6
Gaboon				
Mahogany	4 3 3	6½ 5½ 4½	9½ 7½ –	1/0½ 10 –
Figured Oak 1 side	8½ 7 –	10 8 –	11½ – –	1/6 – –
Plain Oak 1 side	6½ 6 –	7½ 7 –	9½ – –	1/– – –
Oregon Pine	5 4 –	5½ 5 –	6 – –	– – –

	d.
Scotch glue . . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:

(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	¼"	⅜"	½"	¾"	1"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
,, 3"-11½" long ,,	7	9	1/3	1/8	3/–
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3
,, ,, 3"M-1½" long ,,	8	10	1/5	1/11	3/6
Bends . . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . . ,,	2/–	3/–	5/6	6/9	10/–
Elbows, square . . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . . ,,	1/–	1/3	1/10	2/6	5/1
Crosses . . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . . ,,	4	6	9	1/–	2/–
Flanges . . . . ,,	9	1/–	1/4	1/9	2/9
Caps . . . . ,,	3½	5	8	1/–	2/–
Backnuts . . . . ,,	2	3	5	6	1/1
Iron main cocks . . ,,	1/6	2/3	4/2	5/4	11/6
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–

Discounts:

TUBES.

	Per cent.		Per cent.
Gas	65	Galvanized gas	52½
Water	61½	,, water	47½
Steam	57½	,, steam	42½

FITTINGS.

Gas	57½	Galvanized gas	47½
Water	52½	,, water	42½
Steam	47½	,, steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ⅜" . . ,,	8 6
,, ,, ½" . . ,,	8 3
,, ,, ⅝" . . ,,	8 0
,, ,, ¾" . . ,,	7 6
,, ,, ⅞" . . ,,	7 6
,, ,, 1" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1½" . . ,,	7 6

	3" s. d.	4" s. d.
Cast-iron rain-water pipes of ordinary thickness metal . . F.R	8	10
Shoes . . . . each	2 0	3 0
Anti-splash shoes . . ,,	4 6	8 0
Boots . . . . ,,	3 0	4 0
Bends . . . . ,,	2 7	3 9
,, with access door . . ,,	—	6 3
Heads . . . . ,,	4 0	5 0
Swan-necks up to 9" offsets . ,,	3 9	6 0
Plinth bends, 4½" to 6" . . ,,	3 9	5 3
Half-round rain-water gutters of ordinary thickness metal . . F.R.	5	6
Stop ends . . . . each	6	6
Angles . . . . ,,	1 7	1 11
Obtuse angles . . . ,,	2 0	2 6
Outlets . . . . ,,	1 9	2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	18 6
,, drawn pipes . . . ,,	17 0
,, soil pipe . . . ,,	18 6
,, scrap . . . ,,	10 6
Solder, plumbers' . . . lb.	9½
,, fine do. . . . ,,	1 0
Copper, sheet . . . ,,	8½
,, tubes . . . ,,	11

L.C.C soil and waste pipes:	3"	4"	6"
Plain cast . . F.R.	1 0	1 2	2 6
Coated . . ,,	1 1	1 3	2 8
Galvanized . ,,	2 0	2 6	4 6
Holderbats . . each	3 10	4 0	4 9
Bends . . ,,	3 9	5 3	10 3
Shoes . . ,,	2 10	4 4	9 6
Heads . . ,,	4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . per ton	2 5 0
Plaster, coarse . . . ,,	2 10 0
,, fine . . . ,,	4 15 0
Hydrated lime . . . ,,	3 0 9
Sirapite . . . ,,	3 6 0
Keene's cement . . . ,,	1 0 0
Sand, washed . . . Y.C.	11 6
Hair . . . . lb.	6
Laths, sawn . . . bundle	3 4
,, rent . . . ,,	3 9
Lath nails . . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft. s. F.S.		2½
,, ,, 26 oz. ,, ,, ,,		3½
Flemish, Arctic, Figured (white)* ,,		7
Blazoned glasses . . . ,,	2	6
Reeded; Cross Reeded ,,		11
Cathedrals: eleven varieties (white)* ,,		6½
Crown sheet glass (n/e 12 in. × 10 in), ,,	2	0
Flashed opals (white and coloured) ,,	1 0 and 2	0
¼" rough cast; rolled plate . . ,,		7
¼" wired cast; wired rolled . . ,,		10
¼" Georgian wired cast . . ,,		11
¼" Polished plate, n/e 1 ft. . . ,,	†10 to ‡1	1
,, ,, 2 . . ,,	†1 2 ,, ‡1	4
,, ,, 4 . . ,,	†2 3 ,, ‡2	6
,, ,, 8 . . ,,	†2 9 ,, ‡3	2
,, ,, 20 . . ,,	†3 7 ,, ‡4	2
,, ,, 45 . . ,,	†3 11 ,, ‡4	7
,, ,, 100 . . ,,	†5 0 ,, ‡5	7
Vita glass, sheet, n/e 2 ft. . ,,	1	3
,, ,, over 2 . . ,,	1	9
,, ,, plate, n/e 2 ft. . ,,	3	0
,, ,, 7 . . ,,	5	0
,, ,, 15 . . ,,	6	0
,, ,, over 15 . . ,,	7	6
"Calorex" sheet 21 oz., and 32 oz. ,,	2 6 and 3	6
,, rough cast ¼" and ⅜" ,,	8½ ,, 1	0
Putty, linseed oil . . . lb.		3

*Colours 1d. F.S. extra.
†Ordinary glazing quality. ‡Selected glazing quality.

PAINTER

	£ s. d.
White lead in 1 cwt. casks . . cwt.	2 6 0
Linseed oil . . . . gall.	2 2½
Boiled oil . . . . ,,	2 4½
Turpentine . . . . ,,	4 1½
Patent knotting . . . . ,,	14 0
Distemper, washable . . . cwt.	2 6 0
,, ordinary . . . ,,	2 0 0
Whitening . . . . ,,	4 0
Size, double . . . firkin	3 0
Copal varnish . . . gall.	13 0
Flat varnish . . . ,,	14 0
Outside varnish . . . ,,	16 0
White enamel . . . ,,	1 15 0
Ready-mixed paint . . ,,	13 6
Brunswick black . . ,,	7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR		£ s. d.
Digging over surface n/e 12" deep and cart away	Y.S.	2 9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.	8 6
" to form basement n/e 5' 0" deep and cart away	"	9 0
" " 10' 0" deep and cart away	"	9 6
" " 15' 0" deep and cart away	"	10 0
If in stiff clay	add "	2 6
If in underpinning	" "	4 0
Planking and strutting to sides of excavation	F.S.	1 0
" " to pier holes	"	5
" " to trenches	"	5
" " extra, only if left in	"	3
Hardcore, filled in and rammed	Y.C.	10 0
Portland cement concrete in foundations (6-1)	"	1 6 0
" " (4-2-1)	"	1 12 6
" " underpinning	"	1 16 0
Finishing surface of concrete, spade face	Y.S.	7

DRAINLAYER		4" s. d.	6" s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
" junctions	"	3 9	4 6
Gullies and gratings	"	16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER		£ s. d.
Brickwork, Flettons in lime mortar	Per Rod	27 10 0
" " in cement	"	28 15 0
" Stocks in cement	"	35 0 0
" Blues in cement	"	52 0 0
Extra only for circular on plan	"	2 0 0
" backing to masonry	"	1 10 0
" raising on old walls	"	2 0 0
" underpinning	"	5 10 0
Fair Face and pointing internally	F.S.	1½
Extra over fletton brickwork for picked stock facings and pointing	"	8½
" " " red brick facings and pointing	"	11
" " " blue brick facings and pointing	"	1 4
" " " glazed brick facings and pointing	"	3 6
Tuck pointing	"	7
Weather pointing in cement	"	3½
Slate dampcourse	"	10
Vertical dampcourse	"	1 1

ASPHALTER		s. d.
½" Horizontal dampcourse	Y.S.	4 6
½" Vertical dampcourse	"	6 9
½" paving or flat	"	4 0
1" paving or flat	"	5 6
1" × 6" skirting	F.R.	1 0
Angle fillet	"	2
Rounded angle	"	2
Cesspools	Each	0

MASON		s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17 9
Bath stone and do., all as last	"	13 6
Artificial stone and do.	"	13 0
York stone templates, fixed complete	"	10 6
" thresholds	"	13 6
" sills	"	1 0 6

SLATER AND TILER		£ s. d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr.	3 10 0
Do., 18" × 9"	"	3 7 0
Do., 24" × 12"	"	3 17 0
Westmorland slating, laid with diminished courses	"	6 0 0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3 0 0
Do., all as last, but of machine-made tiles	"	2 16 0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	"	4 6 0
" " " " " (green)	"	4 15 0

CARPENTER AND JOINER		£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2 5 0
Shuttering to sides and soffits of beams	F.S.	8
" to stanchions	"	8
" to staircases	"	1 8
Fir and fixing in wall plates, lintols, etc.	F.C.	3 9
Fir framed in floors	"	4 6
" " roofs	"	6 6
" " trusses	"	7 6
" " partitions	"	8 6
¾" deal sawn boarding and fixing to joists	Sqr.	1 14 6
1" " " " "	"	1 17 6
1½" " " " "	"	2 3 0
1" × 2" fir battening for Countess slating	"	9 6
Do. for 4" gauge tiling	"	12 0
Stout feather-edged tilting fillet	F.R.	4½
Patent inodorous felt, 1 ply	Y.S.	2 3
" " " 2 "	"	2 9
" " " 3 "	"	3 3
Stout herringbone strutting to 9" joists	F.R.	10½
1" deal gutter boards and bearers	F.S.	1 2
1½" " " " "	"	1 6
2" deal wrought rounded roll	F.R.	8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2 1 0
1¼" do.	"	2 10 0
1½" do.	"	2 17 0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S.	1 6
1¼" do.	"	1 9

CARPENTER AND JOINER—*continued*		s. d.
1½" deal moulded sashes of average size	F.S.	1 9½
2" " " " "	"	1 11½
1¼" deal cased frames double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ½" parting beads, and with brass faced axle pulleys, etc., fixed complete	"	3 7
2" " " " "	"	3 10
Extra only for moulded horns	Each	6
1½" deal four-panel square, both sides, door	F.S.	2 0
2" " " " "	"	2 8
1½" " but moulded both sides	"	2 4
2" " " " "	"	3 0
4" × 3" deal, rebated and moulded frames	F.R.	1 0
4½" × 3½" " " "	"	1 4
1½" deal tongued and moulded window board, on and including deal bearers	F.S.	1 9
1½" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2 6
1½" deal moulded wall strings	"	2 1
1½" " outer strings	"	2 4
Ends of treads and risers housed to string	Each	1 9
3" × 2" deal moulded handrail	F.R.	1 3
1" × 1" deal balusters and housing each end	Each	2 0
1½" × 1½" " " "	"	2 9
3" × 3" deal wrought framed newels	F.R.	1 3
Extra only for newel caps	Each	6 0
Do., pendants	"	6 0

SMITH AND FOUNDER		£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.	15 6
Riveted plate or compound girders, and hoisting and fixing in position	"	19 6
Do. stanchions with riveted caps and bases and do.	"	19 0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	"	17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.	11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1 10 0

PLUMBER		£ s.
Milled lead and labour in flats	cwt.	1 12
Do. in flashings	"	1 15 6
Do. in covering to turrets	"	2 3 0
Do. in soakers	"	1 7 6
Labour to welted edge	F.R.	3½
Open copper nailing	"	3
Close " "	"	4

	½"	¾"	1"	1½"	2"	4"
	s. d	s. d.	s. d.	s. d.	s. d.	s. d.
Lead service pipe and fixing with pipe hooks	F.R. 10	1 0	1 3	2 0	2 10	—
Do. soil pipe and fixing with cast lead tacks	—	—	—	—	—	5 6
Extra, only to bends	Each —	—	—	—	2 0	6 9
Do. to stop ends	" 6½	8	9	11	1 0	—
Boiler screws and unions	" 3 3	3 9	5 0	8 0	—	—
Lead traps	" —	—	—	6 3	8 9	—
Screw down bib valves	" 6 9	9 6	11 0	—	—	—
Do. stop cocks	" 7 0	9 6	12 6	—	—	—

		s. d.
4" cast-iron ½-rd. gutter and fixing	F.R.	1 0
Extra, only stop ends	Each	1 0
Do. angles	"	1 6
Do. outlets	"	2 9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.	1 2
Extra, only for shoes	Each	1 3
Do. for plain heads	"	5 6

PLASTERER AND TILING		s. d.
Expanded metal lathing, small mesh	Y.S.	2 0
Do. in n/w to beams, stanchions, etc.	"	2 9
Lathing with sawn laths to ceilings	"	1 3
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	"	1 5
Do. vertical	"	1 7
Rough render on walls	"	1 2½
Render, float and set in lime and hair	"	1 9
Render and set in Sirapite	"	1 11
Render, backing in cement and sand, and set in Keene's cement	"	2 9
Extra, only if on lathing	"	4
Keene's cement, angle and arris	F.R.	6
Arris	"	1½
Rounded angle, small	"	3
Plain cornices in plaster, including dubbing out, per 1" girth	"	1½
1" granolithic pavings	Y.S.	3 6
1½" " "	"	4 6
6" × 6" white glazed wall tiling and fixing on prepared screed	"	17 6
9" × 3" " " " "	"	1 2 6
Extra, only for small quadrant angle	F.R.	8

GLAZIER		s. d
21 oz. sheet glass and glazing with putty	F.S.	7½
26 oz. do. and do.	"	8½
Flemish, Arctic, Figured (white) and glazing with putty	"	1 1
Cathedral glass and do.	"	1 2
Glazing only, British polished plate	"	7
Extra, only if in beads	"	2
Washleather	F.R.	4

PAINTER		s. d.
Clearcolle and whiten ceilings	Y.S.	6
Do. and distemper walls	"	9
Do. with washable distemper	"	1 1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	"	3 3
Do. on woodwork	"	3 6
Do. on steelwork	"	3 0
Do. and brush grain and twice varnish	"	5 6
Stain and twice varnish woodwork	"	1 11
Stain and wax-polish woodwork	"	4 6
French polishing	F.S.	1 2
Stripping off old paper	Piece	2 0
Hanging ordinary paper	from "	2 9

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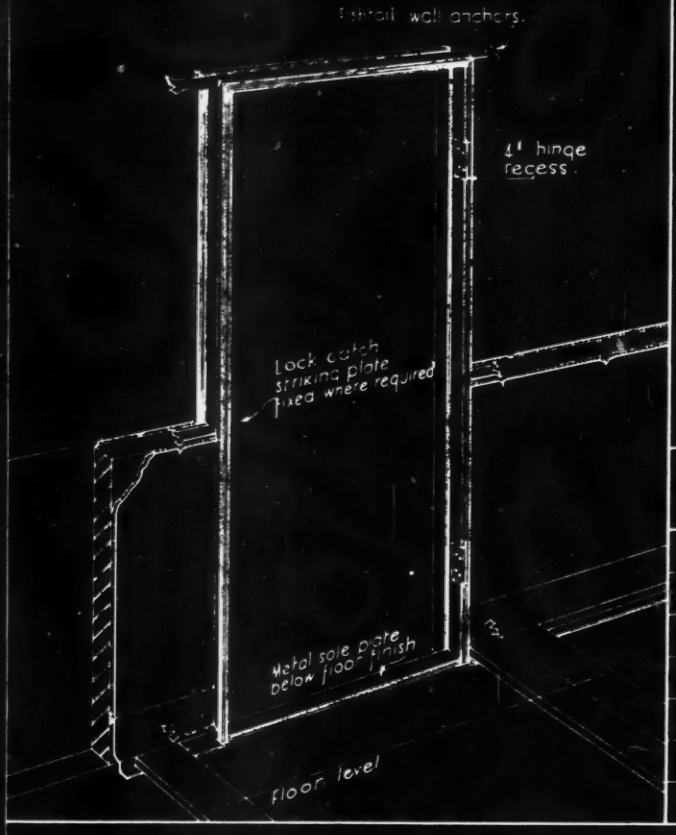
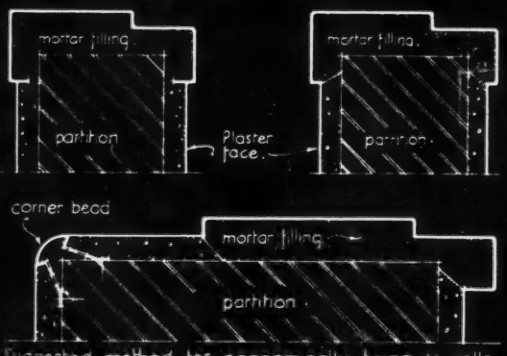
Perspective sketch



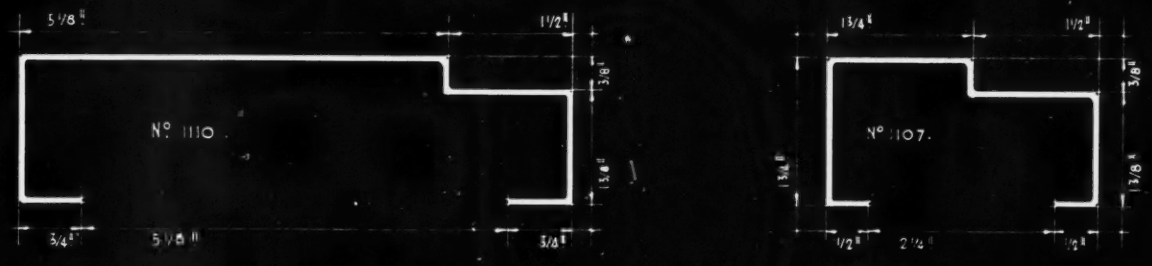
Alternative methods of plastering :



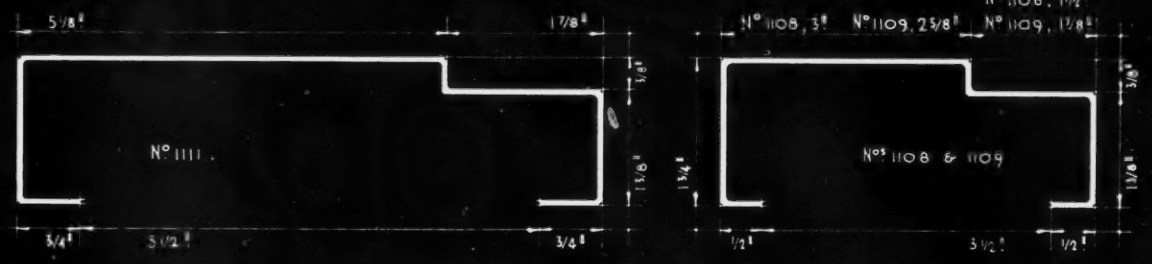
Suggested method for economically fixing to walls of 9" thickness or over.

Table of standard sizes :

Size of door :	Frame N°	Thickness of partition block.	Frame section N°	Gauge N°
6' 4⅝" x 2' 4" x 1½"	1	2"	1107	18
6' 6⅝" x 2' 4" x 1½"	2	3"	1108	16
6' 6⅝" x 2' 6" x 1½"	2A	3"	1108	16
6' 6⅝" x 2' 6" x 2"	3	3"	1109	16
6' 6⅝" x 2' 8" x 1½"	4	4½"	1110	16
6' 6⅝" x 2' 8" x 2"	5	4½"	1111	16
6' 8" x 2' 8" x 2"	5A	4½"	1111	16



DOOR FRAME SECTIONS : HALF FULL SIZE.



The sizes given here are of stock frames. For reasonable quantities variations can be made without increasing the cost.

Information from Joseph Sankey & Sons Ltd.

INFORMATION SHEET : PRESSED STEEL METAL TRIM : DOORFRAMES.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON. W.C.1

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INFORMATION SHEET
• 123 •
PRESSED STEEL TRIM

Type of Product : Metal Trim

Type Illustrated : Pressed Steel Door Frames

Description :

The frames are made from suitable gauge mild steel and supplied with corners mitred and welded, complete with sole plate and anchors ready for building into the partition. A back plate is riveted on and drilled and tapped ready to receive striking plate. Hinges can be supplied already fitted if desired, but all frames are delivered with a reinforcing plate at back, which is drilled and tapped ready for the hinges.

The frames should be erected before the partitions are commenced and the latter built into the door frame section, which should be grouted up as the work progresses. Three wall anchors per jamb are provided and are spaced as required.

Sections and sizes different from the standard range shown can also be supplied. Sections can, if desired, be supplied in lengths to be fabricated into frames by the contractor.

Finish :

The standard is one coat of priming grey paint. One or possibly two coats of the colour required will give a highly satisfactory finish.

Specification :

When ordering, the following particulars should be given :

- Size and finished thickness of door.
- Thickness of partition.
- If required with or without hinges.
- Whether right or left hand.
- Height of striking plate from floor level.
- Position of wall anchors.
- A sample of the striking plate to be used must be supplied before the frames can be completed.

Name of Manufacturers : Joseph Sankey & Sons, Ltd.

Address : Hadley Castle Works, Wellington, Shropshire

Telephone : 66, Wellington, Shropshire

London Office : 168, Regent Street, W.1

Telephone : Regent 2748

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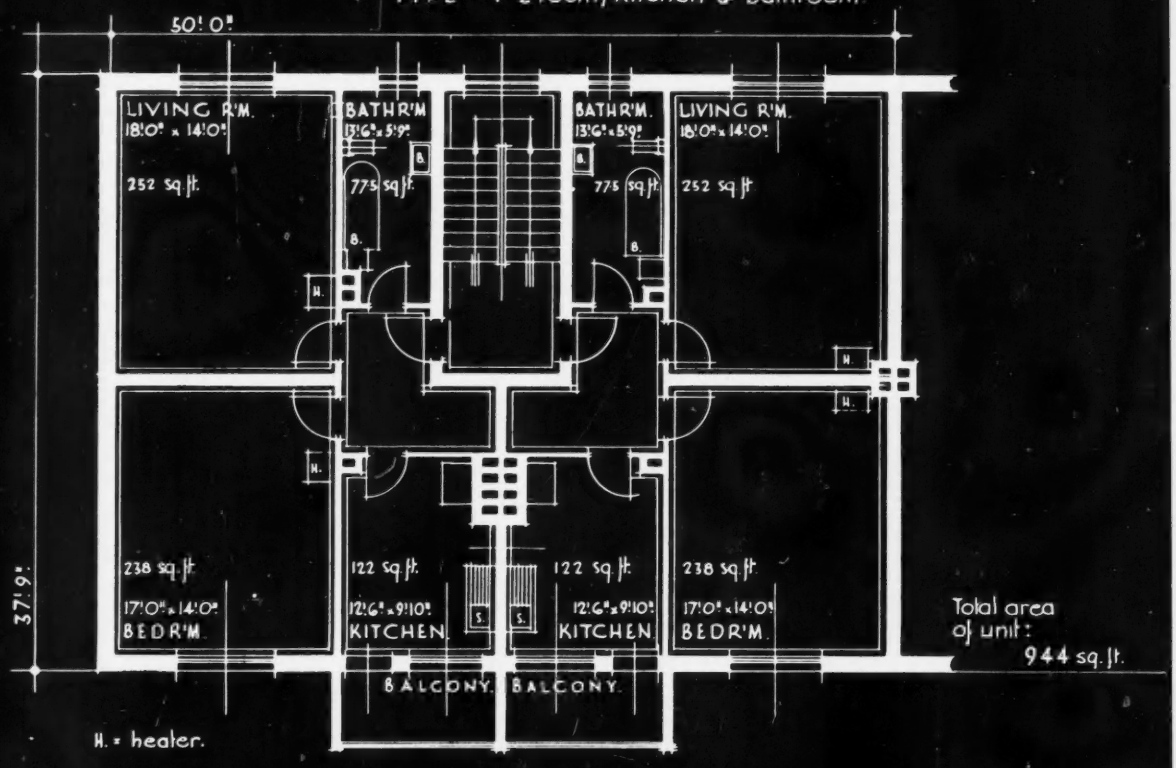
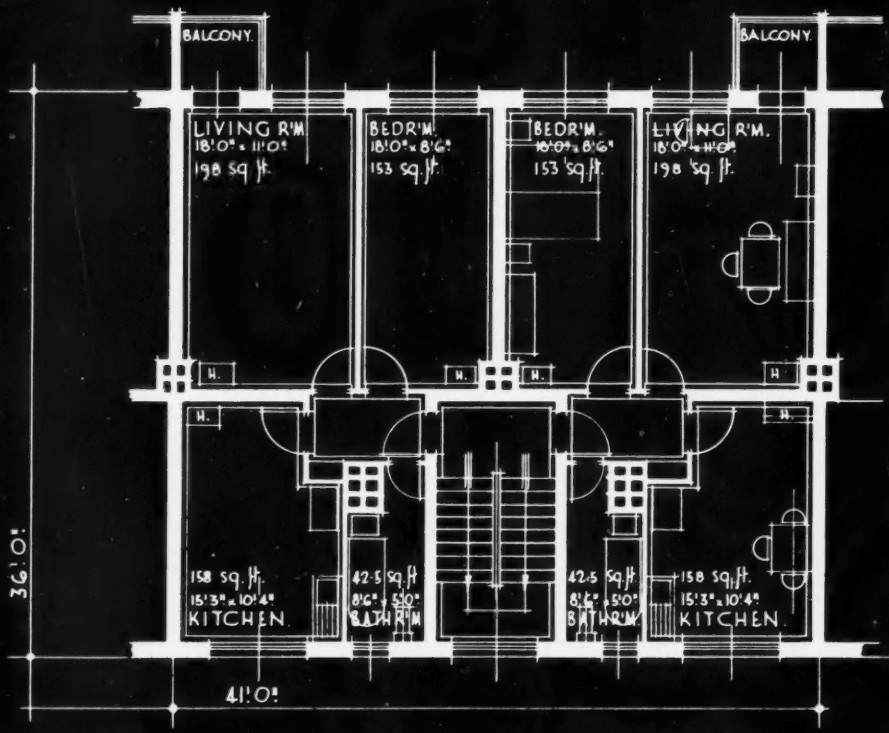
TYPES OF FLAT UNIT : BERLIN.

ACCESS : Internal staircase.
TYPE : 2-room, kitchen & bathroom.



H. = heater.

Total area of unit : 944 sq.ft.



Areas given include : the external walls, ½ the division walls between flats. ½ the area of the stair. Balconies are not included.

Total area of unit : 738 sq.ft.

INFORMATION SHEET : INDUSTRIAL HOUSING. I.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.I.

Supplement to THE ARCHITECTS' JOURNAL for July 5, 1934

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

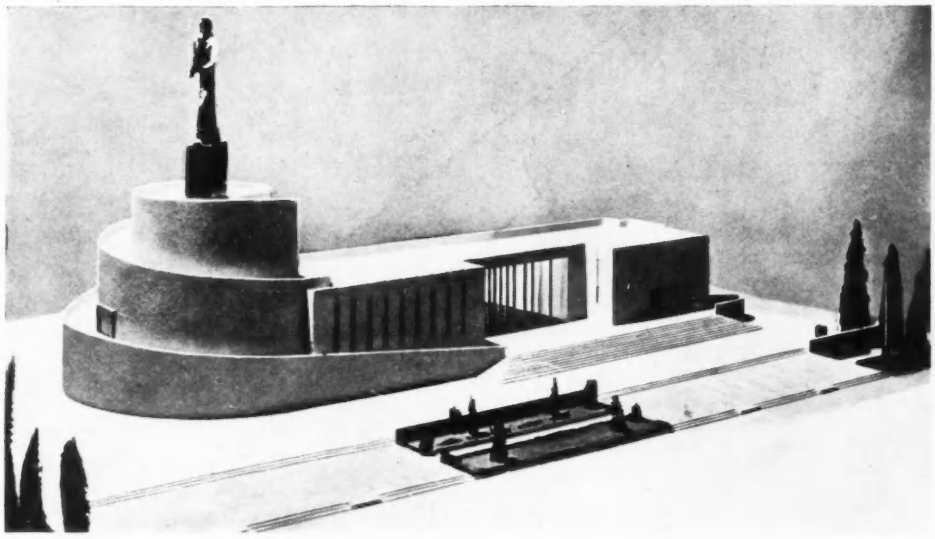
• 124 •

HOUSING—I.

OWING to the paramount importance of housing at the present time, we propose to publish a series of Sheets giving typical flat plans of housing blocks both in this country and abroad. This Sheet shows two typical three-room units from Hamburg, the upper plan built in 1926-1927, the lower in 1927-1928. The architects are Hermann Distel and A. Grubitz.

A NEW STATUE OF LIBERTY

THE HERZL MEMORIAL AT TEL-AVIV



A MODEL of the proposed Herzl Institute, to be erected at Tel-Aviv in Palestine as a memorial to Herzl, the famous Zionist leader.

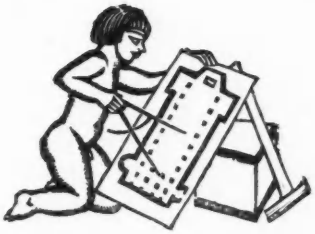
The memorial takes the form of an Institute to house Herzl's manuscripts and serve as a centre for research. In the scheme here illustrated a tower, rising at the end of the building, forms a base for a statue of Herzl which will be visible from out at sea. Tel-Aviv is now a hundred per cent. Jewish city containing practically half of the entire Jewish population of Palestine. The plans for the memorial have been prepared by Felix Weiss and Dr. ing. Jonas Mond.

WILLIAM DAVIES

R . I . P .

The demolition of Waterloo Bridge began on June 20. This photograph shows its Doric order, based by Rennie on that of the Temple of Segesta in Sicily.

Some of the material has already been disposed of, the balusters from the parapet having been in great demand. They will find employment, perhaps, as bird-baths.



LIGHT IN THE BLACK COUNTRY

THE old standards are rapidly disappearing and no one knows exactly what new standards ought to be put in their place. This contemporary feeling of uncertainty has been expressed probably most vividly in our various architectural experiments, with the result that every phase of public opinion has, at some point or another, been translated into architectural terms, not always inspiring or even original. If, however, one were to make a serious collection of what has been achieved architecturally in public works, in housing, in religious structures, in public utilities, in industry and in commerce, one could present a picture to the outside world rather startiing in its quality and scope.

It is by what may be regarded as the great public services that the most spectacular work has been carried out. The activities of the London Passenger Transport Board, the Central Electricity Board, the Post Office and the Office of Works, the Commissioners of Crown Lands—all occur readily to the mind ; but the most interesting and significant development of all has still to be adequately recorded : the work carried out by the Miners' Welfare Committee in building pithead baths at the principal collieries in the country. If one considers that a pithead bath is something much bigger than its name implies ; that it can include a restaurant or a canteen or even a laundry and a social centre ; that it is generally located in the blackest and most depressing industrial areas and may be the only possible social centre for miles ; that it may exert an immediate influence on the design and lay-out of productive plant in the great coal mining industry, one can appreciate fully its real significance.

The Miners' Welfare Committee, a national body financed partly by a levy on the tonnage of coal produced at the coal mines and partly by a levy on royalties, independent of any special interest and responsible only to the State, might have construed its functions in a narrow style and might have limited itself to providing pithead baths of very ordinary design and no more efficient than the conditions of operation would require. It might have thought, also, that in a dead, depressing and monotonous landscape it would be a sheer waste of good building to attempt anything spectacular. But, unlike the usual State organizations, it has chosen to be as modern-minded as the London Passenger Transport Board and the Post Office, and has widened, in doing so, our national standards of construction, design and efficiency, as far as they apply to structures of the pithead bath type. It has combined in the most amazing way an adequate technical and economic function of first rate and sometimes really beautiful design. It has made a very careful and exact study of the duties which the new buildings have to perform, uninfluenced by tradition or by prejudice, and it has, most strangely of all, preceded its constructional activities by very careful planning.

The Miners' Welfare Committee is, in our view, one of the most remarkable and one of the most hopeful indications of the new spirit which is coming over Great Britain, and it is interesting to find that the more rapid the progress towards pure functional design on the part of the pithead bath, the keener has been the appreciation of industrialists and miners themselves. At the beginning, the new organization met with suspicion and little support. Now it has some difficulty in keeping abreast of the requests which are being showered on it by the industry it serves. At the beginning, the pithead bath appeared to be a strange local monstrosity, quite foreign to the drab and depressing structures which an industrial age scattered plentifully over the coalfields of Britain—a structure which had no points of contact with the neo-Gothic monstrosities which pretend to be public buildings in the colliery towns—and the opinion in those areas was rather hostile to the innovation.

Now we have the spectacle of complete industrial units being designed at the pithead, all harmonizing with the pithead bath architecture, with the result that in a few years' time we may be able to take the enquiring pilgrim from the Continent not round the new industrial factories which spread so vigorously over the Northern London landscape, but to miraculously rejuvenated and wholly stimulating colliery buildings in Lancashire, South Wales, Yorkshire, Northumberland, Derby, or even Scotland.

The Miners' Welfare Committee has shown three things which are absolutely vital : first, that a State organization governed by men of vision can find the ability in the British architectural profession to plan out a new architectural and engineering structure on lines which are satisfactory at every point, and at the same time owe practically nothing to foreign inspiration ; secondly, that the opinion of the industrialists and workers, even in the most depressed and difficult areas, can be educated easily and rapidly by a courageous experiment which has social and æsthetic justification, and, thirdly, that a State organization doing good work can in itself raise the standard of architecture and of design where industry is interested in, or impinges on, its activities.

We can see traces of such an improvement all over the country, resulting largely from experiments carried out by public or semi-public institutions, but this development of the Miners' Welfare Committee has begun to exercise a magnificent influence in the places where it was least likely to be successful, namely, in one of the most depressed and one of the most reactionary industries in Britain.

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NOTES & TOPICS

A NATIONAL HOUSING BOARD

LORD BALFOUR OF BURLEIGH, in the House of Commons next week, is to put foward a resolution for the establishment of a National Housing Board.

*

This idea, which figured as the leading panacea some months ago, is looked upon with misgivings by the Ministry of Health, builders and representatives of local government. As far as I can gather it is the failure of past governments to implement promises made to labour and industry that makes men fear a further get together.

*

The idea of a Housing Board is essentially sound. But only if *essential* is used at its full value. A National Housing Board is a planning-constructing body. Which is to say that it must control its materials, its labour and its programme. Without striking a deal with labour it doesn't go far.

*

But it is, I think, fallacious to assume with PEP that what a nationally executive body cannot do private enterprise on a smaller scale can do. For if the larger organization leaves holes for corrugation the smaller lies open to the mercy of price rings, and prices are rising even as I write.

*

I have no doubt that we shall not get our Housing Board ; but still less doubt that it or something like it is the housing organization of the future.

WATERLOO BRIDGE

Do you notice the insidious suggestion that Waterloo Bridge, being now at last in process of demolition, was not, after all, a masterpiece, but only a piece of engineering ?

*

Not another word will I say about its usefulness or otherwise, but for ever will maintain that I know a good work of architecture when I see one, and that bridge still ranks among the few masterpieces of English monumental architecture.

MANCHESTER'S CIVIC CENTRE

I was glad to hear that Manchester's scheme of civic aggrandisement in the vicinity of St. Peter's Square was, temporarily at any rate, knocked on the head.

*

It seems that the city was aiming at a concentration of glory, having let themselves in for a great library and town hall extension. Meanwhile, of course, their art gallery is to be built one day, if only to retrieve Manchester's bad name as competition promoters, and central Manchester is so badly planned, so dirty and railway infested that the real path of civic glory should be leading via town planning and severely economic reconstruction towards the re-creation of much wider areas than the defeated proposals had in mind.

*

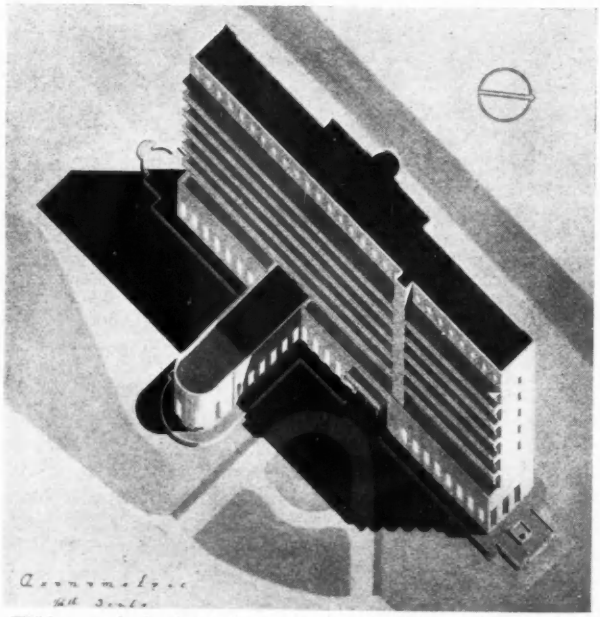
I have sometimes thought how good it would be if we had business slum clearance schemes so that the centre of Manchester could be regarded as an " improvement area " and one third of it be pulled down to make a through boulevard, one connected city park and a view of some really good buildings.

TREES

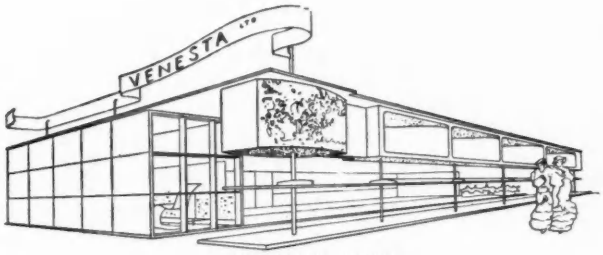
For some days readers of *The Daily Telegraph* have been expostulating about the senseless cutting down of trees. Although a great deal of what has been written is inspired by romanticism, nevertheless a number of correspondents express sound views, either on æsthetic or on practical grounds, and I am agreeably impressed to find a public consciousness.

*

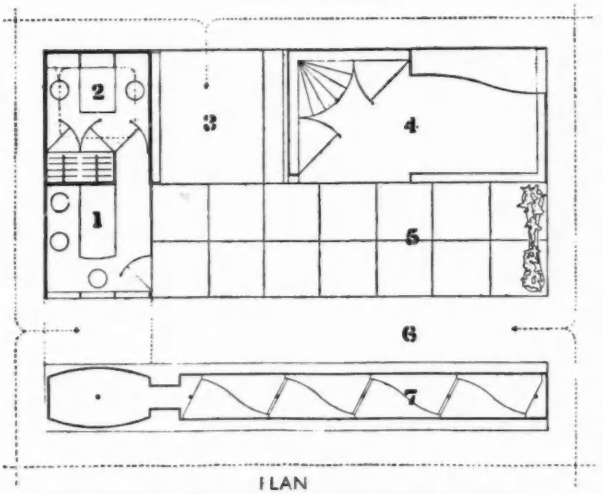
Already we protect many of our wild birds and beasts,



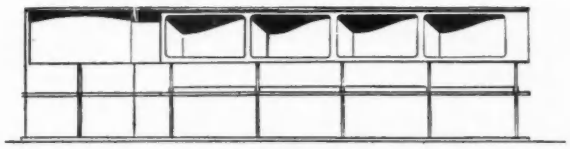
Fifth year thesis design for an hotel on Lord Street, Liverpool, by A. R. Dufty. From the Exhibition of the Liverpool School of Architecture.



PERSPECTIVE VIEW



PLAN



ELEVATION

The winning design, by F. Skinner, in the competition for a stand for Venesta Ltd., at the forthcoming Building Trades Exhibition. Key to the plan: 1—Reception; 2—Office: 3—Introduction; 4—Display; 5—Floor; 6—Passage; 7—Display. *(See also page 45.)*

though we could do better without them than without our trees; but about trees we do nothing or little.

*

In France there are stringent rules on the subject. If something is not done here, and done soon, the countryside immediately surrounding our bigger towns will, in a few years, be as bald as a coot.

*

Deforestation uncontrolled becomes a menace, if only because trees help to bring rain—quite topical at the moment. But afforestation, too, must be controlled, because one of our legacies from the last century is the romantic attachment to conifers, which has already changed the face of England in many districts.

*

I have nothing but liking for firs and pines in their place. But they do incalculable damage to the land and are, besides, out of character with most of our countryside. And yet no one seems to think of planting beeches or elms or even oaks. They "take so long to grow," we say, and regard that as an argument for not planting them at all instead of for doing it this very minute.

Practically the only conscious afforestation of the last many years has been done by county councils—on by-passes.

THE TWO UNIVERSITY LIBRARIES

I believe Sir Giles Gilbert Scott is the first architect for over two centuries who has been commissioned to build libraries at the two great universities. He is just finishing the new library at Cambridge, and is now undertaking the new extension of the Bodleian at Oxford.

*

Wren built Trinity College Library at Cambridge and the library at Queen's College, Oxford.

THE CATHEDRAL PILGRIMAGE

Will the people who visit the cathedrals of England in response to the pilgrimage idea become aware of the squalid approaches to some of the fine examples of architecture they inspect? Sometimes a sedate and ordered Close preserves about the great church an area of civilized building. One immediately thinks of Salisbury and Ely; but there are other cathedrals hemmed in by careless muddling.

*

St. Paul's is one of them. To clear a great space about a magnificent church is an act of intelligent respect for beauty and religion; but the rich City of London has never given honour to its greatest building by such a gesture.

*

I wonder how many people will make a pilgrimage to St. Paul's and will realize how the mean conception of Ludgate Hill and St. Paul's Churchyard insult Wren's masterpiece?

BOOKS ON INDUSTRIAL ART

I've been asked a number of times to give a list of books, if any exist, on industrial art. I should imagine that preparations are afoot for the appearance of several before next January and the Industrial Art Exhibition at the Academy.

*

The special issue of *The Architectural Review* for July, 1933, dealt fully with Industrial Art. Before that some of the year books of the Design and Industries Association were devoted to the subject, especially from 1922 to 1927. Nobody should miss reading *The Economic Laws of Art Production*, by Sir Hubert Llewellyn Smith. But there is a definite gap in this field of design, so far as books are concerned.

*

The interest this subject arouses suggests the earnest thought that is being given to a more civilized control of the machine. It is significant that Dr. L. P. Jacks in the Hibbert Lectures for 1933 chose as his theme, *The Revolt Against Mechanism*. These lectures have just appeared in book form.

*

In that little book Dr. Jacks makes this statement: "Ours is the most self-conscious, the most self-critical age the heavens have ever looked down upon."

*

The critical children of this age will have the opportunity next January of seeing how well (or ill) the machine can behave when it is under the control of that hitherto much-neglected key mind in civilization—the designer.

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

The formation of a National Housing Board is to be discussed in the House of Commons on July 18.. 40

We have been accustomed to somewhat uncritical praise of industrial architecture abroad, above all in Germany, and have been led to believe that in this respect we had all of the distance to go—but the pithead bath development shows quite conclusively that this belief is ceasing to have any foundation, in one industry at least..... 46

The doctrine of "the Institute of Diabolical Planners"..... 55

The too lavish use of glass can degenerate into a mere craze. Glass when employed irrespective of position or refinement is no better than a pillar which supports nothing.. 57

SANDSTONE QUARRIES FOR LIVERPOOL CATHEDRAL

The Liverpool Cathedral Executive Committee announces that Lord Salisbury has given to the Cathedral the quarries at Woolton, near Liverpool, which up to date have produced the great bulk of the sandstone used in building Liverpool Cathedral. This gift will not only provide the Committee with an abundant supply of red sandstone sufficient to complete the whole edifice, but also represents a substantial contribution towards the building funds.

MANCHESTER CIVIC CENTRE

By the narrow margin of one vote the Manchester City Council last week rejected a proposal to buy a block of property at the corner of Dickinson Street and Mosley Street, regarded as a vital part of the civic centre scheme. The Council had previously accepted a Conservative amendment to ask the Town Planning Committee to approach the present owners of the site, an insurance company, to defer developing the area for three months pending the committee's report on the civic centre scheme.

The dramatic turn of events may mean the end, if not completely, certainly for many years, of the St. Peter's Square section of the civic centre scheme (states *The Manchester Evening Chronicle*).

HOUSES FOR RURAL WORKERS

Sir Hilton Young, the Minister of Health, received a deputation last week from the Conservative Parliamentary Agricultural Committee. The object of the deputation was to bring to the Minister's notice the need for a larger provision of houses for rural workers.

The deputation did not desire to ask for any extensive new subsidy scheme but they were doubtful whether the rapid housing development now proceeding would do much to assist in the provision of houses at rents within the means of rural workers. Much could be done to improve rural housing conditions by a more extensive use of the Housing (Rural Workers) Act, 1926. In particular, it was desirable that housing authorities themselves should be given power to operate this Act in suitable cases and to receive the Exchqeuer grants payable under it. Reference was also made to the desirability of making as much use as possible of the assistance of voluntary bodies, and of preserving the amenities of rural villages. The deputation made other suggestions to the Minister.

The Minister said that he was glad to have an opportunity of hearing the views of the Agricultural Committee while the new housing legislation for the reduction of overcrowding which the Government had promised to introduce was being prepared. He could assure the deputation that in framing that legislation, the special problem of rural housing would receive most careful consideration.

He agreed with the deputation that the use made in some areas of the Housing (Rural Workers) Act, 1926, had been inadequate. The suggestion that housing authorities might themselves be empowered to operate this Act was one to which he was giving sympathetic consideration.

THE ARCHITECTS' DIARY

Thursday, July 12

VICTORIA AND ALBERT MUSEUM. *In the Central Hall, South Kensington, S.W.7. Exhibition of English Silversmiths' Work, old and modern, showing the development of various domestic types. Open during July.*

R.I.B.A. *Architects' Unemployment Committee. At 7 Bedford Square, W.C.1. Exhibition of work done under the Architects' Emergency Scheme. Open until further notice.*

Friday, July 13

ARCHITECTURAL ASSOCIATION. *At 36 Bedford Square, W.C.1. Annual Prize-giving and Exhibition of Students' Work. An address will be given by the Rt. Hon. Viscount Leverhulme and the prizes distributed by Viscountess Leverhulme. 3.30 p.m. The Exhibition will remain open until July 26.*

Saturday, July 14

THE ROYAL SANITARY INSTITUTE. *At Bristol. Health Congress 1934. Last day.*

LIVERPOOL SCHOOL OF ARCHITECTURE: ANNUAL EXHIBITION

Examples of group research work are among the most important parts of the annual exhibition of the Liverpool School of Architecture, opened by Mr. Charles Marriott on Thursday last. This is the second year that such work has been undertaken at the school and it has been extended after a successful try-out in one year. Students in the second year show the fruits of research in the architecture of the Italian Renaissance which forms a valuable part of their historical studies.

The fourth year students are more concerned with contemporary work and here their labours have been exhaustive, dealing with housing, banks, schools, shops and art galleries. The difficulties of organizing such work in conjunction with the ordinary school routine are obvious, but it has evidently not been allowed to interfere with adequate development in individual work, which has proceeded on stimulating lines.

A brave new Liverpool could be made out of the exhibition, with headquarters in a steel and glass municipal building of twenty-four storeys, with a not quite successfully balanced hall alongside, on the site of the Liver Building at the Pier Head, a new Lime Street station in which advantage is taken of a sharply rising site to bring in bus traffic on the roof, an electric generating station for Clarence Dock which indicates what the present somewhat untidy, if severely practical, building might have been, a prison whose austerity should have a good moral effect, a school of mechanical engineering which would put most of the other buildings of the university to shame, a school of agriculture, a new theatre, and a sober crematorium.

Students from abroad have made notable contributions to the series of thesis designs. There is a tourist hotel for Cyprus, a casino for Lima, an intricately planned block of flats for Alexandria, a School of Tropical Agriculture for Ceylon, in which indigenous motives find a comfortable home in a contemporary building, and a market centre for Shanghai. Greenwich is offered a new observatory, Oxford a sports centre by the river which leaves Stratford's theatre behind for modernity, and Turnberry a new golf hotel in the boldest style.

The sketch designs, set on Mondays to release the imagination for the week's work, have produced some very stimulating designs, and there is excellent work in the way of housing research and a remodelling of Blackpool, in the Civic Design department, as well as in the designs for interior decoration. The school has well found its feet in the new home which it has now occupied for a year.

Mr. Charles Marriott's speech at the opening of the exhibition is printed on pages 65-66.

SLUM CLEARANCE

The Minister of Health has appointed the following Committee to deal with the question of the buildings involved in re-housing after slum clearance :—

Mr. Ewart S. Andrews, B.SC., M.INST.C.E., M.I.STRUCT.E.; Mr. Henry V. Ashley, F.R.I.B.A.; Mr. Oscar Faber, O.B.E., D.SC., M.INST.C.E., M.I.STRUCT.E.; Mr. George Topham Forrest, F.R.I.B.A.; Mr. Ian B. M. Hamilton, B.A., A.R.I.B.A.; Sir George Humphreys, K.B.E., M.INST.C.E.; Mr. B. L. Hurst, M.INST.C.E., M.I.MECH.E.; Mr. L. H. Keay, O.B.E., F.R.I.B.A.; Mr. Francis Lorne, F.R.I.B.A.; Mr. J. A. Macintyre, O.B.E., B.SC., M.INST.C.E.; Mr. R. Travers Morgan, M.ENG., M.INST.C.E., A.M.I.MECH.E., M.I.STRUCT.E.; Mr. Stanley C. Ramsey, F.R.I.B.A.; Mr. A. Scott, M.B.E., F.R.I.B.A., M.I.STRUCT.E.; Mr. W. L. Scott, M.INST.C.E.; Mr. R. E. Stradling, M.C., D.SC., PH.D., M.INST.C.E.; and Mr. J. Wilson, F.R.I.B.A., F.R.S.E.

Sir George Humphreys will be Chairman, and Mr. A. Zaiman will be Secretary of the Committee.

AN ARCHITECT'S WILL

Mr. Frederick Chatterton, F.R.I.B.A., 62, of West Kensington, W., left £7,909 (net personalty £7,830).

RUISLIP CONTROVERSY

A letter appeared in "The New Statesman and Nation" for June 30, under the heading of "Architectural Censorship," from Mr. K. McFarlane, Chairman of the Ruislip-Northwood Urban Council, giving his Council's point of view about the Ruislip Case. This letter was replied to in the next issue by Messrs. Connell and Ward, the architects from whose design the case arose. Below we reprint the two letters, and print as well the whole text of the plea that was lodged by the architects with the Council as soon as the original rejection of their design was made known, and which is referred to and quoted in Messrs. Connell and Ward's letter.

Letter from Mr. K. McFarlane, Chairman of the Ruislip-Northwood Urban Council, to the editor of "The New Statesman and Nation."

SIR,—There have been, in the technical press and elsewhere, so many misstatements of facts and misrepresentation of the attitude of the Ruislip-Northwood Urban District Council regarding the building plans which were the subject of the recent arbitration, that I should like to be permitted to make the following observations.

The Council has no prejudice against any particular school of architecture. It raised no objection to the use of reinforced concrete, and has, in fact, approved the plans for other concrete houses of modern design. The plans submitted were for a block of two houses (not a colony), and although, in order that all relevant facts might be considered, the Council endeavoured to ascertain whether these two were to be part of a larger scheme, no definite information was obtained, and no evidence was furnished as to the character of the lay-out which would be adopted if further houses of the same type were projected. The proposed site was in the near neighbourhood of existing houses of conflicting type.

The Council was of opinion that the design, considered in relation to the site, would be injurious to the amenity of the neighbourhood and, acting under the powers in its Town Planning Scheme, intimated that for this reason the plans could not be approved. The opinion of the local advisory panel of the R.I.B.A. and the C.P.R.E. was subsequently obtained, and the panel unanimously endorsed that view, adding further comments on certain technical aspects which have since been wrongly attributed to the Council. It would have been futile for the Council, prior to the arbitration, to have suggested modifications of the design, as I understand that the builders' architects refused to consider any suggestions made to them by the chairman of the panel before that body reported to the Council. The arbitrator, himself an architect of standing, subsequently confirmed the view taken by the Council and by the panel that those particular houses on that particular site would be injurious to the amenity of the neighbourhood. This consensus of opinion on the merits of the proposal cannot justly be challenged by anyone who is not familiar with both the plans and the site.

So much for the facts of this case. The comments which have appeared in the technical press, however, raise points which make the matter something more than a domestic dispute in the architectural profession.

My Council has frequently (and during the past eight years to my own knowledge) exercised its powers under the Town Planning Scheme and secured improvements in elevation designs. When the R.I.B.A. and the C.P.R.E. decided to set up local advisory panels, the idea was welcomed by my Council. The present is the first case that has been referred to the panel, and although the advice of that body was unanimous, and has been endorsed by the architect arbitrator, the Council finds itself embroiled in the fraternal bickerings of the profession. The unreasonable criticisms which have been published, often without knowledge or with disregard of the true facts, may well cause local authorities who are less keen on these matters than is the Ruislip-Northwood Council to boycott the panels or even to abandon all attempt to exercise any control over elevations. If the labours of the past 20 years in this direction are not to be in vain, greater, not less, co-operation is needed between local authorities and the architectural profession. But it is essential that the latter should be prepared to abide by the decisions of a qualified and properly constituted arbitrator. Moreover, the value of the advisory panels will be destroyed if they are to be hampered by restrictions which would require them to approve every design which conformed to the tenets of a recognized school of architecture, and would preclude them from taking into account such matters as incongruous juxtaposition or other relevant local considerations extrinsic to the unit plan.

Letter, in reply to the foregoing, from Messrs. Connell and Ward to the editor of "The New Statesman and Nation."

SIR,—We have hitherto deliberately refrained from entering into public discussion in connection with the recent arbitration, but the Chairman of the Ruislip-Northwood Urban District Council, in your issue for June 30, makes observations which so depart from actuality that we should like to correct him.

He writes: "The plans submitted were for a block of two houses (not a colony), and although, in order that all relevant facts might be considered, the Council endeavoured to ascertain whether these two were part of a larger scheme, no definite information was obtained, and no evidence was furnished as to the character of the lay-out which would be adopted if further houses of the same type were projected."

We enclose herewith a copy of the plea to the Council made by us, endeavouring to obtain, for our clients, reconsideration of the Council's first decision to disapprove the plans. It must be emphasized that this plea, which undeniably shows our clients' intentions as to future development, was presented to the Council after it had been ascertained that the Council's disapproval was based on the "amenities clause" of the local Town Planning Act. Also, it was presented voluntarily on our part, together with a water-colour perspective to help the Council in its deliberations.

We were guided neither then nor at any later stage by a request for a further elucidation of the scheme.

The perspective, for instance (quite a large one), might easily have shown proposed adjoining development in relationship had the Council asked for some such portrayal.

Extracts from the plea, which refers to future development in no less than five different places, read as follows: "Our clients chose the site for development because of its amenities with regard to general healthiness of the district, immediate open spaces, and the wooded areas. They hope to develop along carefully prepared lines over a large area, carrying out a scheme which has the approval of the owners of the land, the appropriate authorities of King's College, Cambridge. We understand that these authorities have been most considerate of the whole neighbourhood relative to their holdings of land." Again: "With regard to the reference in Clause 56 to 'undue repetition,' our plans for future development have given this matter careful consideration both in the placing of houses, their design and colour-scheme and, as development proceeds, we will, of course, submit our proposals to you."

As to the proposed site being "in the near neighbourhood of existing houses of conflicting type," the following are extracts from the plea: "It would be a hardship for our clients to endeavour to develop land any more distant from railway stations, shopping areas, and other develop-

ment. This site was chosen because it was carefully town-planned. . . . . You will appreciate that a considerable clump of oak and other trees lies immediately to the east of the last houses to be erected on Park Avenue and forms an effective break between the old and the proposed new work. Should our clients' development spread in that direction we will have due regard for immediate juxtaposition of the new and existing."

As the Chairman's letter conveys an impression that the proposed houses were so near to existing houses as to be conflicting, it is interesting to note that public open spaces stretch at the front and rear of the site of the proposed development.

Our endeavours to give the Council every consideration are reflected in the final paragraph of the plea which reads : " To supplement the drawings already deposited with you, we are forwarding with this a perspective drawing to give an idea of the houses as they will be finished and we shall be happy to attend in person or give you any further particulars you require."

We absolutely deny that we refused to consider any suggestions made to us by the Chairman of the Panel before that body reported to the Council. The only communication between ourselves and the Panel was in a telephone conversation when the Chairman made a suggestion in respect of a detail and we offered an alternative, the acceptance or non-acceptance of which was not conveyed to us.

We would point out that the arbitrator, in his award, directed that the Council should have required alterations to the plans and that the plans should have been amended in accordance with those requirements.

So much, as the Chairman says, for the facts of the case. We agree with much that he says in his final paragraph, but would like to point out that we cannot see that there was lack of an endeavour on our part to bring about co-operation between ourselves and his Council, and that we cannot hesitate to abide by the decision of the arbitrator. There is no alternative.

Plea to the Public Health Committee of the Ruislip-Northwood Urban District Council, September 29, 1933.

On behalf our clients, Messrs. Walter Taylor (Builders), Ltd., we beg that you reconsider your decision to disapprove of the Plan No. 4179 for a pair of semi-detached houses at Park Avenue, Ruislip, submitted by our clients and designed by us. We understand that your disapproval was based upon Clause 56 of the Ruislip-Northwood Town Planning Scheme.

Our clients chose the site for development because of its amenities with regard to general healthiness of the district, immediate open spaces and the wooded areas. They hope to develop along carefully prepared lines over a large area, carrying out a scheme which has the approval of the owners of the land, the appropriate authorities of King's College, Cambridge. We understand that these authorities have been most considerate of the whole neighbourhood relative to their holdings of land.

It would be a hardship for our clients to endeavour to develop land any more distant from railway stations, shopping areas and other development. This site was chosen because it had been carefully town planned.

We respectfully suggest that the character or design of these houses is not injurious to the amenity of the neighbourhood ; on the contrary, in careful planning in relation to proposed further development and in their details and the use of the most up-to-date materials, they add considerably to those amenities.

The design is purely the outcome of the solution to the problem of designing a house to certain requirements in the best materials and to function more easily and more enjoyably than houses of conventional type. It is our opinion that if the problem is approached, as we submit we have approached it, with proper regard to reasonably contemporary life and the best amenities it affords and the structure is clearly conceived and properly executed on those lines, then the result is good architecture.

With regard to the reference in Clause 56 to " undue repetition," our plans for future development have given this matter careful consideration both in the placings of the houses, their design and colour-scheme, and as development proceeds we will, of course, submit our proposals to you.

You will appreciate that a considerable clump of oak and other trees lies immediately to the east of the last houses to be erected on Park Avenue and form an effective break between the old and the proposed new work. Should our clients' development spread in that direction we will have due regard for immediate juxtaposition of the new and existing.

On the hills above Amersham, a district in the Chilterns, where amenities are at least as important at Ruislip, a concrete house designed by us has recently been erected. In this case the local Town Planning Committee objected and an appeal was taken to the Ministry of Health. The result was the approval of the building. Again, a house at Grayswood in Surrey, which we have erected in a similar character, was disapproved by a Town Planning Committee of the district, but this disapproval was waived upon our further describing our design and submitting a plea similar to this.

We might add that we are at present commissioned, in separate cases, by two doctors, one an eminent Harley Street physician, to design and supervise the erection of houses of this type because of their efficiency in ordinary living accommodation and healthiness.

Before advising our clients to proceed we made a careful survey of the area and we are making a special endeavour in design, particularly with reference to the external colour scheme, so that the houses will harmonize with their surroundings.

In view of the fact that development nearby is of houses of a particular cost, it is natural that our clients should commence their development at, or near, that cost. But we have advised them, and they have agreed, should their development proceed, to build houses of higher cost in the scheme.

To supplement the drawings already deposited with you, we are forwarding with this a perspective drawing to give an idea of the houses as they will be finished and we shall be happy to attend in person or give you any further particulars you require.

R. I. B. A.

ELECTION OF MEMBERS

At a recent meeting of the Council of the Institute, the following members were elected :

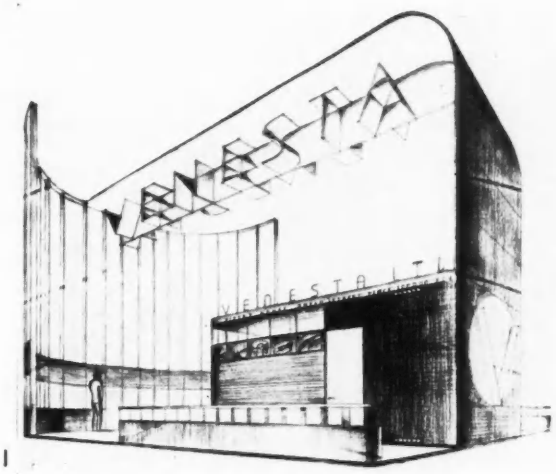
As FELLOWS (6) : Messrs. G. L. Ellkington, T. H. Gibbs, F. C. Saxon, K. F. Wray, F. W. Lawrence and J. W. Spink.

As ASSOCIATES (17) : Miss K. R. Berwick, and Messrs. H. E. Cavanagh, P. E. Cornu, G. E. Garrard, W. R. Hutcheson, D. M. Jones, G. A. Keighley, A. L. Meiring, J. Munro, D. F. Naude, (Miss) R. M. Oldacres, I. Park-Ross, F. W. Powers, J. C. Price, J. G. Sidbottom, G. H. While and D. M. Wilson.

LONDON ARCHITECTURE MEDAL

The R.I.B.A. London Architecture Medal for 1933 has been awarded to Messrs. Welch, Cachemaille-Day and Lander, F., A. and A.R.I.B.A., for their Church of St. Saviour, Eltham.

The Medal is awarded annually to the architect who has designed a building of merit built during the three preceding years within a radius of eight miles from Charing Cross.



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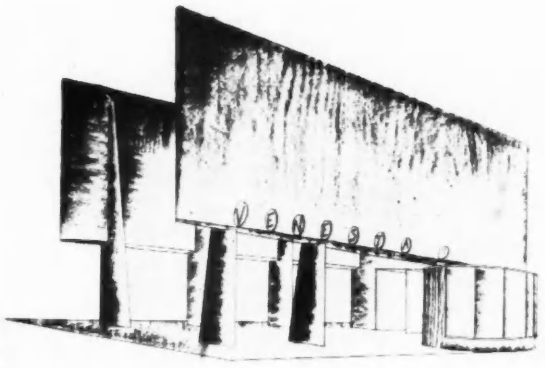

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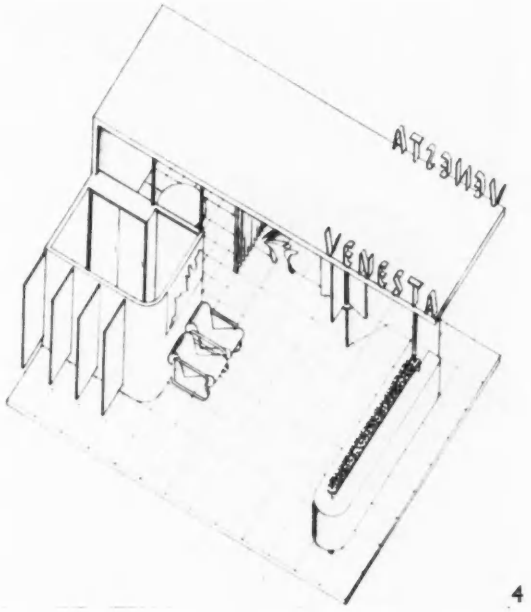

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The four premiated designs in the competition for a preliminary design for a stand at the Building Trades Exhibition. 1 : By A. N. Baldwinson ; 2 : By T. Gordon Cullen ; 3 : By Geo. H. Bray ; 4 : By Jack Howe. See Competition News below.

COMPETITION NEWS

STAND FOR THE BUILDING EXHIBITION

As announced in our last issue, the premium of £100 for a preliminary design for a stand for Venesta, Ltd., at the Building Trades Exhibition, has been awarded to :—

Mr. F. Skinner, c/o Tecton, 57 Haymarket, London, S.W.1.

The four premiums of £10 each have been awarded to : Mr. A. N. Baldwinson, A.R.A.I.A., of 12 Bedford Place, W.C.1 ; Mr. George H. Bray, A.R.I.B.A., 61 Curzon Street, W.1 ; Mr. Thomas Gordon Cullen, of 132 Green Lanes, Stoke Newington, N.16 ; and Mr. Jack Howe, of 176 Baker Street, Enfield, Middlesex.

The assessors were Messrs. E. Maxwell Fry, B.ARCH., A.R.I.B.A. ; John Gloag ; H. de C. Hastings, Editor of *The Architects' Journal* ; W. T. Plume, Editor of *The Builder* ; Henry Rutherford, managing director of Venesta, Ltd. ; and W. L. Wood, Editor of *The Architect and Building News*.

The assessors selected the winning design because " not only does it in every way fulfil the requirements of the competition, but it shows a high standard of skill in the disposition of various units of display, and the whole stand has been designed to illustrate in a fresh and vivid manner the particular structural qualities of the material that is to be shown. The stand was designed to give an impression of openness, lightness, and spaciousness."

EDMONTON TOWN HALL

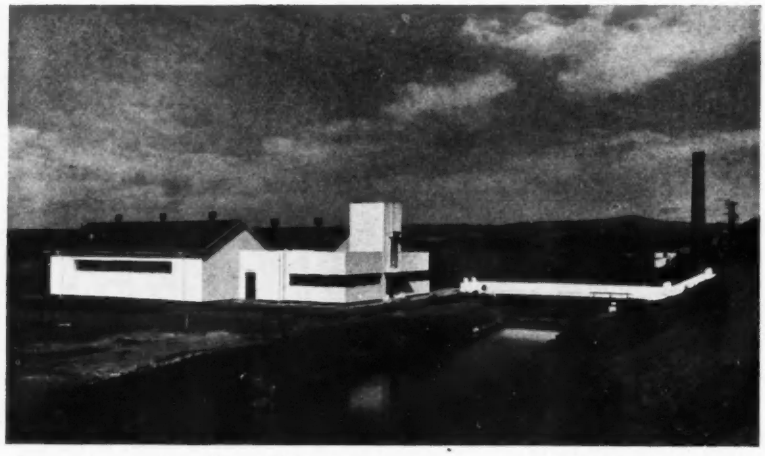
The Edmonton U.D.C. has decided to hold an open competition for designs for a new town hall, to be erected on a site in Knight's Lane, Edmonton. The estimated cost is £95,000.

[*For Competitions Open see last week's issue.*]

THIS ARSHETECTURE

A very smart brochure has been issued by Messrs. —— and ——, architects, Stourbridge, " in the interests of better building," and it will be found of great appeal to those who are desirous of having a house of their own erected, " built to individual specifications," as they say. It gives a selection of five front elevations of residences which have been designed by the firm, and also includes many valuable items of information relative to houses and their proper equipment. "Why should you be content to live for long in a house that is as much mass-produced as a cheap motor-car which is a back number in a year or two ? (it says). Your home should be an individual matter—the expression of your own taste and personality—and it can easily be so if you build for yourself with a skilled architect's co-operation. We should like, ourselves, to extend to any interested reader of this brochure, a cordial invitation to discuss the possibility of our assisting him in the planning and building of a house which will express his own ideals. A call, a letter or a telephone inquiry will find one of our principals free to arrange an entirely non-obligatory, but very helpful interview."

FROM A PROVINCIAL NEWSPAPER.



A general view of the Kames Pithead Baths, Ayrshire. Architect: J. A. Dempster.

PITHEAD BATHS

THE WORK OF THE MINERS' WELFARE COMMITTEE

CHIEF ARCHITECT: J. H. FORSHAW

[*By Basil Clitheroe*]

In the following article the author discusses the work that has been accomplished by the Miners' Welfare Committee during the past six years. He points out that "the Committee is aiming at, and actually creating, a new type of architecture comparable in design to some of the most advanced work carried out on the Continent and in the United States." Ten of the buildings erected by the Committee, under the direction of the Chief Architect, Mr. J. H. Forshaw, M.A., A.R.I.B.A., are illustrated in this issue; a further selection will be published next week.

A DEVELOPMENT of more than purely industrial or social interest which has proceeded during the last six years without any marked attention being devoted to it by architects, has been the installation of pithead baths by the Miners' Welfare Committee. The last Annual Report of the Miners' Welfare Fund is extremely important because it gives for the first time a very full description of the work which has been carried out and indicates very clearly the policy and the motives inspiring the Committee.

At first sight one would be inclined to attach very little significance to such a building as a pithead bath, the record of the country in providing services of a similar type being architecturally depressing, but careful observation will show that the Miners' Welfare Committee is aiming at and actually creating a new type of architecture comparable in design and æsthetic quality to some of the most advanced work carried out on the Continent and in the United States. We have been accustomed to somewhat uncritical praise of industrial architecture abroad, above all in Germany, and have been led to believe that in this respect we had all of the distance to go—but the pithead bath development shows quite conclusively that this belief is ceasing to have any foundation, in one industry at least. If the Manor Powis or Betteshanger structures had been carried out in Germany or France or Sweden, they would have been heralded to the world—above all by British architects. In THE ARCHITECTS' JOURNAL for May 17 the significance of the achievement from the planning point of view was stressed, but it was felt that a more extended treatment was justified. The illustrations to the article require no interpretation or comment; they are sufficiently impressive.

The Miners' Welfare Fund was established in 1920, following the reports of the Royal Commission in 1919, but prior to 1926 very little was done towards the provision of pithead baths, largely because the Welfare Fund could only treat this development as subsidiary to other activities chiefly of an educational and social nature. Up to the end of January 1928 only 30 installations, supplying the needs of 22,374 men, had been provided, with a total grant from the Welfare Fund of £143,036. In 1926 the Samuel Commission made a very strong recommendation to the effect that pithead baths should be established throughout the coalfields and a levy of 1s. in the £ on coal royalties was instituted by the Mining Industry Act of 1926 "to secure as far as reasonably practicable the provision at all coal mines of accommodation and facilities for workmen taking baths and drying clothes." This levy was first collected in 1927, and at the end of 1933 the total receipts into the Baths Fund amounted to £2,564,873. At the end of 1933, 207 installations had been erected or were in course of construction. Those baths together were designed to provide accommodation for 254,782 men and 366 women, and 73 canteens had also been built as part of the bath structures.

The years 1927 and 1928 were devoted largely to examination and elaboration of new principles of design and construction in order to ensure that the fullest advantage could be taken of modern methods in building, in equipment and in the provision of materials; the necessary technical and building organization was created to deal with the new task and a considerable amount of planning undertaken before any actual building was done. The bulk of the expenditure on baths was consequently incurred during the five years 1929-1933.

In the terms of the Act of 1926, 175 installations had been undertaken—91 were completed prior to 1933, 36 during 1933, 33 were in course of erection at the end of the year and 15 grants had been made for building not begun. During 1934 the most important installation opened was that at Betteshanger Pit in Kent. The total grants towards the provision of baths and canteens and other pit schemes were, at the end of 1933, £3,123,586.

The actual average cost per person over 170 installations was £11 17s. 6d., the average for the installations accommodating more than 1,700 persons being £10 3s. 6d. and for installations accommodating less than 250 persons £21 5s. The cost per man varies almost directly with the size of the installation. We give in a statistical table a return of the most important recent installations in order to give some idea of relative size and cost.

When the royalties levy was instituted, considerable difficulty was found in persuading the industry to allow installations to be built, the main objections coming from the miner himself, who objected to a levy from his pay required to finance the operation and maintenance of the baths. The average cost to the miner was 6d. a week and less, the levy for this purpose being influenced by the contributions made by the coal owners themselves. In certain of the more advanced coal mines, this contribution was equal to a half and even more than a half of the total running expenses.

Over the years 1927 to 1929, only 34 per cent. of the installations offered by the Miners' Welfare Committee were accepted definitely for erection at the coal mines.

But a remarkable change took place in the attitude of the industry towards such installations. In 1930 and 1931 63 per cent. were accepted and in 1932 and 1933 74 per cent., and at the end of 1933 the position had been reached where the collieries were definitely demanding pithead baths. The total applications remaining unsatisfied at the end of 1933 amounted to 90, embracing 97,434 workers at a total estimated expenditure of £1,250,000.

The position now is that the pithead baths have justified themselves on four counts :—

I. SOCIAL

The miner leaves his dirt behind him at the colliery and to that extent the amenity of the home is definitely improved and the result of this improvement has been a definite reduction in illness. There is also the psychological effect of a decently designed and decently equipped service, maintained by an organization independent of the colliery itself.

II. FINANCIAL

The baths have been successful financially, the majority of the installations showing a surplus of revenue over expenditure sufficient to allow for the accumulation of the reserve at the rate of 1 per cent. of the capital value of the installation, and this financial success was not wholly due to the fact that the heating, water and electricity were provided free by the colliery, for in more than 50 per cent. of the installations these services were paid for by the miners.

III. ÆSTHETIC

The action of the Welfare Committee in employing a permanent architect assisted by architects for the main regions, and in giving them a fair measure of freedom in making the best of their opportunities, has meant concentration of effort on the solution of structural and technical problems without fear of tradition or inherited prejudice. The result has been that the pithead baths are, as structures, so fine and so carefully and harmoniously designed that they have raised the tone of the colliery and even of the whole district.

A number of coal owners of the more advanced type, impressed by those buildings, have asked the architects, in cases where new pithead buildings were under construction, to fit such buildings into an architectural scheme which would make them harmonize with the baths.

The Committee has also been successful in inducing the industry to study the possibility of decent pithead architecture. There are pithead units, either in existence or in course of construction, where several of the pithead structures are harmonized into one plan of considerable architectural quality. It has been found in coal mining, as in other industries, that it costs no more and may cost less to put up a well-designed and pleasing building instead of the pseudo-utilitarian junk which has littered the country—a horrible bequest from the Victorian age.

Some attention to location, particularly in South Wales and in South-east England, has had the effect of neutralizing much of the ugliness associated with a modern coal mine. The attention of the public is drawn to the pithead bath, away from the sordid and ugly surface buildings, and the architecture of the bath itself has had a favourable effect in many cases on the architecture not only of the surface buildings but on the houses built by the colliery owner.

Location	Date of Opening	Accommodation Men	Shower Cubicles	Capital Cost	Total Cost per Man Accommodation
				£	£ s. d.
Blaenavon Colliery, South Wales ..	27. 2.32	1,000	96	17,095	17 2 0
Dinnington Main Colliery, South Yorks	18. 6.32	3,024 (ultimate)	128	31,043	10 5 0
East Plean No. 5 Colliery, Lanarkshire	14.11.32	616	40	8,784	14 4 0
Bomarsund Colliery, Northumberland	4. 3.33	720	44	10,759	14 19 0
Mosley Common Colliery, Lancs ..	25. 3.33	2,400	120	20,545	8 10 0
Thorne Colliery, South Yorks ..	1. 4.33	3,000	168	25,481	8 10 0
Victoria Colliery, North Staffs ..	24. 6.33	1,680	88	17,210	10 5 0
Bestwood Colliery Baths, Notts ..	21. 8.33	2,112	96	20,630	9 16 0
Manor Powis Colliery, Lanarkshire..	28.10.33	1,216	64	14,209	11 14 0
Prince of Wales Colliery, West Yorks	6.11.33	2,000	104	18,057	9 0 0
Cwm Cynon Colliery, South Wales..	14.11.33	1,368	64	19,187	9 16 0
Elemore Colliery, Durham	2.12.33	1,670	62	14,194	8 10 0
Cronton Colliery, Lancs	9.12.33	1,008	128	18,886	18 14 0
Silksworth Colliery, Durham ..	12. 5.34	2,924	124	22,257	7 12 0
Betteshanger Colliery, Kent ..	21. 4.34	2,520	182	23,880	9 9 0
Blackhall Colliery, Durham ..	—	2,496	152	25,184	10 2 0
Penallta Colliery, South Wales ..	**	2,028	254	31,654	15 12 0
Sherwood Colliery, Notts	28. 6.34	2,000	128	19,200	9 12 0
Oakdale Colliery, South Wales ..	—	1,728	148	23,485	13 12 0
Duffryn Rhondda, South Wales ..	**	1,496	128	25,522	17 1 0
Aitken Colliery, Fife	—	912	80	13,000	14 5 0
Arniston Colliery, Lothian	**	570	52	10,900	19 2 0

* A representative selection of the more important installations. Where no opening date is given the baths are under construction unless marked **, which indicates that a grant has been made but building has not commenced.

IV. ECONOMIC

The Twelfth Annual Report of the Miners' Welfare Committee shows that the conception of planning has entered very fully into the policy of the committee, and this conception, while it has led to very careful study of what should be the function of the pithead bath and what use should be made of the technical knowledge and research, has admitted of a certain degree of variety within the general type. In other words, the Committee is forced to study the utmost economy in carrying out its work in order to ensure the maximum service at the minimum cost. It has avoided useless decoration and excessively expensive materials; it has carried out standardization of the essentials entering into the construction and equipment of the buildings, but it has given to its architects considerable freedom in adapting the complete design to locality and to function.

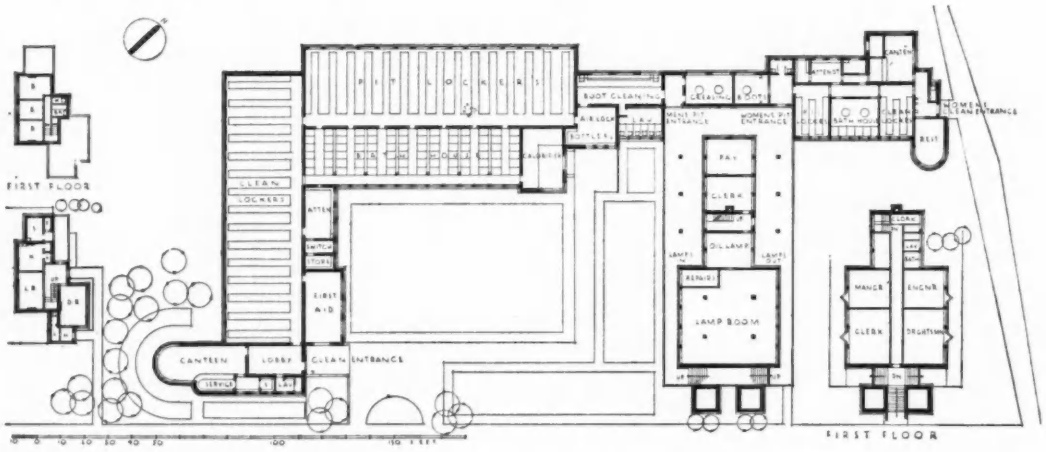
While, therefore, a new type of architecture has been evolved, it is a type which is not monotonous and yet not sufficiently varied to lose certain essential characteristics which are inseparable from its function.

It is unnecessary to go more deeply into the matter. The range of activities of the Miners' Welfare Committee is enormous. They include such things as the provision of institutes and halls and swimming baths, of recreation grounds, canteens, libraries and clubs, but we feel that its great contribution to the intelligent and beautiful planning of our social life is provided by its pithead bath installations. They represent a contribution to the art and architecture of our time and they do show that a national body which is inspired by the true ideal of public service can do more to raise the standard of architecture than any number of individual organizations working according to the short-term objectives of private enterprise.

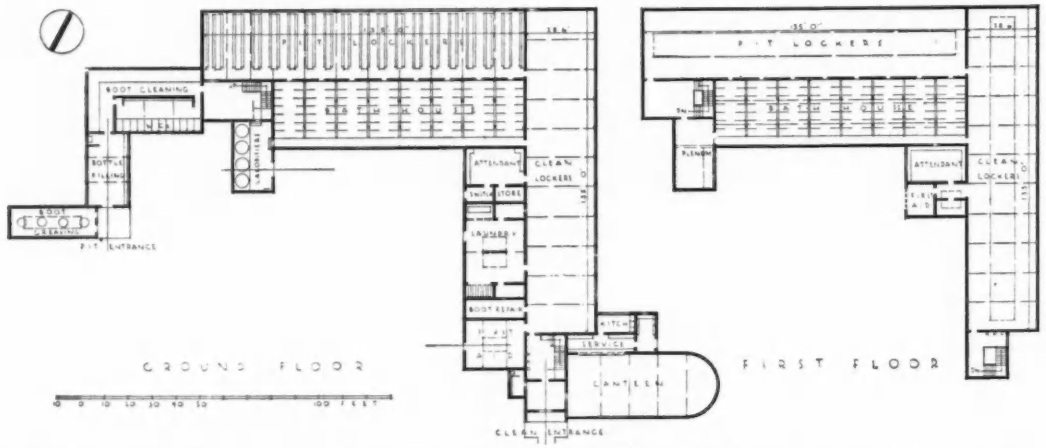
There are in this country probably four organizations which between them are capable of effecting a revolution in the planning of our economic life and in the creation of new standards of architecture sufficiently high to place this country in a leading position in the world. They are the Miners' Welfare Committee, the Central Electricity Board, the London Passenger Transport Board and the British Broadcasting Corporation. Of those four bodies only two have deliberately set out to create those standards, namely, the Miners' Welfare Committee and the London Passenger Transport Board. The Central Electricity Board has been fortunate in the actual design and equipment of the Grid, which is a purely engineering activity and conditioned by motives of economy and efficiency. It has, however, not yet exerted any influence over the design and construction of generating stations, with the exception of Dunston, and none of the new super power stations will be notable for their architectural quality. This applies above all to the new Fulham and Tir John North stations and the hydro-electric power plants of the Galloway Water Power Company.

We believe, however, that the Central Electricity Board is seriously studying this matter in much the same way and in much the same spirit as the Miners' Welfare Committee. The function of the British Broadcasting Corporation is partly to show in its own broadcasting stations and offices a proper appreciation of design and architectural quality and partly to educate the public into an appreciation of work such as that which has been carried out by the Miners' Welfare Committee. Its achievement in this direction is by no means negligible, but we commend to it the study of what has been done in the provision of pithead baths.

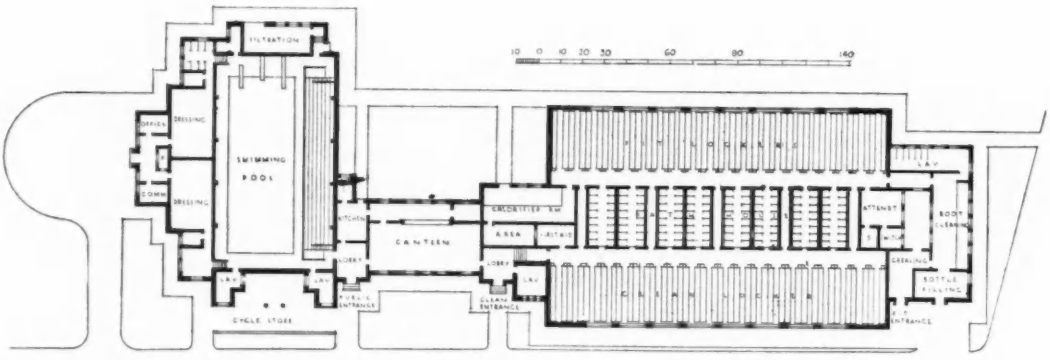
PITHEAD BATHS: SIX



This plan, in addition to baths for men and women, includes a canteen, a canteen and rest room, ambulance and rescue rooms, a lamp room, pay and check offices, offices for colliery staff, a bridge and covered way connecting the baths and offices with the pit shafts, and a house for the baths superintendent with separate dining room for colliery officials and visitors. Accommodation is for 1,500 men and 45 women. [At Clockface Colliery, Lancs.]



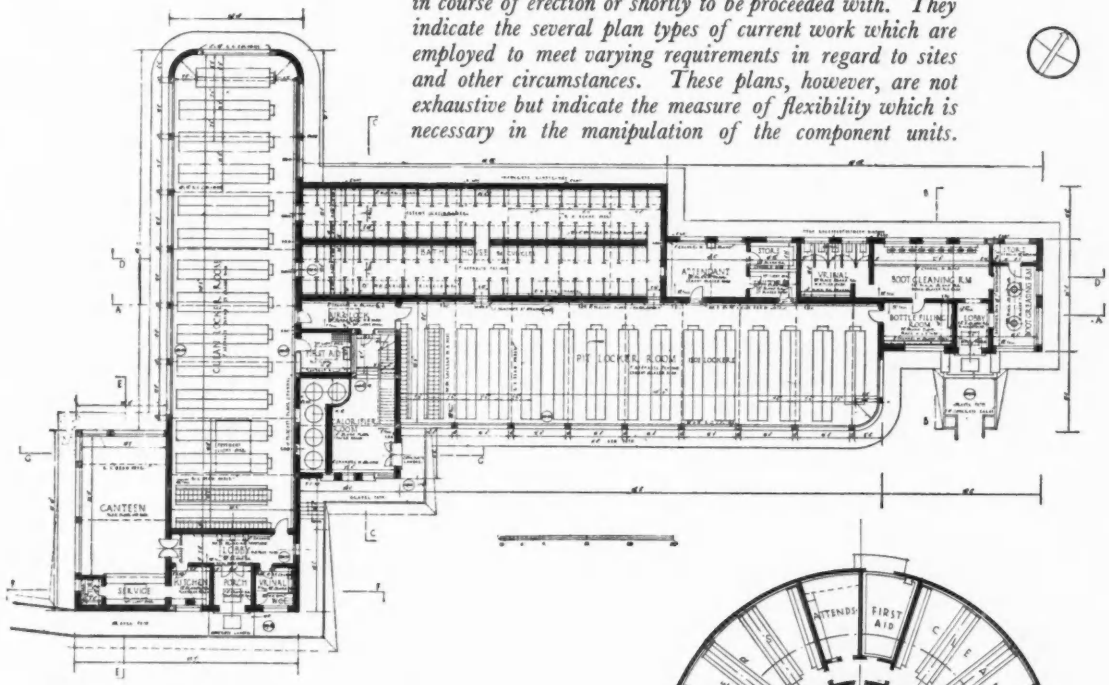
This plan combines laundry, boot repair shop, ambulance room and cycle park, with the usual accommodation for bathing and clothes drying. Accommodation is provided for 3,168 men. [At Whitfield Colliery, Staffs.]



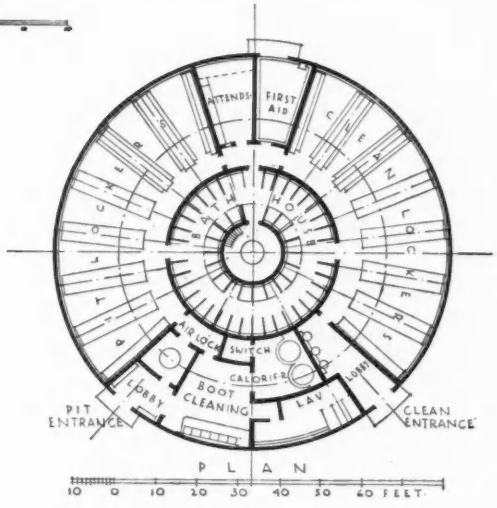
A swimming bath is the particular form of welfare activity chosen by the workers at this colliery. The opportunity was taken therefore to design the swimming bath in conjunction with the pithead bath, a canteen and a cycle store. The purposes of the two principal buildings are not intended to be complementary, i.e., the ablutional function of the pithead baths and the recreational function of the swimming bath are distinct and apart. The canteen, however, caters for miners going to and from their ordinary work and is so placed that it can be used during displays and galas at the swimming baths. The pithead bath is designed on the normal one-floor type, giving accommodation for 2,000 men, with 128 shower cubicles. [At Sherwood Colliery, Notts.]

PLANS OF TYPICAL INSTALLATIONS

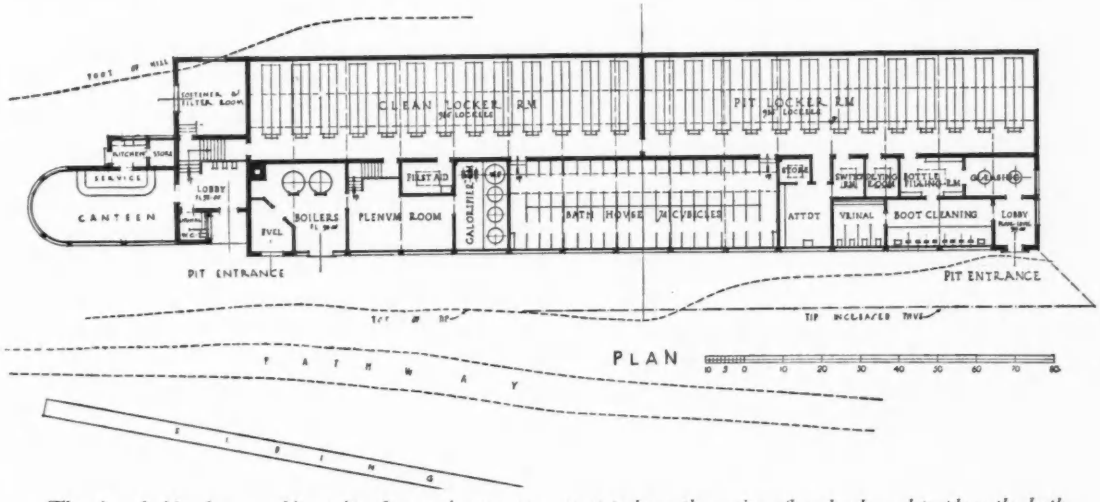
The plans on this and the facing page are of installations in course of erection or shortly to be proceeded with. They indicate the several plan types of current work which are employed to meet varying requirements in regard to sites and other circumstances. These plans, however, are not exhaustive but indicate the measure of flexibility which is necessary in the manipulation of the component units.



Proposed installation having accommodation for 1,202 men and 94 cubicles on one floor. The plan is arranged to conform with levels of an otherwise unrestricted site—a rarity in South Wales colliery districts. Special consideration has been given to the planning of the canteen, which will receive an open view across unspoiled country. [*Great Mountain Pithead Baths, Carmarthen.*]

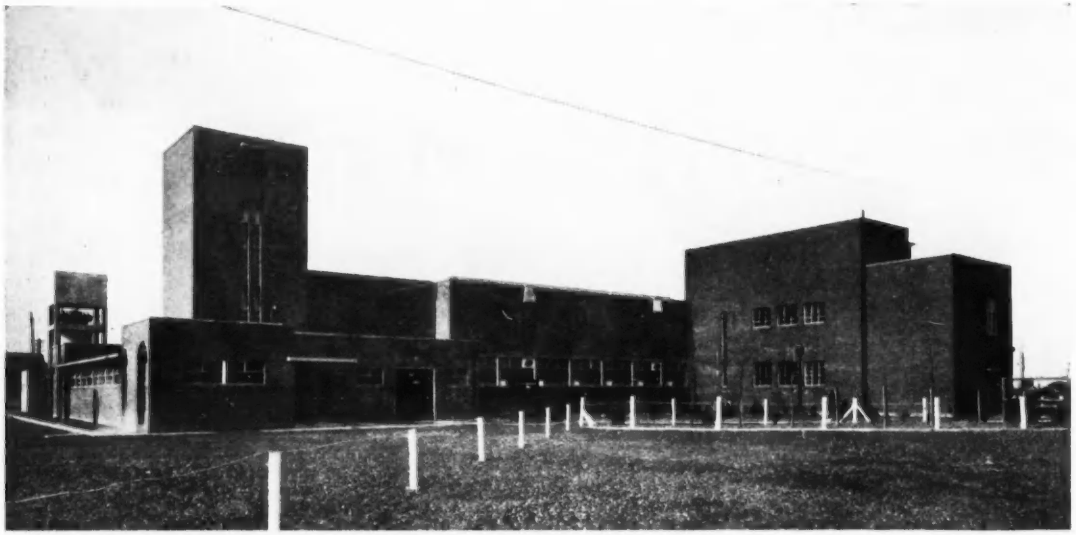


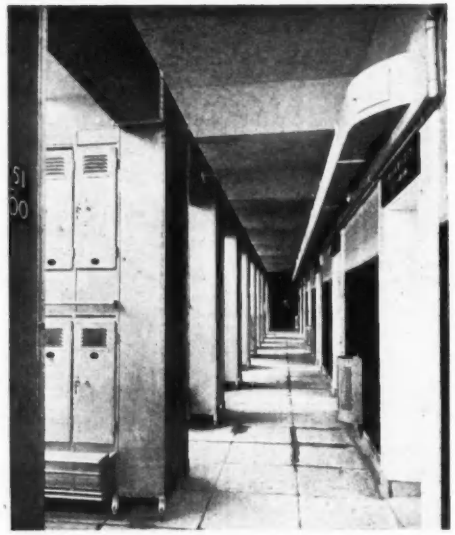
A small installation, giving accommodation for 570 men and 52 shower cubicles. The operation of changing and bathing is assisted by a circulative arrangement of the rooms, and it is with that consideration in mind that this functional plan has been conceived. [*At Arniston, Lothians.*]



The site of this plan—a thin strip of ground some 70 feet wide in the narrow Cwm-y-Glyn—consists of made ground of colliery rubbish about 30 feet deep rising steeply to the mountain top. Advantage has been taken of the ground slope along the length of the building to step down the various floor levels and to place the bath house and ancillary services adjacent to the siding for fuel delivery. Accommodation is for 936. A canteen is provided for the men, most of whom travel to their work by train. [*At Hafodrynys Colliery, S. Wales.*]

PITHEAD BATHS: THORNE COLLIERY, YORKSHIRE



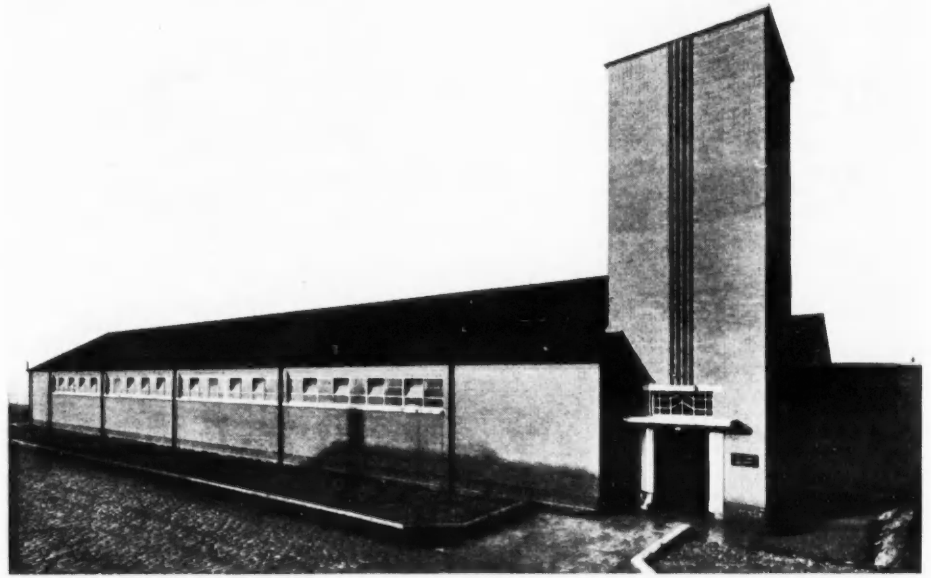


This is a large installation on a level site within the colliery yard. It was the first to be designed on the L-shape plan. On the left are the water treatment plant and store within a reinforced concrete staging, the pit entrance block containing boot cleaning, boot greasing and bottle filling rooms, and the lavatory and water storage tank in the tower. The continuous window lights the ground floor cubicle section. To the right are the windows of the attendants' room and first aid room. The clean entrance lobby is on the extreme right, and adjoining space is available for adding a canteen.

The photograph at the top (right) is a general view of the pit clothes locker room, showing the numbered lockers with overhead air ducts feeding each nest.

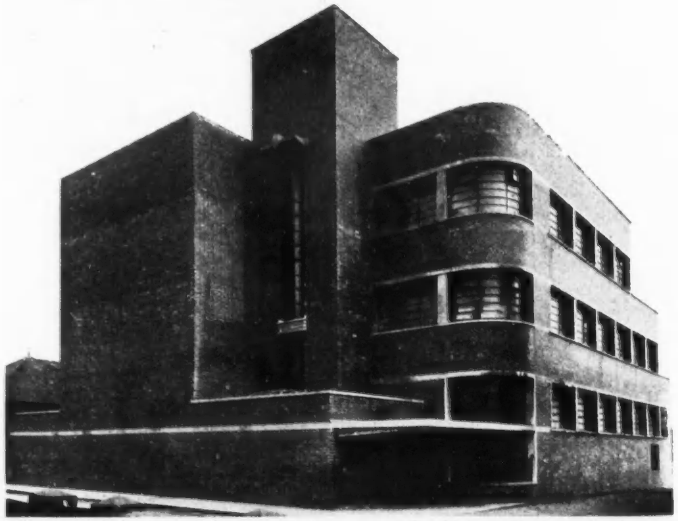
The building was opened on April 1, 1933, and provides accommodation for 3,000 men, with 168 shower cubicles. Cost: £25,481 (including sewage pumps), equivalent to £8. 10s. per man accommodated. ARCHITECT: C. G. KEMP.

PRINCE OF WALES COLLIERY, STAFFS.



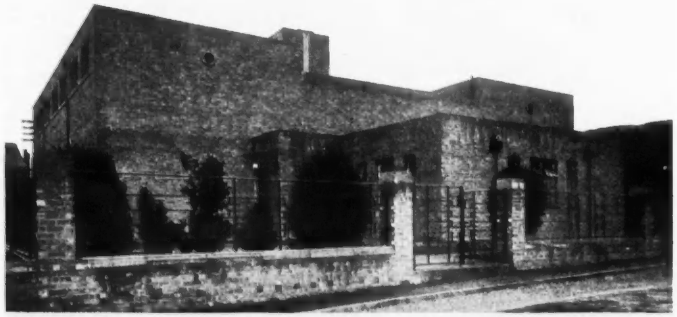
This site is situated within the colliery yard. The clean and pit locker rooms are planned parallel to each other with the bath cubicles between. The tower over the clean entrance contains the water storage tanks. The building accommodates 2,000 men with 104 shower cubicles. It was opened on November 6, 1933. Cost £18,057 (including a boiler plant), equivalent to £9 per man accommodated. ARCHITECT: A. J. SAISE.

BESTWOOD COLLIERY, NOTTS



The restricted nature of the site made it necessary for this installation to be planned on three floors, the locker rooms and cubicles being distributed proportionately on each floor. The tower contains the main staircase, with the water storage tank placed over it. The building was opened on August 21, 1933, and has accommodation for 2,112 men. Cost: £20,630. ARCHITECT: A. J. SAISE.

VICTORIA COLLIERY, STAFFS.



The elevation to the road. Accommodation is provided for 1,680 men, with 88 shower cubicles. The building was opened on June 24, 1933. Cost: £17,210 (including a sewage treatment plant), equivalent to £10. 5s. per man accommodated. ARCHITECT: W. A. WOODLAND.

CWM CYNON COLLIERY, S. WALES

This installation accommodates 1,368 men with 104 shower bath cubicles. A long narrow building of two storeys with the boiler house as a one-floor appendage was dictated by the site which is an unconfined bank of pit debris sloping steeply on its south side to the River Cynon. In view of the difficult nature of the ground, reinforced concrete construction was employed throughout. The foundation pressure was limited to under ½ ton per square foot. The photograph is of the locker room façade and the clean entrance and staircase wing, showing the external surface finish. The building was opened on November 14, 1933. Total cost: £22,447 (including sewage treatment, boiler and water softening plants and footbridge), equivalent to £16. 8s. per man accommodated. ARCHITECT: W. M. TRAYLOR.

MANOR POWIS PITHEAD BATHS, LANARK

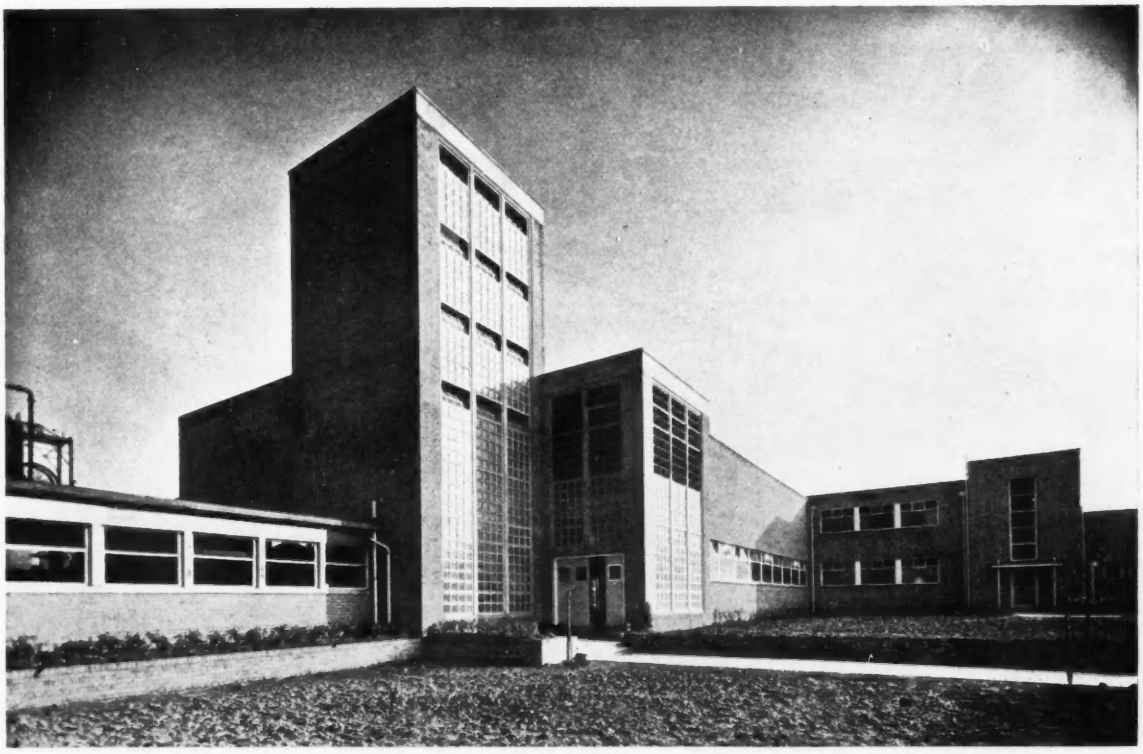
This building, opened on October 28, 1933, is situated within a wide loop of the River Forth and commands fine views towards Stirling. The building is L *shape in plan, the locker rooms in the wings being connected at the tower which contains the calorifier room, plenum room, filter room and water storage tank.*

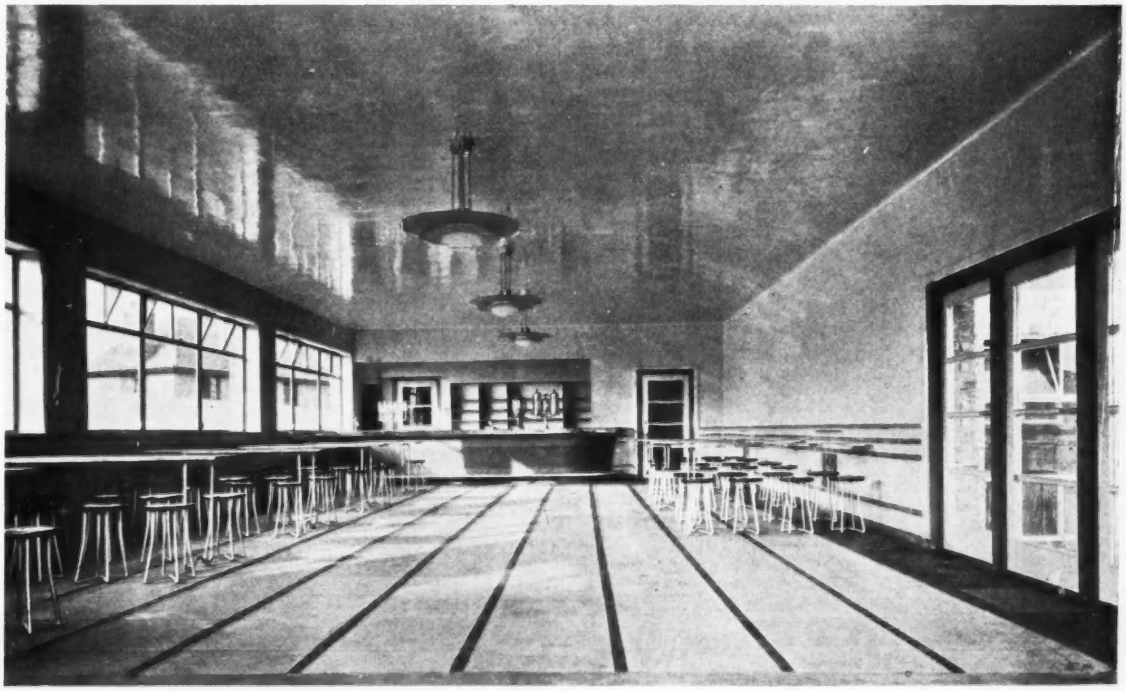
The photograph above is a view from the river, looking towards the Ochil Hills. On the left is the apsidal end of the canteen and clean entrance. The pit entrance is shown on the extreme right.

On the left is a general view of the canteen.

Accommodation for 1,216 men, with 64 shower cubicles, has been provided. Cost, £14,209 (including sewage plant), equivalent to £11 14s. per man accommodated. ARCHITECT: J. A. DEMPSTER.

BETTESHANGER PITHEAD BATHS, KENT



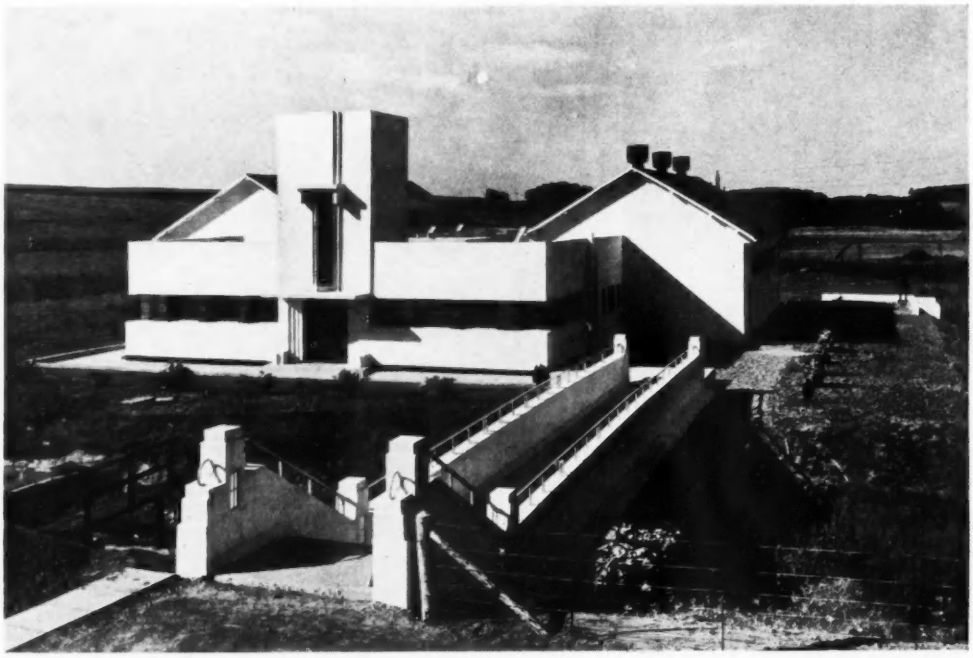


The Pithead Baths and Canteen at Betteshanger Colliery was completed in May of this year. Accommodation is provided for 2,520 men, with 182 shower cubicles.

Above is a general view of the exterior showing the boot cleaning room, staircase and tower (containing water storage tank), calorifier room and plenum chamber, bath house, attendants' and first aid rooms, clean entrance and canteen. The lower photograph shows the canteen. Detail drawings of the counter are reproduced on pages 63 and 64.

The building was erected at a total cost of £23,880 (including a sewage treatment plant), equivalent to £9. 9s. per man accommodated. ARCHITECT: C. G. KEMP.

KAMES PITHEAD BATHS, AYRSHIRE



This installation, opened on September 16, 1933, is separated from the colliery by the Garpel Water, over which a reinforced concrete bridge has been constructed. The water from this burn is used after treatment for all the purposes of the installation. The pit entrance, centrally placed under the water storage tower, gives access also to the calorifier room and plenum room. The boot cleaning room is on the right of the tower and the calorifier room on the left. The bath cubicle section lies between the clean and pit locker rooms in the rear of the tower. The exterior of the building is finished in white cement. Accommodation is provided for 540 men, with 44 shower cubicles. Cost £9,430 (including bridge, a sewage treatment plant and a water treatment plant), equivalent to £17 9s. per man accommodated. ARCHITECT: J. A. DEMPSTER.

SILKSWORTH PITHEAD BATHS, DURHAM

The building, opened on May 12, 1934, is planned on two floors, the upper floor being lit from above. The entrance shown in the photograph gives access to the clean locker rooms and to the canteen. The water storage tower seen projecting above the roof of the clean locker room contains softened water for bathing. Underneath it is the plenum chamber, centrally placed to allow for effective air distribution. The building accommodates 2,924 men, with 124 shower cubicles. Cost £23,657. ARCHITECT: F. G. FRIZZELL.

LETTERS FROM READERS

SIR WILLIAM JENKINS, M.P.

T. GORDON CULLEN

Civic Planning

SIR,—"Civic Planning, the most promising and creative movement of our time, has been retarded in expression and stunted in growth," are the words in which Dr. W. A. Robson, of the London School of Economics, indicts the present generation, in his recently published pamphlet, for its lack of imagination in planning towns and countryside.

One may feel hurt that we should be thus condemned during the difficult times through which we are passing, but none can deny its essential and fundamental truth. Let us be honest and admit it, for that will save time and heartburning, but let us at the same time resolve that the future will be better than the past, that civic planning will be the watchword of the next decade. Let us use the principles of scientific planning in their widest interpretations, for by planning alone can we devise the most suitable division of our social services, by planning alone can we control the development under the extended powers of the Town and Country Planning Act of 1932, and by planning alone can we use those powers to advantage in such a way as to preserve those few existing amenities which we possess, to promote the best possible co-ordination of traffic requirements and to obtain as many open spaces as desirable, so that we may provide, to the best of our ability, the needs of the community.

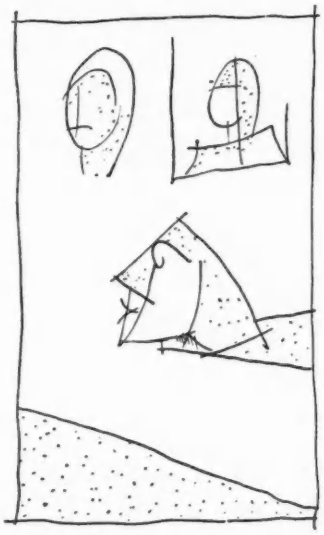
Let us resolve to use all the powers we possess to induce our people to cultivate the beautiful in our country.

WILLIAM JENKINS
House of Commons

Infernalismus

SIR,—The nineteenth century, which is so full of interest to us, has again vindicated itself by revealing to me, in the course of exhaustive research, a new light on the current architecture. Without doubt your readers will have read of the dynamiters, those curious people who fill the pages of Stevenson's novel. They will also have read of the Black Mass, the wilful perversion of the Christian Mass. These and other societies reflect the Victorian mentality. In architecture, however, we are told that the Gothic revival was the expression that the Victorian mind gave to this art. In the pursuit of my research I have discovered that there was a much more vicious doctrine being taught. The explanation of which is the reason for this letter.

It seems that about the end of the century a group of architects created a new institute which they called "The Institute of Diabolical Architects." This was known as IDA by those who knew of it, for only a few people were aware of its existence. Apparently the institute held their meetings on the top of the Monument. The reason for this is admirably set forth by Mr. Labasco, the President, who



writes: "The sense of futility that has driven me to diabolical planning is nowhere so well shown as from this high place. Below me stretches London shrouded in smoke, the grey sky is counterpointed in the innumerable lead flashings and flats that merge into the decaying brickwork. The faint cough of a consumptive below forces me to believe that the devil is the mightiest."

And now I must set out, as briefly as possible, the doctrine of the diabolical planners (who combined with the Futilists in 1887).

I shall quote from Prof. Teufel's unpublished book, *The Principles of Diabolical Planning.*

"The qualities that go to make an infernal architect are as follows:—He must be primarily unreasonable. Unreason is our watchword. Today, when the public is so unobservant, we can indulge in unreason to a far greater extent than could any preceding age of builders, and thanks to our members we appear to be doing so. Then we must have a good sound backing of pigheadedness and determination, for there are still many who would wish our movement evil. IDA is an invention through which architects can become basically and fundamentally false. We are beyond classicism or the Gothic, we are organically irrational and absurd."

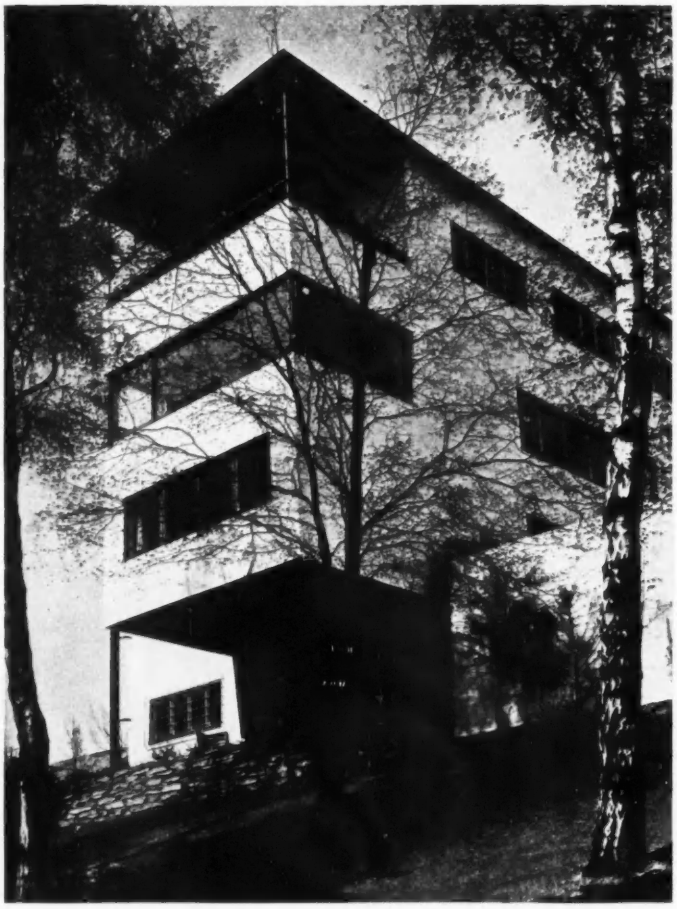
Prof. Teufel then goes on to show why evil is the only solution in their architecture. He does this by saying that life is made up of good and evil and that the Renaissance was a good period. So the architecture that succeeds the Renaissance must be evil to restore the balance.

Having thus indicated the aims of the IDA movement, I must trace the collapse. When the Great War broke out, the diabolical planners decided that their experience of unreason and viciousness would entitle them to a high place in the Army. Indeed, until his death by influenza, Prof. Teufel was one of the most futile generals in the Army, and thought he was restoring some mythical balance if he had two or three hundred soldiers killed in a morning.

Poor Mr. Labasco was less fortunate, for his buildings became so wrong that he leapt off the Monument during a council meeting crying "Thus fell Satan." It is interesting to note, in passing, that the Teufel Mausoleum has recently been demolished. It was one of the few authentic works of the group. I send you a sketch showing a stone carving of the head of Prof. Teufel; behind are drawings of the lesser known members. On the right is Mr. Labasco, on the left a certain wealthy patron, Mr. Cyclops Mills, referred to by the prophetic poet Blake as "Dark Satanic Mills.

With the death of the two main members, the group rapidly died out, although it still clings tenaciously in certain quarters.

T. GORDON CULLEN
London



1: SWITZERLAND: *House at Zurich, by O. Salvisberg.*

LITERATURE

SURVEY OF THE CONTEMPORARY SOLUTION

[*By Erich Mendelsohn*]

The Modern House. By F. R. S. Yorke. London: The Architectural Press. Price 21s. net.

THE opposition which the new architecture still arouses on all sides in this country is the result partly of England's geographical and spiritual insularity and partly of its reluctance to commit itself to twentieth-century changes until the success is beyond all question. These changes are of a fundamentally structural nature, that is to say, they are historically conditioned and rooted in our times. They are the inevitable consequences of the nineteenth-century technical revolution: they are, so to speak, the second stage of the great advance which was at first confined to technique but which is now extended into every sphere of human activity.

These profound changes can be properly understood only by those who welcome the reorientation of the world and see in the revolution which we are now experiencing not only the destructive assault of an unproved experiment on the proved tradition, but the grandeur of a national phenomenon from the catastrophic consequences of which we are suffering today without realizing their secret origin or their true significance.

A new epoch is upon us; everybody knows this because everybody is personally affected by it; but not everybody is built on a big enough scale to face up to it, or intelligent enough to put two and two together. We proclaim this new age as salvation, often extravagantly, it is true, but always with the true creative ardour of a generation whose responsibility it is to express the infinite possibilities of the new world in finite shapes.

Fortunately the new age has found a new generation ready for it. This generation realizes that the fundamental and structural transformation of the world is not an arbitrary matter of today and yesterday, but an organic process, most immediately manifest in architecture, which without structure does not exist. The universal reshuffling of society has altered social life from the foundations up, that is to say, the social habits of the community—the individual, the family, the class.

The life of all society is lived within the limits of four walls and a roof, called a hut, a cottage or a house. Thus in the province of housing the mode of life of an age is reflected completely and without distortion. It is, however, in precisely this province that every change meets with the most determined opposition, quite naturally and understandably, since hearth and home are the most conservative elements in the whole of human existence, being closely bound up with birth and death themselves.

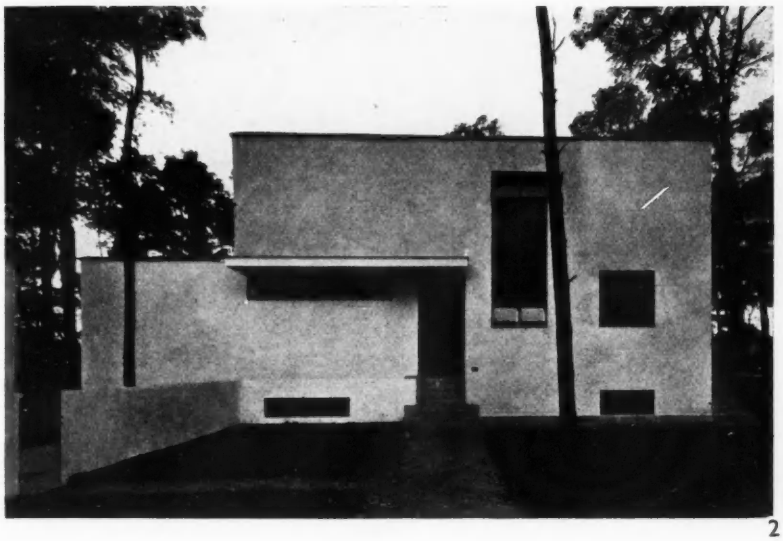
In view of all this, books like *The Modern House*, by F. R. S. Yorke, are of the highest importance. Especially is their importance augmented when they recognize and champion the conditions of these fundamental changes, when, moreover, they penetrate scientifically to the roots of the matter instead of treating it in a superficial, journalistic fashion; when they do not content themselves with æsthetic questions, but enter into problems of material, construction and plan, into the complete economy of the house, turning their faces from individual problem to the problem of housing as a whole. This is the right way to overcome the opposition to modern architecture, opposition which is so ready to immortalize obsolete interpretations of the law instead of interpreting the immortal laws ever anew. When Yorke goes to the root of the false conception of tradition: "to build traditionally is to build according to the fundamental principles that have governed the art of building in former times," his conclusion: "to build contemporary is to build in accordance with the dictates of contemporary materials, methods of construction and practical requirements" is the only possible answer. To contribute in the highest degree to your own age is to follow the finest tradition of all past ages. There is no other way to equal the great masters.

Mr. Yorke's book is excellently printed, although the lay-out of individual pages is not always happily balanced. It provides a pictorial survey of housing developments in

every country during the past ten years. The greatest emphasis is laid on new discoveries and practices in building material and construction, and on new ideas of planning. It does not attempt, consciously I think, any criticism of the architectural pretensions of the houses illustrated, although at times it is provoked.

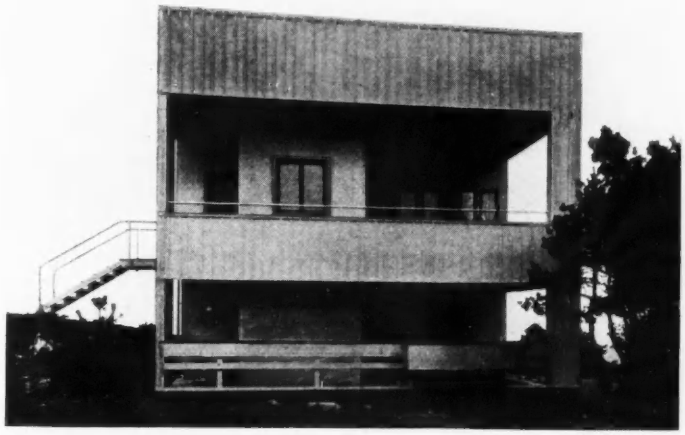
In many of his examples, the architects have forgotten that the small private house represents only a very small architectural unit, and that in view of this the use of architectural details (extravagantly extensive ground plan, unnecessarily irregular roof-line, riotous geometrical patterns) must be rigorously limited. Again, constructional means which are proper to great halls and public buildings are out of scale in small buildings. *A private house is not an exhibition of architectural and technical devices.* The too lavish use of glass can degenerate into a mere craze. Glass when employed irrespective of position or refinement is no better than a pillar which supports nothing. At the same time it may banish the intimacy of private life. A private house is not a *place publique.*

Such extravagances are inseparable from a transitional period in which there are bound to be many derivative minds doing too little or too much. Generations must be tested and must fall into line before a generally practicable level is attained. In the past, too, it was only that which achieved perfection was recognized as a masterpiece.



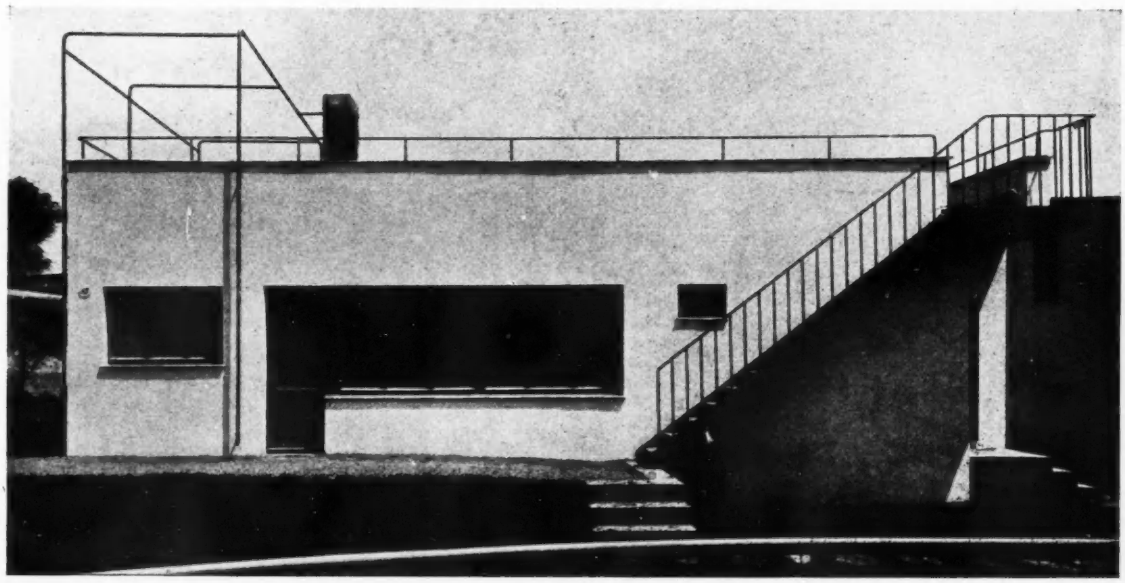
2

2 : GERMANY : *House at Dessau, by Walter Gropius.*



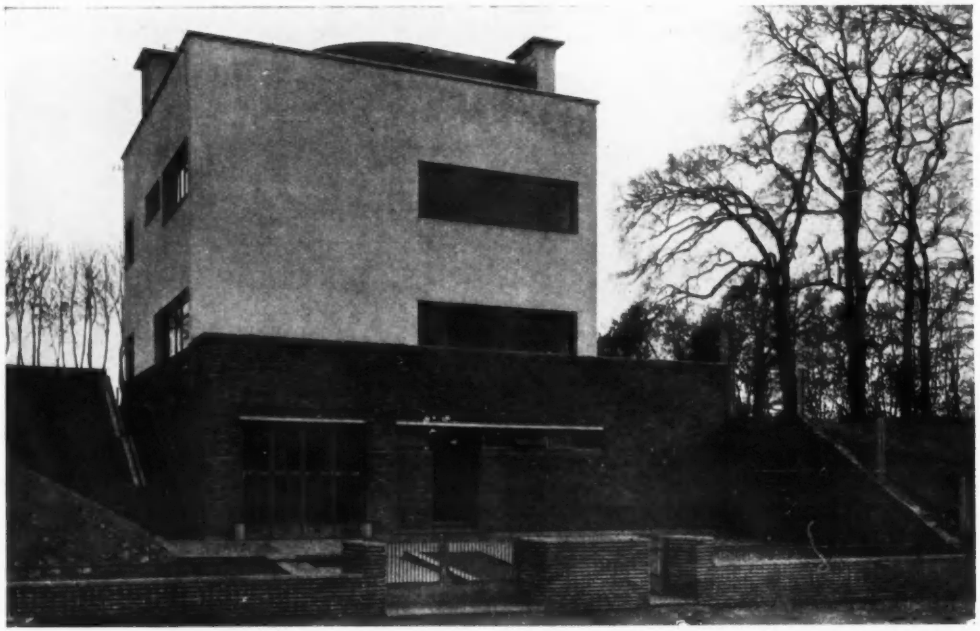
3

3 : SWEDEN : *All-wood seaside House by Alfred Roth and Ingrid Walberg.*



4

4 : AUSTRIA : *House in Vienna, by Richard Neutra.*



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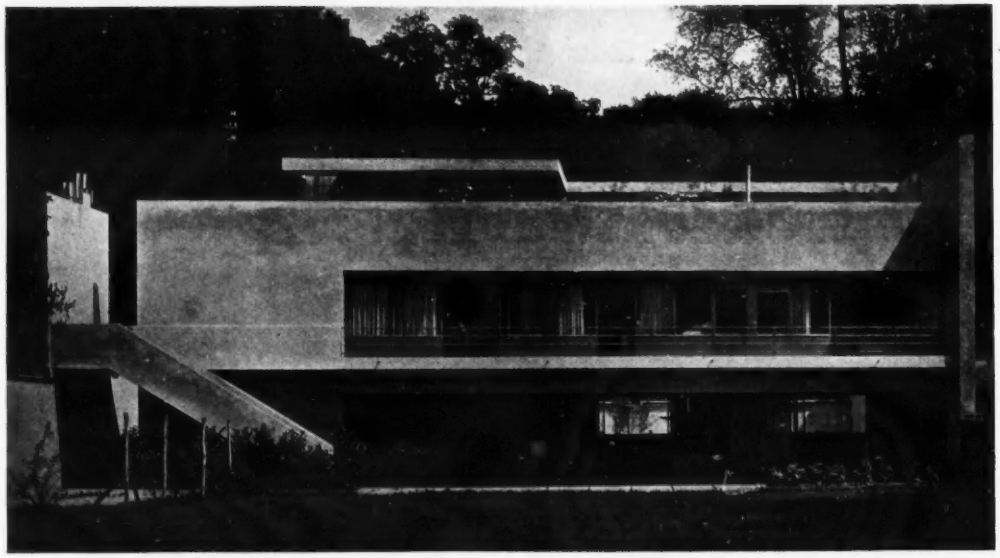

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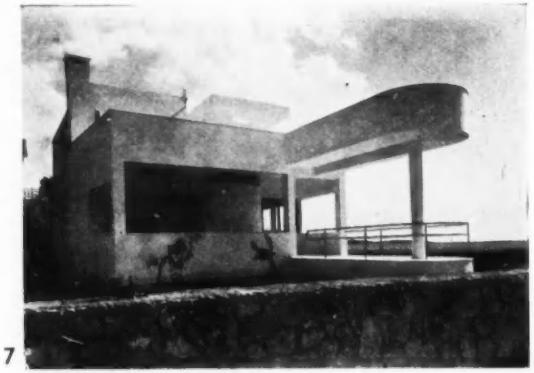

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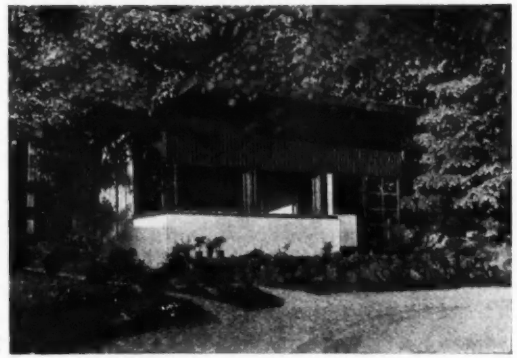


8

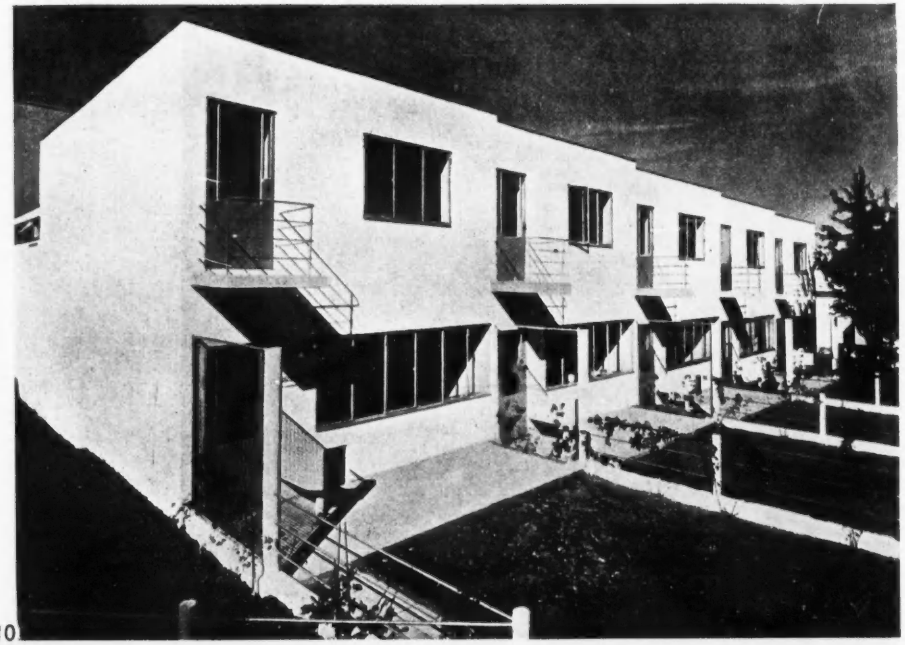
5 : BELGIUM : *Brick house, at Louvain, by J. Franssen.*

6 : FRANCE : *Villa, Ville d'Avray, by André Lurçat.*

7 : GREECE : *Seaside villa, Athens, by Stamo Papadaki.*

8 : ITALY : *A timber-framed mountain cottage, by Griffini, Faludi and Bottoni.*

9

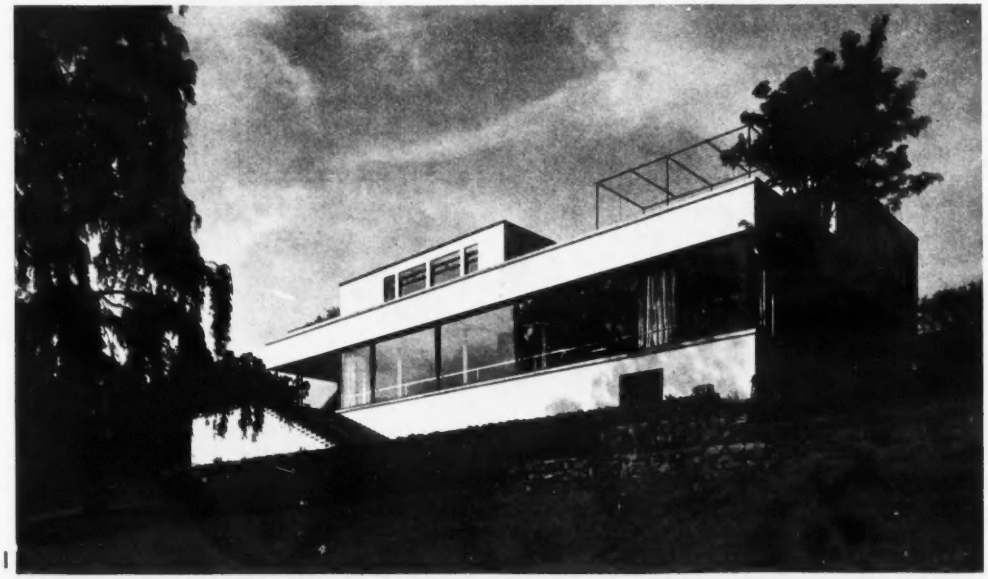


10

FROM

"THE MODERN HOUSE"

BY F. R. S. YORKE

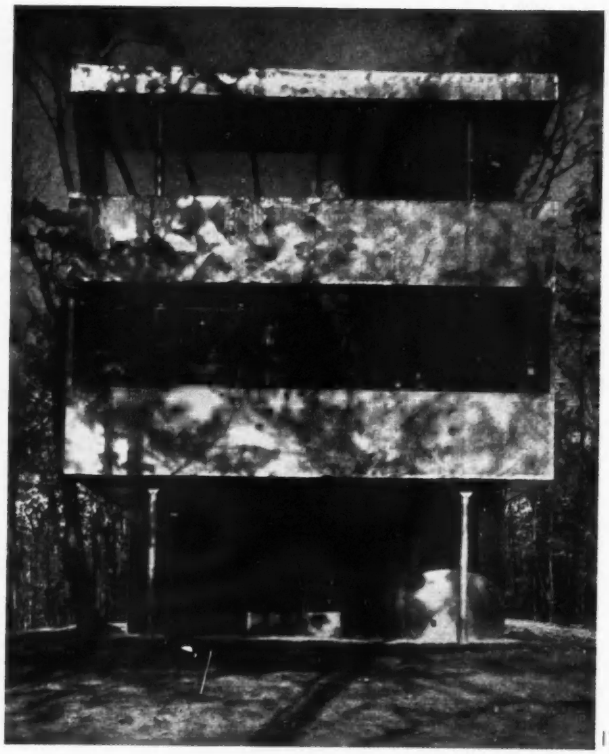


11

9 : ENGLAND : *House in Kent, by Colin Lucas.*

10 : HOLLAND : *Workers' Houses in Amsterdam, by J. J. P. Oud.*

11 : CZECHO-SLOVAKIA : *House at Brünn, by Mies van der Rohe.*



12

12 : AMERICA : "*Aluminaire*" *house, with a light steel and aluminium frame, by Kocher and Frey.*

13 : NORWAY : *House for a doctor at Oslo, by Gudolf Blaksted and Herman Munthe-Kaas.*

13

The photographs on this and the foregoing pages are selected from the Houses 1924-1934 section of the book, one being chosen from each of the thirteen countries represented. A total of 42 houses are illustrated in this section with photographs, plans and drawings. By his method of collecting the necessary technical information about these houses the author has been able to present it in an interesting comparative way. He sent to the architect of each house he proposed to illustrate a form of questionnaire, printed under the following headings, with blank spaces left for the architect to return the required details :—

1 : Type of construction and general structural materials.

2 : Walls ; filling walls, partitions.

3 : Insulation ; against sound, against weather, against heat, etc. ; roof construction and insulation.

4 : Heating and ventilating systems.

5 : Water heating system in kitchen and bathroom ; type of kitchen range.

6 : Windows.

7 : Doors ; door handles, door frames (wood or metal).

8 : Floor and pavings.

9 : Furniture built-in ; type and material.

10 : Internal and external finish to walls ; finish to walls of bathroom, kitchen, etc.

11 : Special arrangements.

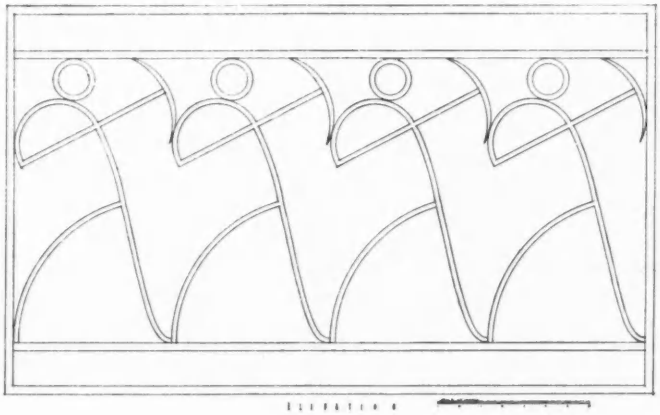
The information in the book is tabulated under headings on this basis.

These houses form a kind of anthology of existing solutions to the contemporary problem. The book begins, before these actual examples are reached, with an introduction entitled *Twentieth-century Architecture* in which the sociological, economic and industrial influences are analysed and the current tendency in domestic architecture indicated, followed by three chapters entitled respectively, *Plan, Wall and Window* and *Roof* in which the development of each of these is examined and illustrated. There is a chapter at the end on the logical outcome of mechanized production—the pre-fabricated house.

FROM "THE MODERN HOUSE," BY F. R. S. YORKE

WORKING DETAILS : 81

GRILLES AND DIVING BOARD • SHERWOOD SWIMMING BATH • A. J. SAISE



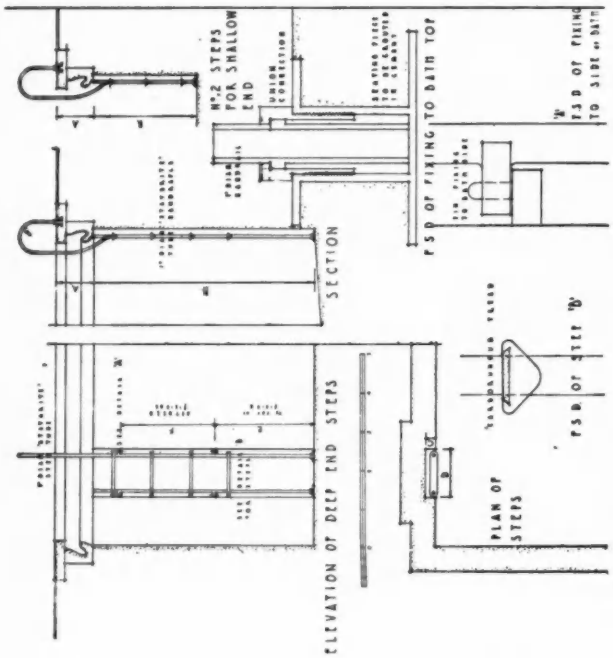
A general view of the interior of the swimming bath, looking towards the deep end, showing the diving stage and chute, detail drawings of which are reproduced overleaf. On the right of the illustration is seating accommodation for spectators; the seating is constructed of pre-cast units on *in situ* rakers. The main arches ribs of the roof were constructed *in situ*, and the purlins and filters in pre-cast units.

Left: A drawing of one of the plenum inlet grilles which appear below the windows on the wall on the left of the photograph reproduced above. They are in wrought iron, finished bright red.

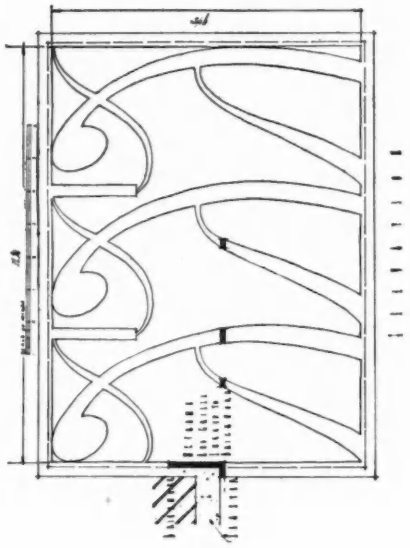
FILING REFERENCE:

WORKING DETAILS : 82

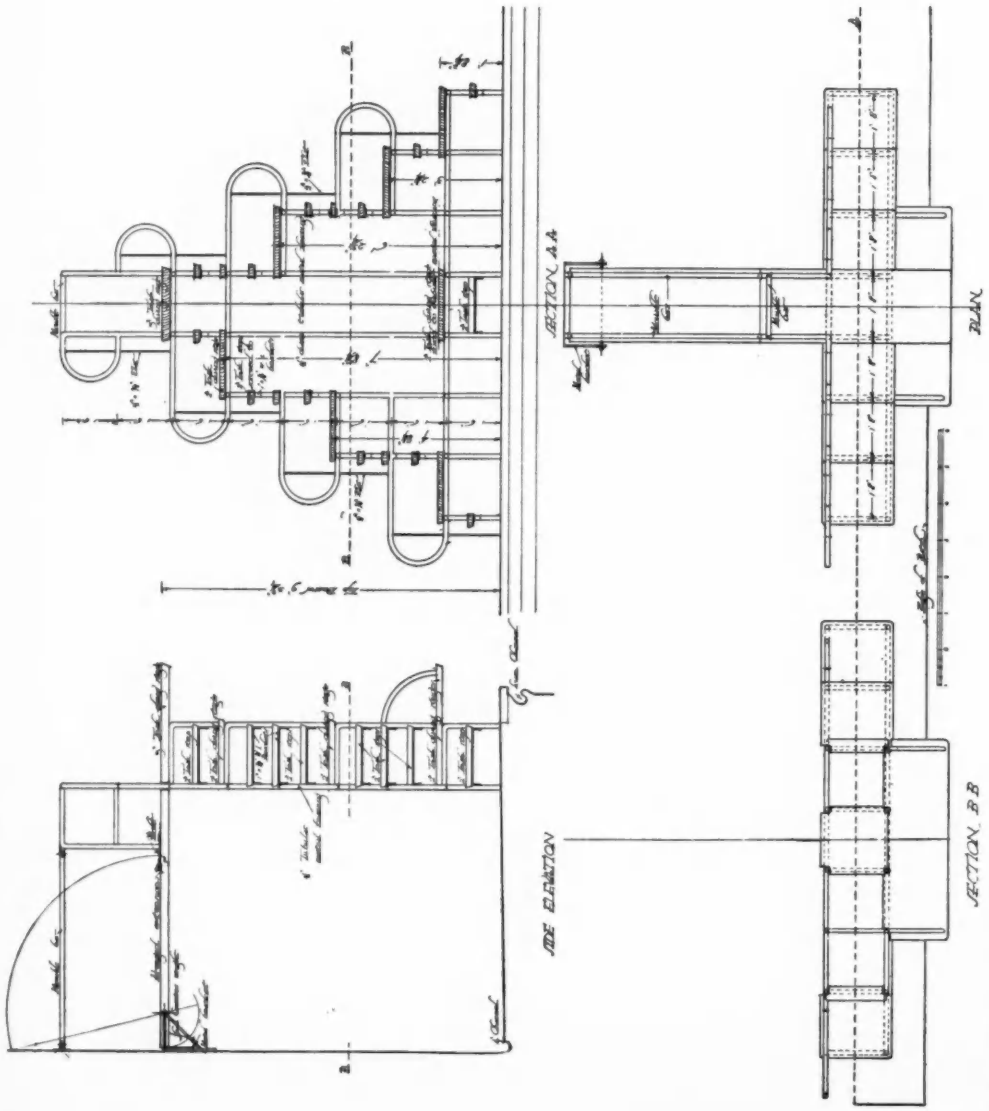
GRILLES AND DIVING BOARDS • SHERWOOD SWIMMING BATH • A. J. SAISE



Section showing scum troughs and ladders from pool.



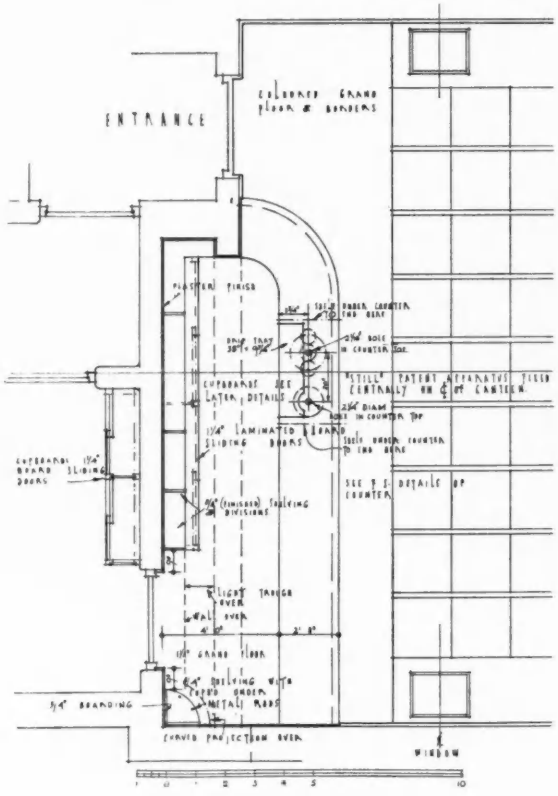
On the right is a drawing of the plenum inlet grille in the canteen. The motif is miner with lamp.



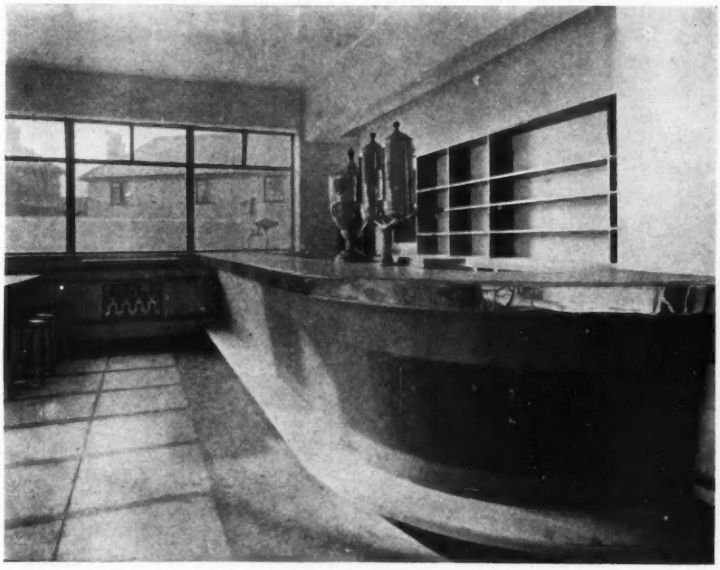
The diving stage is constructed in galvanized tubular steel, painted white. Teak is used for the platforms.

WORKING DETAILS : 83

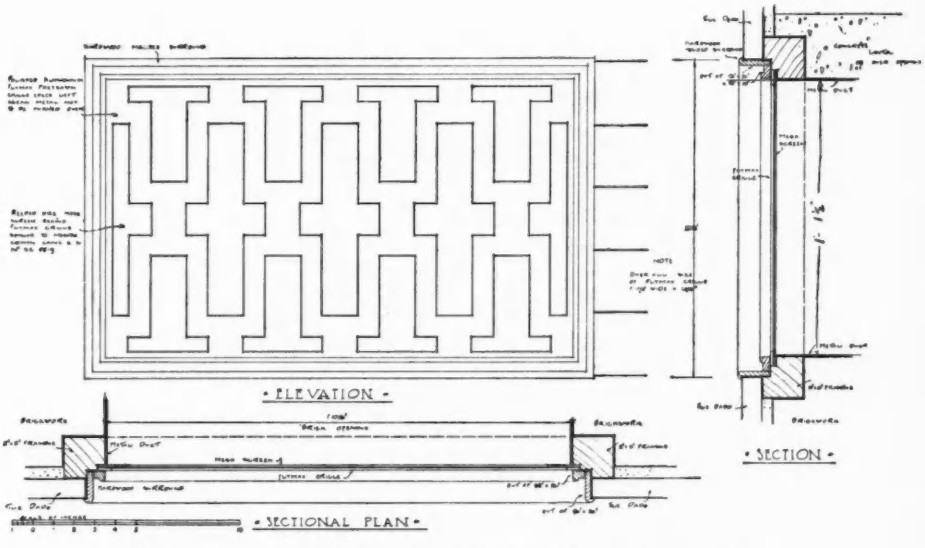
CANTEEN FITTINGS • BETTESHANGER PITHEAD BATHS • C. G. KEMP



Plan of the Canteen.



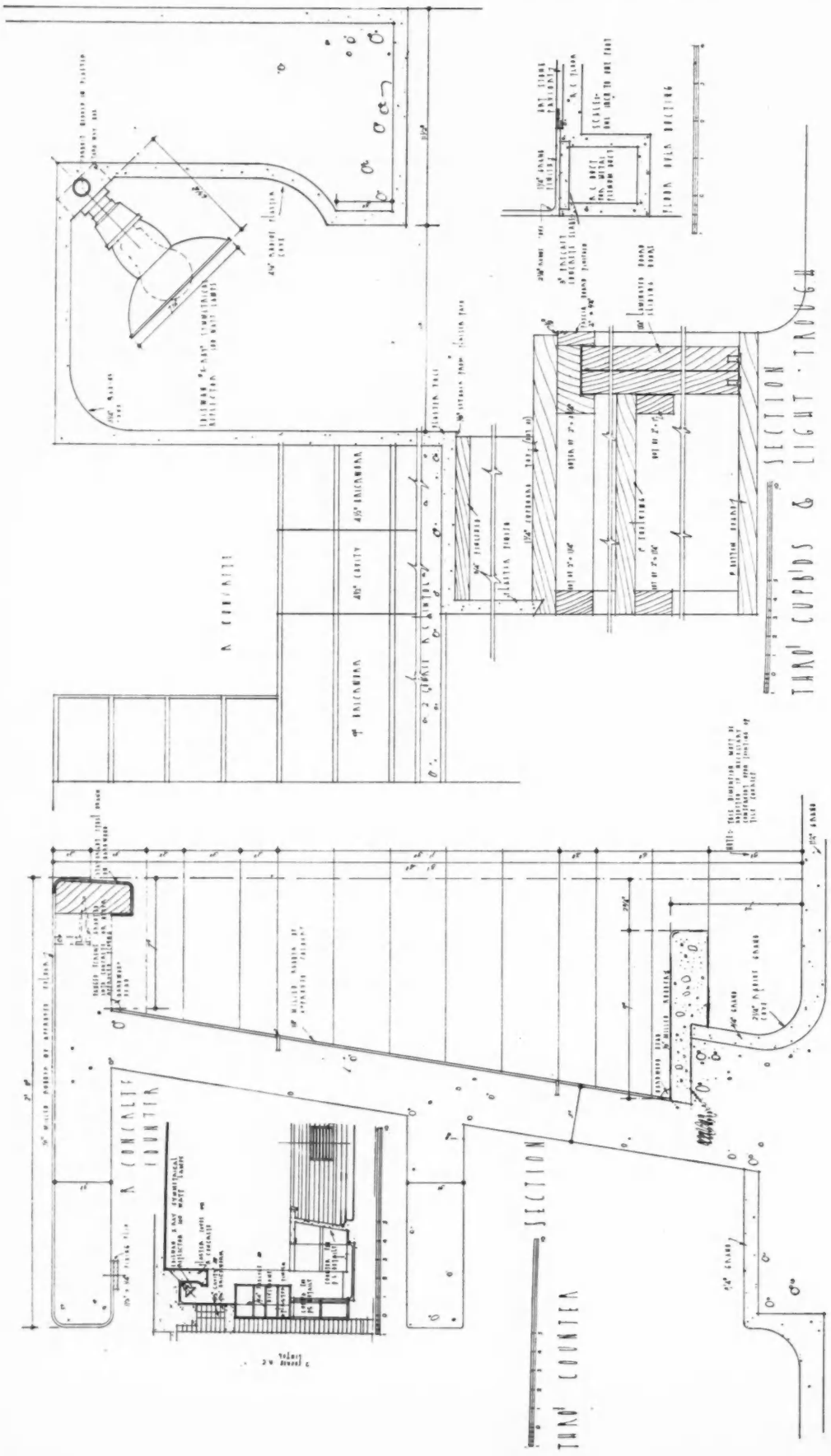
The counter front and top in the canteen at these baths, shown in the above photograph, are covered with $\frac{1}{8}$ in. milled rubber, fixed direct to screeding. The nosing is of hardwood, covered stainless steel; and the grilles to plenum inlets are of aluminium faced with plywood, fret sawn. The floor is finished with 2 ft. × 2 ft. pale buff paviors, relieved by strips of red adamantine tile, 2 ins. wide. The stool legs are of tubular steel finished in silver cellulose, with hardwood seat; and the fixed tables are to match with lino tops. Glass, with an acid incised pattern, is used for the lower portion of the windows. The walls and ceilings are finished bright yellow. The tiled dado is yellow, with orange bands. The window panes and door frames are finished light blue.



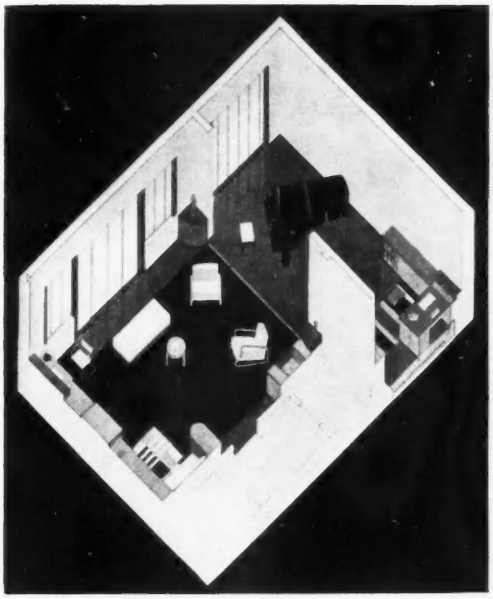
Elevation, section and plan of one of the grilles to plenum inlets.

WORKING DETAILS : 84

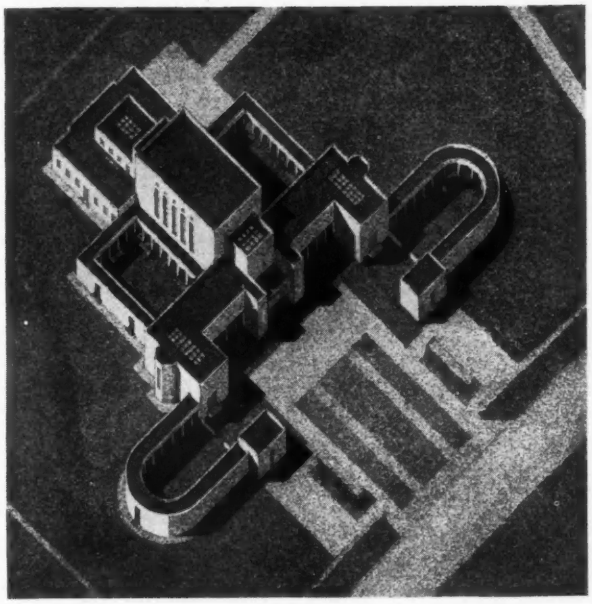
CANTEEN FITTINGS • BETTESHANGER PITHEAD BATHS • C. G. KEMP



Detail drawings and section of the counter illustrated overleaf.



Fourth year design for a music room for a composer, by P. E. D. Hirst.



Fifth year thesis design for a crematorium at Anfield Cemetery, by C. Tulyananda.

LIVERPOOL SCHOOL OF ARCHITECTURE: ANNUAL EXHIBITION

MR. CHARLES MARRIOTT opened the annual exhibition of the Liverpool School of Architecture last week. He said that the paradox of urging the superior advantages of school training in a university over office training in architecture, in a city which could claim such fine fruits of the pupilage system as St. George's Hall and the two cathedrals now in course of erection, was more apparent than real.

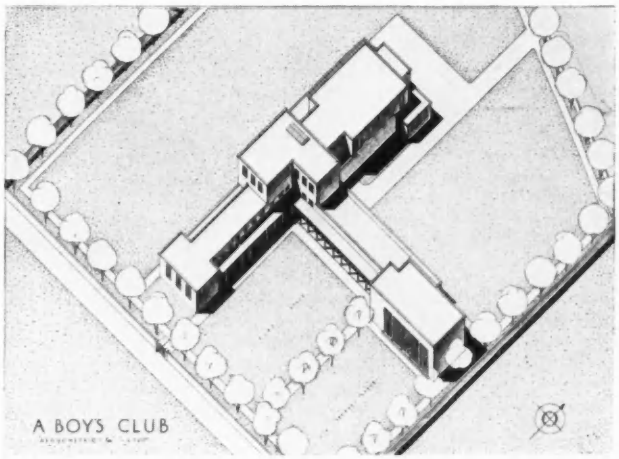
It was a question, said Mr. Marriott, of the time of day. During the last twenty-five years not only had the province and responsibilities of the architect enormously changed and extended in character, but there had been a change from designing mainly in terms of handicraft execution to designing mainly in terms of mechanical execution. He saw nothing whatever to regret in those changes so long as they were met in a spirit of acceptance and understanding.

He took as his text for the right attitude of the contemporary architect towards the contemporary situation that saying of Mr. Wells Coates, "As architects of the ultimate material and human scenes of the new order, we are not so much concerned with the formal problem of 'style' as with the *architectural* solution of the social and economic problems of today," and said that the nature of the preparation for this task would become clearer if some of the words flung about in architectural and artistic controversy were examined. He referred to such words as "tradition," "discipline," "order," and "beauty." What caused controversy were the different meanings attached to those words by different people. In the case of tradition everything depended upon whether it were taken to mean the repetition of forms or the continuance of principles. The majority of people, particularly when they were learned on the historical side, looked upon architecture as an art of representation, an illustrative, or even a narrative, art, and judged buildings by the felicity of their references to the past. Where this reading of tradition broke down was in the face of a new situation—changed method of building construction, new materials or new purpose in the building itself—to which the old forms would not conveniently apply.

But we were not, therefore, without guidance in the past. The moment "tradition" was understood as a continuance of principles, we had something valid for all architectural circumstances—including the petrol-filling station, the factory and the electric pylon. It was for the "distillation" of such principles from the examples of the past that the school had such an advantage over the office.

Examining other words, Mr. Marriott said that "Discipline" must not simply mean Blackshirts, but a tempering of the body and spirit of man by contact with realities so that he could do the right thing in any circumstances, familiar or unfamiliar.

"Order" should not mean "All quiet in Lisbon: machine-guns at every street corner," but the outward expression of internal harmony. Many people seemed to identify architectural order with "the Orders," but, as a matter of fact, that application of the Orders to contemporary



Third year design for a boys' club in a housing development scheme, by P. F. Shepheard.

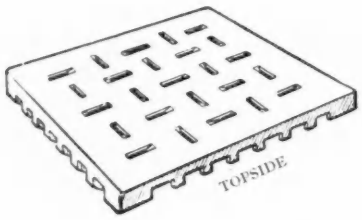
constructions often resulted in architectural disorder.

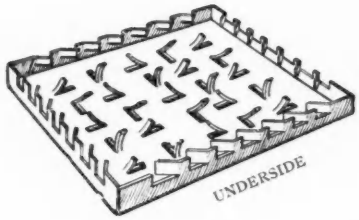
On "Beauty" Mr. Marriott said that when a Bishop or R.A. said a picture was "ugly" what he meant, in effect, was that it was lacking in sex-appeal. Genuine art did not exclude sex-appeal. It was present in many of the works of Titian. But it was not, in itself, an adequate standard of artistic beauty. That was rather a result of a harmony between all the relationships involved in the work expressed in unity—a "graph" of the factors of subject matter, purpose in application, formal appeal, principle of construction, character of material and personality of the artist.

The school at a university, compared with the office, Mr. Marriott concluded, afforded a better opportunity for the more searching study of the past, and the broader contact with problems—many of them outside what was formerly regarded as the range of architecture—that were needed in training an architect today. The advantage of securing training in an atmosphere of liberal studies side by side with the students of other professions could not be over-estimated.

Professor L. B. Budden, director of the school, proposing a vote of thanks that was seconded by Professor Patrick Abercrombie, head of the department of Civic Design, said that on the subject of contemporary architecture Mr. Marriott wrote and spoke with an illuminating authority and a persuasiveness that were unique among laymen. Because he was a layman in architecture he occupied a position that was in some respects one of advantage when it was compared with that of the practising architect who essayed to be a critic of his art. He was not subject to the restrictions of professional conduct and inhibited by conflicting loyalties. This was an immense gain. For what architecture needed for its own well-being and healthy development was the stimulus of free, informed criticism. No literary interpreter of architecture had performed a greater service to the art in our time than Mr. Marriott, and none had analysed contemporary tendencies with more insight and judgment.

Mr. Marriott's address, Professor Budden went on, expressed precisely the attitude of the Liverpool School towards tradition in architecture. However unfamiliar some of the work in the exhibition might seem to some, that was only because they had been hitherto accustomed to seeing the subjects of contemporary architecture embodied in the forms of a previous age. Some of those who most disliked the consequences of rational approach to architectural studies blamed the schools for neglecting the study of the past. But the charge, as far as the Liverpool School of Architecture was concerned, had no foundation in fact. It was impossible to comprehend the nature of the basic principles of architecture without acquiring a knowledge of the history of the art, and for that very reason historical studies were now given greater importance in the early stages of the curriculum than ever before. Only so could the student see the development of his art in its proper perspective and learn to distinguish between permanent principles and transient forms.





TRADE NOTES

[*BY F. R. S. YORKE, A.R.I.B.A.*]

Sand-lime Bricks

I HAVE been asked by a reader to give information concerning sand-lime bricks, to say how they are made, and whether they are reliable.

•

The sand-lime brick is a comparatively modern product, first introduced commercially less than fifty years ago; but its production and use has increased to an extent that brings it to the forefront among building materials of the present day.

•

Sand-lime bricks are made essentially from siliceous sand and slaked lime, with sufficient water to allow the mix to be moulded under pressure, and hardened by exposure to steam. Hydrated calcium silicate is formed, by the action of the steam, from the sand and lime, and this acts as a strong and durable cementing agent, binding the sand grains together.

•

Several other types of brick, incorporating waste products such as slag, destructor clinker, furnace ashes, burnt ballast, tile waste, etc., in place of the ordinary sand, are manufactured by a similar process; their quality will depend not only on the same factors as do sand-lime bricks, but, in addition, on the quality and uniformity of the aggregate substituted for the sand.

•

Bricks are also made from Portland or other cements, with sand or one of the above mentioned aggregates, by moulding under pressure. They may be either steam cured, in the same way as sand-lime bricks, or simply air cured.

•

In appearance, sand-lime bricks are white, cream or grey in colour, perfectly regular in shape and size, and of a texture varying from that of sandstone to that of an engineering brick.

•

Sand-lime bricks can be used as a general substitute for ordinary burnt clay bricks. They are used as a fair—and cheap—alternative to glazed bricks for the interior finish in schoolrooms, corridors, and for light reflection on flank walls and light wells. If well made, they have good weather-resisting properties.

•

A good sand-lime brick is a calcium-silicate brick; a bad one is merely calcium carbonate mixed with sand. It is not easy to tell good sand-lime bricks from bad by mere inspection or readily-applied tests. Conformity to a standard specification is essential.*

•

Sand-lime bricks are perhaps more popular in the United States of America and Germany than in England, where their reputation has been prejudiced in the past by occasional instances of poor manufacture.

•

Sand-lime bricks are being used on the new headquarters of the R.I.B.A. and were used for facing the rear elevation of Broadcasting House, and as facing bricks for the Royal Society Mond Laboratory at Cambridge.

Industrial Floors

Stelcon products, steel-clad flags and anchor steel plates, provide especially for industrial floors where conditions are really severe. The steel-clad flags are composed of concrete sheathed in steel, and are supplied in one standard size: approximately 12 in. square, and $1\frac{3}{16}$ in. to 2 in. thick. Half flags, 12 in. by 6 in., are available.

•

The flags are butted and the close joints grouted with neat cement. The sub-floor should be concrete, at least 4 in. thick. If aluminous cement is used for the bedding, the floor should be kept wet for 24 hours, after which period it can take heavy traffic. When Portland cement is used, the floor must be kept damp and free from traffic for three to ten days: the period depending upon time of year and heating conditions in the building.

•

Stelcon anchor plates are made from $\frac{1}{8}$ in. steel, with anchors or grips, for laying

* The British Standards Institution issues a Standard Specification (No. 187—1923) for Sand-Lime (Calcium Silicate) Bricks.

The Department of Scientific and Industrial Research issues a Building Research Report (No. 21) on Sand-Lime Bricks. Price 1s. 3d.

The Benjamin Lightmeter; front view

on a 1½ in. bedding of cement and fine gravel over a concrete foundation, to provide a level, durable, and dustless floor in loading bays, doorways, and trolley ways, etc.

•

The plates are 12 in. by 12 in. by ⅞ in., and each has 57 anchors, designed to give a firm grip on the concrete bed (diagram at head of notes).

Light Intensity Measurement

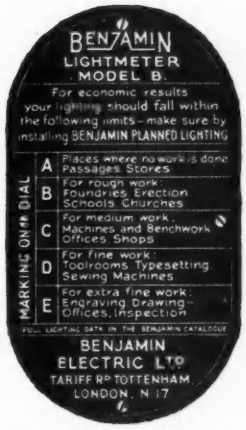
In a pamphlet entitled *The Missing Link Found*, issued by Benjamin Electric, Ltd., there is a description of the Lightmeter Model B, an instrument with a dial, sensitive to light, that records automatically the light intensity at any spot.

•

The significance of the five divisions: A, B, C, D and E of the scale below the dial, is tabulated on the rear face of the instrument, as shown in the accompanying diagram.

•

Behind the dial is a photronic cell, and below it a meter with 50-line scale, each division representing the unit of light or 1 ft. candle. These parts are mounted together in a neat bakelite moulding measuring approximately 4½ in. by 2½ in. by 1¼ in., and weighing only 10 ounces. The price is 96s.



The Benjamin Lightmeter; rear view.

IN PARLIAMENT

[BY OUR SPECIAL REPRESENTATIVE]

Housing

IN the House of Commons last week Mr. Shakespeare, in a statement on housing policy, said that the Government were bringing in a Bill which would deal with the troublesome aspects of overcrowding in London and elsewhere. The 1933 Act was one of the most effective on the Statute Book. Even the promise of it set private enterprise building at a terrific rate. In the last year, ending March, 266,000 houses were built, of which 208,000 were built without, and 58,000 with State assistance. That gave employment to 425,000 men. It was significant to note that since this vigorous housing policy started unemployment in the building industry for the last two years had fallen by 40 per cent., and among bricklayers had fallen by 78 per cent. That was a tribute of the activity of the Department. Of the 208,000 houses built without State assistance, 19 per cent. were to let and 77,000 were C class houses. With the 58,000 built in the main by local authorities there was a total of 135,000 houses built last year definitely of the C class. It was generally accepted that these C class houses were of a nature which catered for the need of the working classes. The effect of cheap money and the lower cost of building meant that houses were being provided even under the building societies scheme at rents which compared favourably with municipal subsidized rents. On notice boards the instalments payable were shown to be equal to rent. In effect, houses under the owner-occupier scheme were houses to let. The only difference was the payment of 2s. or 3s. more in respect of capital redemption. The evidence was that artisans and skilled labourers were going into these houses.

Last year the output of houses exceeded by 50,000 the total anticipated in 1924. Private enterprise could never cater for the poorly paid labourer. It had never been claimed by the Government that it could. What the Minster was doing in his crusade was, in the next five years, to place at the disposal of local authorities for finding accommodation for poorly paid labour 300,000 houses at a cheaper rent than anything which had hitherto been provided. In May last 4,300 houses were included in clearance areas, so declared by local authorities. The monthly average had gone up to that figure from 600 in the pre-crusade period. They were working at the rate of declarations of clearance areas of 40,000 houses. The orders were being confirmed at the rate of 36,000 houses a year, and the rehousing was going on at the rate of 30,000 a year. He hoped that by the end of the year they would be able to improve even on the present figures. In the last 60 years only 20,000 slum dwellers had been rehoused, whereas, in the next five years they hoped to rehouse 1,280,000. That meant that the rate of progress would be 76 times as fast. It was the greatest contribution to health which any Government had ever made.

St. John's Lodge

Sir Cyril Cobb asked the First Commissioner of Works whether a decision had yet been arrived at about the structure of St. John's Lodge, Regent's Park; and whether he would consider exhibiting at St. John's Lodge some of the best of the Turner drawings now stored and unseen at the Tate Gallery, together with other national property stored in the cellars of the Tate and National Galleries.

Lieutenant-Colonel Moore asked the First Commissioner whether, in order to make use of the empty mansion of house St. John's Lodge, Regent's Park, he would consider utilizing it as a national home for a representative collection of Turner's works, and thereby render his pictures more accessible to the general public than they were at present.

Mr. J. Blundell, who replied, said that no decision had yet been arrived at about the future of St. John's Lodge. He was afraid that the suggestion in regard to the Turner drawings was not practicable, as the building could not easily be made a suitable place for the exhibition of pictures without the expenditure of a considerable sum on structural alterations and redecoration. The Turner drawings were now under the control of the Trustees of the British Museum and were housed at the British Museum, where they could be inspected on application to the Keeper of the Prints and Drawings Department.

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

The following is a list of the general and some of the sub-contractors for the Pithead Baths illustrated in this issue.

Thorne Pithead Baths (page 50). General contractors, Thomson and Dixon (Doncaster), Ltd. Sub-contractors: Johnson's Reinforced Concrete Engineering Co., Ltd., steel reinforcement; G. N. Haden and Sons, heating; E. Munday, Ltd., windows; W. H. Heywood & Co., Ltd., roof glazing; Lion Foundry Co., Ltd., shirt and towel hooks; Gummers, Ltd., swilling down valves; Constructors, Ltd., cubicle mirrors, scraper mats, boot greasing equipment; Bell and Smart, Ltd., boot cleaning machines; Charles Winn & Co., Ltd., mixing valves and swilling hoses; Adamsez, Ltd., sanitary fittings; J. Farquharson and Sons, attendant's equipment; United Water Softeners, Ltd., water softener; Hope's Heating and Lighting, electrical installation; J. Gibbons, ironmongery and hardware; Best and Lloyd, Ltd., electrical fittings; Pulsometer Engineering Co., Ltd., sewage pumps; E. Munday, Ltd., directional signs and commemorative plaque; Medical Supply Association, Ltd., first aid room equipment; Milners' Safe Co., Ltd., waste paper baskets; Casella & Co., Ltd., thermometers; John Unite, Ltd., cubicle curtains.

Prince of Wales Pithead Baths (page 50). General contractors, Swift Bros. and Haslam, Ltd. Sub-contractors: Reinforcements, Ltd., reinforcement; Lambhill Ironworks, Ltd., steelwork; Hoskins and Sewell, Ltd., windows; W. H. Heywood & Co., Ltd., roof glazing and lanterns; Wolverhampton Corrugated Iron Co., Ltd., roofing; Hope's Heating and Lighting, Ltd., heating; S. H. Heywood & Co., Ltd., electric lighting and fans; Estler Bros., lockers; Gummers, Ltd., boot cleaning; Bell and Smart, Ltd., boot greasing; Adamsez, Ltd., sanitary fittings; Stourbridge Glazed Brick and Fireclay Co., Ltd., glazed brickwork and tiling; United Water Softeners, Ltd., water softening; Eric Munday, Ltd., directional

signs and lettering ; John Hall, Ltd., painting.

Bestwood Pithead Baths (page 51). General contractors, Greenwoods (Mansfield), Ltd. Sub-contractors : Matthews and Mumby, Ltd., reinforcement ; Hoskins and Sewell, Ltd., windows ; W. H. Heywood & Co., Ltd., roof glazing and lanterns ; General Asphalte Co., Ltd., asphalte flats ; Young, Austen and Young, heating ; Marsh Brothers, Ltd., electric lighting; Sankey-Sheldon, Ltd., lockers ; Constructors, Ltd., boot cleaning ; Bell and Smart, Ltd., boot greasing ; Adamsez, Ltd., sanitary fittings ; Stourbridge Glazed Brick and Fireclay Co., Ltd., glazed brickwork and tiling ; Eric Munday, Ltd., directional signs and lettering ; Long, Humphreys Ltd., sewage treatment fitting ; Paripan, Ltd., painting.

Cwm Cynon Pithead Baths (page 51). General contractors, Evan James. Sub-contractors : Johnson's Reinforced Concrete Engineering Co., Ltd., reinforcement ; Long, Humphreys & Co., Ltd., sewage treatment plant fittings ; Hoskins and Sewell, Ltd., steel windows ; J. A. King & Co., Ltd., ferro glass roof lights ; Henry Hope and Sons, Ltd., lantern lights ; James Keith and Blackman Co., Ltd., extract fans ; Hope's Heating and Lighting, Ltd., heating ; Alfred Brown & Co., ironmongery ; Adamsez & Co., sanitary goods ; Constructors, Ltd., boot greasing apparatus ; James Farquharson and Sons, cleaning equipment ; The Medical Supply Association, Ltd., first aid room equipment ; The United Water Softeners, Ltd., water softening plant ; The Lion Foundry Co., Ltd., rainwater heads and various castings ; Bell and Smart, Ltd., boot cleaning machines ; W. A. Baker & Co., Ltd., W. I. railings and balustrades ; Hope's Heating and Lighting, Ltd., electrical installation ; Sankey-Sheldon (Harris and Sheldon, Ltd.), clothes lockers.

Manor Powis Pithead Baths (page 52). General contractors, Augus McDougall & Co., Ltd. Sub-contractors : Macdonald and Partners, steel reinforcement ; Puttyless Patent Glazing Co., patent glazing ; Critall Manufacturing Co., Ltd., steel windows ; James Muirhead and Sons, ventilators ; G. N. Haden and Sons, heating ; Southhook Potteries, Ltd., sanitary goods ; Stourbridge Glazed Brick Co., glazed bricks and tiles ; James Scott & Co., electrical work ; Constructors, Ltd., lockers ; James Gibbons, door furniture ; Venesta Ltd., doors, canteen panelling and fittings ; Gummers Ltd., boot cleaning and greasing apparatus, and mixing, bottle filling and swilling valves ; Jaconello, Ltd., first aid floor tiles ; John Unite, Ltd., cubicle curtains; Medical Supply Association, Ltd., first aid equipment ; James Farquharson and Sons, installation equipment ; Lion Foundry Co., Ltd., clothes, towel and curtain holders and rain water goods ; Eric Munday, Ltd., directional signs and lettering, and commemorative tablet ; Byron Imison Ltd., wrot iron balustrating to stairs ; Toffolo Jackson, terrazzo work ; Walpamur, Ltd., paints.

Betteshanger Pithead Baths (page 53). General contractors, M. J. Gleeson, Ltd. Sub-contractors : Johnson's Reinforced Concrete Engineering Co., Ltd., reinforcement ; Stourbridge Glazed Brick and Fireclay Co., Ltd., glazed bricks and tiles; J. A. King & Co., concrete pavement lights and windows ; Crittall Manufacturing Co., Ltd., windows ; G. N. Haden and Sons, heating; Adamsez, Ltd., sanitary fittings ; Hope's Heating and Lighting, Ltd., electrical installation ; Best and Lloyd, Ltd., electric light fittings ; W. H. Heywood & Co., Ltd., roof glazing ; Bell and Smart, Ltd., boot greasing and boot cleaning plant ; Septic Tank Co., Ltd., sewage treatment plant ; Estler Brothers, clothes lockers ; Gummers, Ltd., swilling down valves ; Charles Winn & Co., Ltd., mixing valves and bottle filling valves ; Henry Hope and Sons, hardware ; Constructors, scraper mats and stainless steel mirrors for bath cubicles ; Lion Foundry Co., Ltd., clothing towel and curtain hooks for bath cubicles ; E. Munday, Ltd., directional signs, commemorative plaque and staircase balustrading ; Dunlop Rubber Co., rubber counter front and top ; W. M. Still and Sons, Ltd., tea and coffee making set ; Aquerator Co., Ltd., soda fountain ; John Unite, Ltd., cubicle curtains ; Pyrene Co., Ltd., fire extinguishers ; Farquharson and Sons, attendant's equipment and canteen equipment, including table and stools, crockery and cutlery, etc. ; Medical Supply Association, Ltd., first aid room equipment ; Venesta Ltd., internal doors ; Casella and Co., Ltd., thermometers ; Milners' Safe Co., waste paper baskets.

Sherwood Pithead Baths and Swimming Bath (pages 61–62). General contractors, Greenwoods (Mansfield), Ltd. Sub-contractors : Trussed Concrete Steel Co., Ltd., reinforcement ; Lambhill Ironworks, Ltd., steelwork ; Crittall Manufacturing Co., Ltd., windows ; W. H. Heywood & Co., Ltd., roof glazing and lanterns; Universal Asbestos Manufacturing Co., Ltd., roofing ; Limmer and Trinidad Lake Asphalte Co., Ltd., asphalte flats ; Hope's Heating and Lighting, Ltd., heating and electric lighting and fans ; Sankey-Sheldon, Ltd., lockers ; Bell and Smart, Ltd., boot cleaning and greasing ; Adamsez, Ltd., sanitary fittings ; Stourbridge Glazed Brick Co., Ltd., glazed brickwork and tiling ; Eric Munday, Ltd., directional signs and lettering ; Thos. Parsons and Sons, Ltd., painting ; Venesta Ltd., dressing boxes ; Paterson Engineering Co., Ltd., filtration plant ; Spencer, Heath and George, diving and water polo equipment ; Falk, Stadelmann & Co., Ltd., lighting fittings ; Long, Humphreys, Ltd., sewage treatment fittings ; Johnson's Reinforced Concrete Engineering Co., Ltd., reinforced concrete sewage tanks ; Constructors, Ltd., cycle storage equipment ; Allen and Greaves, plenum grilles.

Elemore and Silksworth Pithead Baths (page 54). General contractors, A. H. Earnshaw and Son. Sub-contractors : Reinforcements, Ltd., and Johnson's Reinforced Concrete Engineering Co., Ltd., reinforcement ; Puttyless Glazing Co. and W. H. Heywood & Co., Ltd. roof glazing ; Hoskins and Sewell and John Thompson, windows ; Hope's Heating and Lighting, Ltd., and Steel and Co., heating ; Leeds Fireclay Co., Ltd., and Adamsez, Ltd., sanitary goods ; Leeds Fireclay Co., Ltd., and Stourbridge Glazed Brick and Fireclay Co., glazed brick and tiling ; F. Reid Ferens & Co., electric lighting ; Sankey-Sheldon and Constructors, lockers ; Gummers, Ltd., and Bell and Smart, Ltd., boot cleaning and greasing ; Becco Engineering and Chemical Co., Ltd., and United Water Softeners, Ltd., water softener ; Charles Winn & Co., mixing valves ; Ragusa Asphalte Paving Co., Ltd., floor asphalte and roof asphalte ; John Unite, Ltd., cubicle curtains ; Medical Supply Association, Ltd., first aid equipment ; Farquharsons and Sons, cleaning equipment ; Lion Foundry Co., Ltd., shirt and towel hooks and rainwater heads ; Galsworthy, Ltd., commemoration tablet ; Jennings Winch and Foundry Co., Ltd., railings ; Paripan, Ltd., and J. H. Cameron and Son, paint ; General Electric Co., Ltd., fans ; Venesta, Ltd., canteen panelling ; TenTest Fibre Board Co., canteen ceiling ; Stourbridge Glazed Brick and Fireclay Co., Ltd., canteen flooring ; A. W. Richardson and Son, garden planting.

Kames Pithead Baths (page 54). General contractors, Angus M. MacDougall & Co. Sub-contractors : F. A. MacDonald and Partners, Ltd., steel reinforcement ; Lambhill Ironworks, Ltd., structural steelwork ; W. H. Heywood & Co., Ltd., patent glazing ; James Gibbons, Ltd., windows ; Wolverhampton Corrugation Iron Co., Ltd., windows, roofing and ventilators ; James Combe and Sons, Ltd., heating ; Southhook Potteries, Ltd., sanitary goods ; Scottish Enamelled Brick Co., glazed bricks and tiles ; Bryson and Graham, Ltd., electrical installation ; Sankey-Sheldon (Harris and Sheldon, Ltd.), lockers ; James Gibbons Ltd., door furniture ; Venesta Ltd., doors ; Gummers Ltd., boot cleaning and greasing apparatus, and mixing, bottle filling and swilling valves ; Becco Engineering Co., Ltd., water softening plant ; Jaconello, Ltd., first aid room, floor tiles ; John Unite, Ltd., cubicle curtains ; British Medical Supplies Association, first aid equipment ; Jas. Farquharsons, Ltd., installation equipment ; Lion Foundry Co., Ltd., clothes, towel and curtain holders, and rain water goods ; Eric Munday, Ltd., directional signs, lettering and commemorative tablet ; Byron Imison Ltd., wrought iron balustrading to bridge ; Long Humphreys & Co., Ltd., sewages treatment fittings ; Toffolo, Jackson Ltd., terrazzo work ; Hoyle, Robson Barnett & Co., Ltd., paints.

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SOUTH-EASTERN SOCIETY OF ARCHITECTS

The annual general meeting of the South-eastern Society of Architects was held on June 25 at the R.I.B.A. Mr. J. W. Little, F.R.I.B.A., M.T.P.I., presided. The following general officers were elected for the ensuing year :—

President : Mr. R. Goulburn Lovell, A.R.I.B.A. (Eastbourne) ; vice-presidents : Mr. Harold Anderson, F.R.I.B.A. (Canterbury) ; Col. C. R. B. Godman, F.R.I.B.A. (Horsham) ; Mr. Stanley Philpot, F.R.I.B.A. (Tunbridge Wells) ; Major F. W. Rees, L.R.I.B.A. (Croydon) ; and Mr. A. J. Stedman, F.R.I.B.A. (Farnham). Hon. treasurer : Mr. Cecil Burns, F.R.I.B.A. (Tunbridge Wells). Hon. secretary : Mr. Colin H. Murray, F.R.I.B.A. (Eastbourne) ; Hon. auditor : Mr. John L. Denman, F.R.I.B.A. (Brighton).

ULSTER ARCHITECTS' SOCIETY

At the annual meeting of the Royal Society of Ulster Architects, held in Belfast, it was stated that the membership totalled 160, consisting of 19 honorary members, 54 members, 60 associates and 27 students.

Mr. Thomas Houston, F.R.I.B.A., was re-elected president, and Mr. R. S. Wilshere, F.R.I.B.A., P.A.S.I., Belfast Education Architect, vice-president. Mr. H. V. M'Caughan was appointed hon. secretary in succession to Mr. T. R. Eagar, F.R.I.B.A. (resigned), and Mr. J. M'Geagh, F.R.I.B.A., was re-appointed hon. treasurer. The new Council was elected as follows : Messrs. Thos. Houston, F.R.I.B.A., R. S. Wilshere, F.R.I.B.A., P.A.S.I., J. M'Geagh, F.R.I.B.A., H. V. M'Caughan ; members, Messrs. R. H. Gibson, F.R.I.B.A., T. R. Eagar, F.R.I.B.A., J. Seeds, F.R.I.B.A., J. H. Stevenson, B.E., J. S. Munce, B.E., M.I.C.E. ; associates, Messrs. C. T. M'Lynn and V. S. Smyth ; hon. auditors, Messrs. D. W. Boyd, M.R.I.A.I., and J. Scott, B.E. ; representative on the Council of the R.I.B.A. ; Mr. T. Houston, F.R.I.B.A.

AN ARCHITECT'S WILL

Mr. Robert Cartwright Whitelegg, of Mead Cottage, Livermead Lane, Torquay, retired architect, who died on January 22, left estate of the gross value of £37,128 (net personalty £16,126).

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The directors of Westminster Bank, Ltd. have declared an interim dividend of 9 per cent. for the half-year ended June 30 on the £4 shares, and the maximum dividend of 6¼ per cent. on the £1 shares for the same period. The dividends (less income tax) will be payable on August 1.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

ACTON, ETC. *Schools.* The Middlesex Education Committee is to improve the following schools, at a total estimated cost of £95,000 : Acton county, Bishopshalt, Ealing county, Hampton grammar, Harrow county, Hornsey county, Isleworth county, Kilburn grammar, Twickenham county and Wembley county.

BARKING. *Houses.* The Corporation is to develop the second portion of the Movers Lane estate, by the erection of dwellings, and the construction of roads, at a total estimated cost of £48,490. A number of four-bedroomed houses will be reserved exclusively for letting to large families.

ENFIELD. *Houses.* The U.D.C. has passed the following plans : Two houses, Graeme Road, for Messrs. Bowyer and Bowyer ; new street, Lincoln Way, for Mr. H. Holmes ; two houses, Lavender Hill, for Mr. W. J. Sledge ; eight houses, Langham Gardens, for Mr. E. W. Palmer ; 12 houses, Old Park estate, for Mr. E. Ashley ; 392 houses, Enfield Town estate, for Messrs. W. Goodchild & Co. ; estate layout, Orchardleigh Avenue, for Mr. E. J. Judd ; 38 houses, off Churchbury Lane, for Messrs. H. J. Gower, Ltd. ; two houses, Wagon Road, for Messrs. Colwell and Watson ; and 287 houses and four shops, Longfield estate, for Messrs. Hilbery Chaplin, Ltd. Plans submitted to Enfield U.D.C. : six houses, Bincote Road, for Messrs. Chappell and Sons ; 10 houses, Churchbury Lane, for Messrs. Bowyer and Bowyer.

FINSBURY. *Rehousing.* The L.C.C. is to deal; with the Gee Street area, and provide rehousing accommodation, at a cost of £50,000.

HILLINGDON. *Casual Wards.* Middlesex C.C. has approved plans for the erection of casual wards at Hillingdon at an estimated cost of £17,670.

L.C.C. *Dwellings.* In connection with the scheme for the improvement of the Bridge House estates, and the erection of residential dwellings on the Tupman Place area, the Bridge House Estates Committee of the City of London Corporation now reports that it is proposed to erect the dwellings in two sections, and recommends the approval of the plans for the first section of the work. The total cost is estimated at £31,500.

PADDINGTON. *Welfare Centre.* The B.C. recommends the purchase of a site at the Lock hospital for the erection of a maternity and child welfare centre, at a total estimated cost of £25,100.

SHENLEY. *Mental Colony.* The Middlesex C.C. proposes to proceed with the construction of the second section of the Shenley mental colony at a cost of £377,100, to the plans of Mr. W. T. Curtis, the county architect.

SOUTHGATE. *Houses, etc.* Plans passed by the Corporation : four houses, Orchard Avenue, for Messrs. Geo. Wimpey & Co., Ltd. ; 36 houses, Heddon Court estate, for Mr. F. W. Walker ; seven houses, North Circular Road, for Mr. C. D. Walden ; 52 houses, Firs Lane, and four houses, Wades Hill, for Mr. G. W. Newman ; four houses, Chase Road, for Mr. R. U. Uren ; houses in Morton Way, for Messrs. Johnson and Bailey ; 10 houses, Wynchgate, for Mr. C. E. Ward ; four houses, Ringwood Way, for Mr. G. W. S. Ingram ; 68 houses, off Powys Lane, for Messrs. Seymour, Couchman and Sons ; 18 flats, The Green, for Mr. T. F. Ford.

STEPNEY. *Dwellings.* The L.C.C. Housing Committee has approved a proposal of the B.C. to erect two blocks of dwellings, mainly 10 storeys in height, with a portion six storeys, and another portion two storeys, in Branch Road and Rose Lane. Hitherto, it has not been the practice in London to erect working-class dwellings of more than five or six storeys in height.

TOTTENHAM. *Flats.* The U.D.C. Housing Committee recommends that plans should be prepared for the erection of 44 flats of various types on the Weir Hall estate.

SOUTHERN COUNTIES

EASTBOURNE. *Houses.* Plans passed by the Corporation : Two houses, Lottbridge Drive, for Mr. T. F. Sayer ; 16 houses, Wilton Avenue, for Mr. D. C. Wadhwa ; four houses, Queen's Crescent, for Mr. A. Ford ; two houses, Astaire Avenue, for Mr. F. C. Benz ; 16 houses, Wilton Avenue, for Messrs. Clark and Sillito.

GUILDFORD. *Houses, etc.* Plans passed by the Corporation : Two houses, Winterhill Farm, for Messrs. Armstrong & Co. ; four flats, Grove Road, Merrow, for Messrs. W. and N. Nunn ; two houses, Cross Lanes, for Messrs. Crowe, Bates and Weeks ; and alterations and additions, Woodbridge Road, for Messrs. A. Gray & Co., Ltd. Plans submitted to the Corporation : roads and sewers, Bannisters Farm, for Mr. H. Ashenden.

OXFORD. *Water Supply.* The Corporation, at the request of the Bullingdon R.D.C., is to provide a water supply to the parishes of Wheatley, Holton, and Sandford-on-Thames, at a total estimated cost of £14,510, of which cost each authority is to pay half.

WORTHING. *Showrooms.* The Corporation is to erect electricity showrooms in Chapel Street at a cost of £17,500.

SOUTH-WESTERN COUNTIES

PLYMOUTH. *Nurses Home.* The Corporation has approved plans for the erection of a new nurses' home at the city hospital, at an estimated cost of £29,700.

PLYMOUTH. *Houses, etc.* Plans passed by the Corporation : Four houses, East Park Avenue, for Mr. R. Hockin ; eight houses, Beacon Castle estate, for Mr. H. Cann ; 10 houses, Orchard Road, for Mr. F. Westcott ; four houses, Fisher Road, for Messrs. Waycott Bros. ; two houses, Brancker Road, for Mr. A. G. Blatchford ; 12 houses, Sturdee Road, for Messrs. Pearce Bros. ; 26 houses, Vicarage Road, for Mr. W. Andrews ; 10 houses, Pasley Street, for St. Aubyn Estates, Ltd. ; two houses, Brancker Road, for Mr. H. L. Pile ; four houses, St. Levan Road, for Messrs. Waycott Bros. ; five houses, Dale Road, for Mr. B. Baskerville ; eight flats, Walker Terrace, for Ideal Homesteads. Plans submitted to the Corporation : two houses, Beacon Castle estate, for Mr. H. Cann ; two bungalows, Edgcumbe Park estate, for Mr. A. Manning ; amended streets lay-out, Mannamead Hill, for Seymour Park, Ltd.

EASTERN COUNTIES

EAST DEREHAM. *Hospital.* The Norfolk C.C. is to prepare plans for the erection of a central isolation hospital.

MIDLAND COUNTIES

DUDLEY. *Houses.* The Corporation Housing Committee has approved plans for the erection of 220 houses on the first section of the Wrens Nest estate, and has authorized the engineer to obtain tenders for the erection of such houses, and to prepare plans and estimate for the development of the remainder of the estate, in order that further tenders may be obtained as speedily as possible.

NORTHAMPTON. *Houses.* Plans passed by the Corporation : Six shops, St. Giles Street, for Mr. W. J. Wright ; 14 houses, off Welford Road, for Midland Dwellings, Ltd. ; seven houses, Stanton Avenue, for Messrs. Chowns Ltd. ; two shops, Broadway East, for Mr. J. E. Lucas ; three houses, Rushmere Avenue, for Messrs. Stafford and Agutter ; two houses, Hillcrest Avenue, for Mr. A. Atkins ; bus depot, Albion Place, for United Counties Bus Co., Ltd.

NORTHERN COUNTIES

BOLTON. *Houses.* Plans passed by the Corporation : Fruit warehouse, off Blackhorse Street, for Messrs. Elders and Fyffes ; 10 houses, Longfellow Avenue, for Mr. J. Hough ; nine houses, Barcroft Road, for Mr. J. Massey ; two bungalows, Strawberry Hill Road, for Mr. J. Morris ; 24 houses, Smithills Croft Road, for Messrs. R. G. Hirst and Son ; 15 houses, Crompton Way, for Mr. W. E. Yates ; five houses, Kermoor Avenue, for Mr. James Arrowsmith ; four houses, Holden Avenue, for Messrs. Price and Groves. The Corporation is to purchase housing estates at Willows Lane and Jessie Street, and to erect an additional 82 houses and 20 flats on the Topbrow estate. Tenders are to be invited.

CHESTER. *Mains and Services.* The Corporation Electricity Committee has obtained sanction to borrow £30,000 for mains and services.

GRIMSBY. *Houses.* The Corporation is to erect 100 houses at Nunthorpe and 11 at Harlow Street at a cost of £34,000.

JARROW. *Houses.* The Corporation is to prepare a scheme for the erection of 160 houses on the North Ward clearance areas.

LEEDS. *Houses.* The Corporation has approved plans for the erection of an additional 900 houses on the Gipton estate, and is to obtain tenders for the erection thereof, and for the construction of the necessary roads, etc.

MORECAMBE. *Houses.* Plans passed by the Corporation : Two houses, Steney Avenue, for Mr. P. Naylor ; two houses, Margaret Street, for Messrs. Pratt and Eccles ; four houses, South Avenue, for Mr. T. Cottam ; 24 houses, Woodhill Avenue, for Mr. William Gardner ; two houses, Burlington Avenue, for Messrs. Edmundson Bros. ; four houses, Victoria Parade for Mr. T. Pickles ; two houses, Chatsworth Road, for Mr. S. R. Keates ; six shops, Euston Road, for Mr. W. Geldert ; 22 houses, Low Lane, for Kay Building Co. ; four houses, Norton Grove, for Messrs. L. Wild, Ltd.

RAWTENSTALL. *Houses.* Plans passed by Corporation : 48 houses, Newchurch Road, for Messrs. H. Trickett and Son, Ltd. ; 11 houses, Burnley Road, for Mr. J. R. Greenwood ; two bungalows, Burnley Road, and 14 houses, Cowpe Road, for Mr. J. Edmondson ; two houses, Newchurch Road, for Messrs. Hodgson and Rayner.

YORK. *Houses and Flats.* The Corporation is to erect 24 flats on the Bootham Row area and 14 houses in Lucas Avenue.

YORK. *Houses.* Plans passed by the Corporation ; 10 houses, Towton Avenue, etc., for Messrs. R. J. Pulleyn and Sons ; two houses, Beresford Terrace, for Mr. H. Douglass ; six houses, White Cottage estate, for Mr. J. N. Dunn ; six houses, Beech Avenue, for Sir R. Newbald Kay ; two houses, Manchester estate, for Messrs. Collins and Murray, Ltd. ; two houses, Elmfield estate, for Mr. J. C. Wilson ; two houses, Walney Road, for Messrs. T. and M. Caffrey ; two houses, Somerset Road, for Messrs. Culliford and Tindall ; four houses, Danum Road, for Mr. H. Gledhill ; three houses, Cycle Street, for Mr. F. B. Brisby ; 10 houses, Bees Wing estate, for Messrs. Sorrel and Scaife.

SCOTLAND

GLASGOW. *Welfare Centre.* The Corporation is to obtain tenders for the various works in connection with the erection of a child welfare centre in the Gorbals district, at a total estimated cost of £17,500.

GLASGOW. *Hospital.* The Corporation has now approved plans for the erection of a proposed infectious diseases hospital at Cowglen.

GLASGOW. *Houses.* The Corporation is to acquire land at Milburn Street, for the erection of an additional 120 houses. The Corporation is to consider schemes proposed by the Amalgamated Engineering Union for housing schemes on the Vienna and Moscow block model, and the construction of a boulevard along Clydeside.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A_1	Abergavenny ..	S Wales & M.	1 5	1 0½
A_2	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A_2	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie ..	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B_2	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
A_2	Atherstone ..	Mid. Counties	1 4	1 0
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry ..	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_1	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_2	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham	Mid. Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth ..	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton ..	N.W. Counties	1 5½	1 1½
A_2	Boston ..	Mid. Counties	1 4	1 0
A_2	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A_1	Brighouse ..	Yorkshire	1 5½	1 1½
A	Brighton ..	S. Counties	1 4	1 0
A	Bristol ..	S.W. Counties	1 5½	1 1½
B_2	Brixham ..	S.W. Counties	1 2½	11
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B_2	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
A	Burslem ..	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury ..	N.W. Counties	1 5½	1 1½
A_1	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff ..	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A_2	Chelmsford ..	E. Counties	1 4	1 0
A_2	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester ..	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_2	Chichester ..	S. Counties	1 3	11½
A	Chorley ..	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A_2	Colchester ..	E. Counties	1 4	1 0
A	Colne ..	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_2	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby ..	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorchester ..	S.W. Counties	1 2½	11
A	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N.E. Coast	1 5½	1 1½
A_2	EASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE	E. Counties	1 4	1 0
A_2	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S.W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	Gosport ..	S. Counties	1 4½	1 0½
A_2	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B_2	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln ..	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A_2	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_2	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth ..	S. Wales & M.	1 2½	11
A	Morecambe ..	& S. and E. Glamorganshire N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson ..	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid. Counties	1 5½	1 1½
A_2	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford ..	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth ..	Scotland	*1 5½	1 1½
A_2	Peterborough ..	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A_2	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A_2	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby ..	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	Slough ..	S. Counties	1 4½	1 0½
A_1	Solihull ..	Mid. Counties	1 5	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud ..	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swadlincote ..	Mid. Counties	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A_2	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist...	N.E. Counties	1 5½	1 1½
A_2	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay ..	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall ..	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick ..	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid. Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby ..	Yorkshire	1 4½	1 0½
A	Widnes ..	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor ..	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A_2	Wycombe ..	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	11½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 8
Mason (Banker) . . . . . ,,	1 7
,, (Fixer) . . . . . ,,	1 8
Plumber . . . . . ,,	1 7
Painter . . . . . ,,	1 6
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 7
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 3
Timberman . . . . . ,,	1 3
Navvy . . . . . ,,	1 3
General Labourer . . . . . ,,	1 2½
Lorryman . . . . . ,,	1 3
Crane Driver . . . . . ,,	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . . per ton	2 2 0
Blue Lias Lime . . . . . ,,	1 16 6
Hydrated Lime . . . . . ,,	3 0 9
Portland Cement, in 4 ton lots (d/d site, including Paper Bags) . . ,,	1 18 0
Rapid Hardening Cement, in 4 ton lots (d/d site, including Paper Bags) ,,	2 5 6
White Portland Cement, in 1 ton lots ,,	8 15 0
Thames Ballast . . . . per Y.C.	6 3
¾" Crushed Ballast . . . . ,,	6 9
Building Sand . . . . . ,,	7 3
Washed Sand . . . . . ,,	8 3
2" Broken Brick . . . . . ,,	8 0
¾" ,, ,, ... ,,	10 3
Pan Breeze . . . . . ,,	6 6
Coke Breeze . . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . .per F.R	0 9	1 1
Bends . . . each	1 9	2 6
Taper Bends . . ,,	3 6	5 3
Rest Bends . . ,,	4 3	6 3
Single junctions . . ,,	3 6	5 3
Double . . . ,,	4 9	6 6
Straight channels . .per F.R.	1 6	2 6
¾" Channel bends . each	2 9	4 0
Channel junctions . ,,	4 6	6 6
Channel tapers . . ,,	2 9	4 0
Yard gullies . . ,,	6 9	8 9
Interceptors . . ,,	16 0	19 6
IRON DRAINS:		
Iron drain pipe . . per F.R.	1 6	2 6
Bends . . . each	5 0	10 6
Inspection bends . . ,,	9 0	15 0
Single junctions . . ,,	8 9	18 0
Double junctions . . ,,	13 6	30 0
Lead wool . . lb.	6	—
Gaskin . . . ,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . . per M.	2 18 0
Grooved do. . . . . ,,	3 0 0
Phorpres bricks . . . . ,,	2 17 3
Phorpres Cellular bricks . . ,,	2 17 3
Stocks, 1st quality . . . ,,	4 11 0
,, 2nd ,, . . . ,,	4 2 6
Blue Bricks, Pressed . . . ,,	8 17 6
,, Wirecuts . . . ,,	7 17 6
,, Brindles . . . ,,	7 0 0
,, Bullnose . . . ,,	9 0 0
Red Sand-faced Facings . . ,,	6 18 6
Red Rubbers for Arches . . ,,	12 0 0
Multicoloured Facings . . .	7 10 0
Luton Facings . . . . ,,	7 10 0
Phorpres White Facings . . ,,	3 17 3
Phorpres Rustic Facings . . ,,	3 12 3
Midhurst White Facings . . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . . ,,	21 0 0
Headers . . . . . ,,	20 10 0
Bullnose . . . . . ,,	27 10 0
Double Stretchers . . . ,,	29 10 0
Double Headers . . . . ,,	26 10 0
Glazed Second Quality, *Less* .	1 0 0
,, Buffs and Creams, *Add* . ,,	2 0 0
,, Other Colours . . ,,	5 10 0
2" Breeze Partition Blocks . . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 10
3" ,, ,, ,, . .	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

The following d/d F.O.R. at Nine Elms:	s. d.
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . . ,,	2 11
York stone . . . . . ,,	6 6
,, ,, Sawn templates . . ,,	7 6
,, ,, Paving, 2" . . . F.S.	1 8
,, ,, ,, 3" . . . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . . per M.	28 17 6
22" × 12" Marchionesses . . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . . ,,	15 10 0
18" × 9" Ladies . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, green ,, ,,	24 7 4
Best machine roofing tiles . . ,,	4 10 0
Best hand-made do. . . . ,,	5 0 0
Hips and valleys . . . each	9½
,, hand-made . . . ,,	10
Nails, compo . . . . lb.	1 4
,, copper . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . as 1" F.S.	9
Deal, Joiner's . . . ,, ,,	5
,, ,, 2nds . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . . ,, ,,	4
Teak, Moulmein . . . ,, ,,	1 3
,, Burma . . . ,, ,,	1 2
Walnut, American . . ,, ,,	2 3
,, French . . . ,, ,,	2 3
Whitewood, American . . ,, ,,	1 1
Deal floorings, ¾" . . . Sq.	18 6
,, 1" . . . ,,	1 1 6
,, 1¼" . . . ,,	1 2 0
,, 1½" . . . ,,	1 5 0
,, 1¾" . . . ,,	1 10 0
Deal matchings ¾" . . . ,,	14 0
,, 1" . . . ,,	15 6
,, 1¼" . . . ,,	1 4 0
Rough boarding ¾" . . . ,,	16 0
,, 1" . . . ,,	18 0
,, 1¼" . . . ,,	1 6 0

Plywood, per ft. sup.

Thickness	¼"			⅜"			½"		
Qualities	AA.	A.	B.	AA.	A.	B.	AA.	A.	B.
	d.	d.	d.	d.	d.	d.	d.	d.	d.
Birch	4	3	2	5	4	3	7½	6	4½
Alder	3½	3	2	5	4	3	6½	5½	4½
Gaboon Mahogany	4	3	3	6½	5½	4½	9½	7½	–
Figured Oak 1 side	8½	7	–	10	8	–	11½	–	–
Plain Oak 1 side	6½	6	–	7½	7	–	9½	–	–
Oregon Pine	5	4	–	5½	5	–	6	–	–

Thickness	⅝"			¾"			1"		
Qualities	AA.	A.	B.	AA.	A.	B.	AA.	A.	B.
	d.	d.	d.	d.	d.	d.	d.	d.	d.
Birch	8½	7	6						
Alder	8	7	6						
Gaboon Mahogany	1/0½	10	–						
Figured Oak 1 side	1/6	–	–						
Plain Oak 1 side	1/–	–	–						
Oregon Pine	–	–	–						

	d.
Scotch glue . . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:

(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	½"	¾"	1"	1½"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
,, 3'-11½" long ,,	7	9	1/3	1/8	3/–
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3
,, ,, 3'M-½" long ,,	8	10	1/5	1/11	3/6
Bends . . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . . ,,	1/–	1/3	1/10	2/6	5/1
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/–	2/–
Flanges . . . ,,	9	1/–	1/4	1/9	2/9
Caps . . . . ,,	3½	5	8	1/–	2/–
Backnuts . . . ,,	2	3	5	6	1/1
Iron main cocks . ,,	1/6	2/3	4/2	5/4	11/6
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–

Discounts:

TUBES.

Per cent.		Per cent.
Gas . . . 65	Galvanized gas .	52½
Water . . . 61½	,, water	47½
Steam . . . 57½	,, steam	42½

FITTINGS.

Gas . . .	57½	Galvanized gas . 47½
Water . . .	52½	,, water 42½
Steam . . .	47½	,, steam 37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ¾" . . ,,	8 6
,, ,, ½" . . ,,	8 3
,, ,, ⅝" . . ,,	8 0
,, ,, ¾" . . ,,	7 6
,, ,, ⅞" . . ,,	7 6
,, ,, 1" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1½" . . ,,	7 6
	3" 4"
Cast-iron rain-water pipes of ordinary thickness metal . . F.R	s. d. 8	s. d. 10
Shoes . . . . each	2 0	3 0
Anti-splash shoes . . ,,	4 6	8 0
Boots . . . . ,,	3 0	4 0
Bends . . . . ,,	2 7	3 9
,, with access door . . ,,	—	6 3
Heads . . . . ,,	4 0	5 0
Swan-necks up to 9" offsets . ,,	3 9	6 0
Plinth bends, 4½" to 6" . ,,	3 9	5 3
Half-round rain-water gutters of ordinary thickness metal . . F.R.	5	6
Stop ends . . . . each	6	6
Angles . . . . ,,	1 7	1 11
Obtuse angles . . . ,,	2 0	2 6
Outlets . . . . ,,	1 9	2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	18 6
,, drawn pipes . . . ,,	17 0
,, soil pipe . . . ,,	18 6
,, scrap . . . ,,	10 6
Solder, plumbers' . . . lb.	9½
,, fine do. . . . ,,	1 0
Copper, sheet . . . ,,	8½
,, tubes . . . ,,	11
L.C.C soil and waste pipes: 3"	4" 6"
Plain cast . . F.R.	1 0	1 2	2 6
Coated . . ,,	1 1	1 3	2 8
Galvanized . . ,,	2 0	2 6	4 6
Holderbats . . each	3 10	4 0	4 9
Bends . . . ,,	3 9	5 3	10 3
Shoes . . . ,,	2 10	4 4	9 6
Heads . . . ,,	4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . . per ton	2 5 0
Plaster, coarse . . . ,,	2 10 0
,, fine . . . ,,	4 15 0
Hydrated lime . . . ,,	3 0 9
Sirapite . . . ,,	3 6 0
Keene's cement . . . ,,	5 0 0
Sand, washed . . . Y.C.	11 6
Hair . . . . lb.	6
Laths, sawn . . . bundle	2 4
,, rent . . . ,,	3 9
Lath nails . . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft. s. F.S.		2½
,, 26 oz. ,, ,, ,, ,,		3½
Flemish, Arctic, Figured (white)* ,,		7
Blazoned glasses . . . ,,		2 6
Reeded; Cross Reeded ,,		11
Cathedrals: eleven varieties (white)* ,,		6½
Crown sheet glass (n/e 12 in. x 10 in)„		2 0
Flashed opals (white and coloured) ,,	1 0 and 2	0
⅛" rough cast; rolled plate . . ,,		7
⅛" wired cast; wired rolled . . ,,		10
⅛" Georgian wired cast . . ,,		11
⅛" Polished plate, n/e 1 ft. . . ,,	†10 to ‡1	1
,, ,, 2 . . ,,	†1 2 ,, ‡1	4
,, ,, 4 . . ,,	†2 3 ,, ‡2	6
,, ,, 8 . . ,,	†2 9 ,, ‡3	2
,, ,, 20 . . ,,	†3 7 ,, ‡4	2
,, ,, 45 . . ,,	†3 11 ,, ‡4	7
,, ,, 100 . . ,,	†5 0 ,, ‡5	7
Vita glass, sheet, n/e 2 ft. . . ,,		1 3
,, ,, over 2 . . ,,		1 9
,, ,, plate, n/e 2 ft. . . ,,		3 0
,, ,, 7 . . ,,		5 0
,, ,, 15 . . ,,		6 0
,, ,, over 15 . . ,,		7 6
"Calorex" sheet 21 oz., and 32 oz. ,,	2 6 and 3	6
,, rough cast ⅛" and ¼" ,,	8½ ,, 1	0
Putty, linseed oil . . lb.		3

*Colours 1d. F.S. extra.

†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s. d.
White lead in 1 cwt. casks . . cwt.	2 6 0
Linseed oil . . . . gall.	2 2½
Boiled oil . . . . ,,	2 4½
Turpentine . . . . ,,	4 1½
Patent knotting . . . ,,	14 0
Distemper, washable . . . cwt.	2 6 0
,, ordinary . . ,,	2 0 0
Whitening . . . . ,,	4 0
Size, double . . . . firkin	3 0
Copal varnish . . . . gall.	13 0
Flat varnish . . . . ,,	14 0
Outside varnish . . . ,,	16 0
White enamel . . . ,,	1 15 0
Ready-mixed paint . . ,,	13 6
Brunswick black . . . ,,	7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR		£	s.	d.
Digging over surface n/e 12" deep and cart away	Y.S.		2	9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.		8	6
" to form basement n/e 5' 0" deep and cart away	"		9	6
" " 10' 0" deep and cart away	"		9	6
" " 15' 0" deep and cart away	"		10	0
If in stiff clay	add "		2	6
If in underpinning	" "		4	0
Planking and strutting to sides of excavation	F.S.		1	0
" " to pier holes	"			5
" " to trenches	"			5
" " extra, only if left in	"			3
Hardcore, filled in and rammed	Y.C.		10	0
Portland cement concrete in foundations (6-1)	"		1	6
" " (4-2-1)	"		1	12
" " underpinning	"		1	16
Finishing surface of concrete, spade face	Y.S.			7

DRAINLAYER		4" s.	d.	6" s.	d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1	6	2	3
Extra, only for bends	Each	2	8	3	9
" junctions		3	9	4	6
Gullies and gratings	"	16	6	18	0
Cast iron drains, and laying and jointing	F.R.	4	9	6	9
Extra, only for bends	Each	10	6	15	6

BRICKLAYER		£	s.	d.
Brickwork, Flettons in lime mortar	Per Rod	27	10	0
" " in cement	"	28	15	0
" Stocks in cement	"	35	0	0
" Blues in cement	"	52	0	0
Extra only for circular on plan	"	2	0	0
" backing to masonry	"	1	10	0
" raising on old walls	"	2	0	0
" underpinning	"	5	10	0
Fair Face and pointing internally	F.S.			1½
Extra over fletton brickwork for picked stock facings and pointing	"			8½
" " " red brick facings and pointing	"			11
" " " blue brick facings and pointing	"		1	4
" " " glazed brick facings and pointing	"		3	6
Tuck pointing	"			7
Weather pointing in cement	"			3½
Slate dampcourse	"			10
Vertical dampcourse	"		1	1

ASPHALTER		s.	d.
½" Horizontal dampcourse	Y.S.	4	6
½" Vertical dampcourse	"	6	9
½" paving or flat	"	4	0
1" paving or flat	"	5	6
1" × 6" skirting	F.R.	1	0
Angle fillet	"		2
Rounded angle	"		2
Cesspools	Each	5	0

MASON		s.	d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17	9
Bath stone and do., all as last	"	13	6
Artificial stone and do.	"	13	0
York stone templates, fixed complete	"	10	6
" thresholds	"	13	6
" sills	"	1	0	6

SLATER AND TILER		£	s.	d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr.	3	10	0
Do., 18" × 9"	"	3	7	0
Do., 24" × 12"	"	3	17	0
Westmorland slating, laid with diminished courses	"	6	0	0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3	0	0
Do., all as last, but of machine-made tiles	"	2	16	0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	"	4	6	0
" " " " " (green)	"	4	15	0

CARPENTER AND JOINER		£	s.	d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2	5	0
Shuttering to sides and soffits of beams	F.S.			8
" to stanchions	"			8
" to staircases	"		1	8
Fir and fixing in wall plates, lintols, etc.	F.C.		3	9
Fir framed in floors	"		4	6
" " roofs	"		6	6
" " trusses	"		7	6
" " partitions	"		8	6
¾" deal sawn boarding and fixing to joists	Sqr.	1	14	6
1" " " " " "	"	1	17	6
1½" " " " " "	"	2	3	0
4" × 2" fir battening for Countess slating	"		9	6
Do. for 4" gauge tiling	"		12	0
Stout feather-edged tilting fillet	F.R.			4½
Patent inodorous felt, 1 ply	Y.S.		2	3
" " " 2 "	"		2	9
" " " 3 "	"		3	3
Stout herringbone strutting to 9" joists	F.R.			10½
1" deal gutter boards and bearers	F.S.		1	2
1½" " " "	"		1	6
2" deal wrought rounded roll	F.R.			8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2	1	0
1¼" do.	"	2	10	0
1½" do.	"	2	17	0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S.		1	6
1 ¼" do.	"		1	9
1½" deal moulded sashes of average size	F.S.		1	9½
2" " " " "	"		1	11½
1½" deal cased frames double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ¾" parting beads, and with brass faced axle pulleys, etc., fixed complete	"		3	7
2" " " " "	"		3	10
Extra only for moulded horns	Each			6
1½" deal four-panel square, both sides, door	F.S.		2	0
2" " " " "	"		2	8
1½" " but moulded both sides	"		2	4
2" " " " "	"		3	0
4" × 3" deal, rebated and moulded frames	F.R.		1	0
4½" × 3½" " " "	"		1	4
1½" deal tongued and moulded window board, on and including deal bearers	F.S.		1	9
1½" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"		2	6
1½" deal moulded wall strings	"		2	1
1½" " outer strings	"		2	4
Ends of treads and risers housed to string	Each		1	9
3" × 2" deal moulded handrail	F.R.		1	3
1" × 1" deal balusters and housing each end	Each		2	0
1½" × 1½" " " "	"		2	9
3" × 3" deal wrought framed newels	F.R.		1	3
Extra only for newel caps	Each		6	0
Do., pendants	"		6	0

SMITH AND FOUNDER		£	s.	d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.		15	6
Riveted plate or compound girders, and hoisting and fixing in position	"		19	6
Do. stanchions with riveted caps and bases and do.	"		19	0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	"		17	6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.			11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1	10	0

PLUMBER		£	s.	
Milled lead and labour in flats	cwt.	1	12	
Do. in flashings	"	1	15	6
Do. in covering to turrets	"	2	3	0
Do. in soakers	"	1	7	6
Labour to welted edge	F.R.			3½
Open copper nailing	"			3
Close " "	"			4

	½" s.	d.	¾" s.	d.	1" s.	d.	1½" s.	d.	2" s.	d.	4" s.	d.
Lead service pipe and fixing with pipe hooks F.R.	10		1	0	1	3	2	0	2	10	—	
Do. soil pipe and fixing with cast lead tacks	—		—		—		—		—		5	6
Extra, only to bends Each	—		—		—		—		2	0	6	9
Do. to stop ends "	6½		8		9		11		1	0	—	
Boiler screws and unions "	3	3	3	9	5	0	8	0	—		—	
Lead traps "	—		—		—		6	3	8	9	—	
Screw down bib valves "	6	9	9	6	11	0	—		—		—	
Do. stop cocks "	7	0	9	6	12	6	—		—		—	

		s.	d.
4" cast-iron ½-rd. gutter and fixing	F.R.	1	0
Extra, only stop ends	Each	1	0
Do. angles	"	1	6
Do. outlets	"	2	9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.	1	2
Extra, only for shoes	Each	1	3
Do. for plain heads	"	5	6

PLASTERER AND TILING		s.	d.
Expanded metal lathing, small mesh	Y.S.	2	0
Do. in n/w to beams, stanchions, etc.	"	2	9
Lathing with sawn laths to ceilings	"	1	3
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	"	1	5
Do. vertical	"	1	7
Rough render on walls	"	1	2½
Render, float and set in lime and hair	"	1	9
Render and set in Sirapite	"	1	11
Render, backing in cement and sand, and set in Keene's cement	"	2	9
Extra, only if on lathing	"		4
Keene's cement, angle and arris	F.R.		6
Arris	"		1½
Rounded angle, small	"		3
Plain cornices in plaster, including dubbing out, per 1" girth	"		1½
1" granolithic pavings	Y.S.	3	6
1½" " "	"	4	6
6" × 6" white glazed wall tiling and fixing on prepared screed	"	17	6
9" × 3" " " " "	"	1	2	6
Extra, only for small quadrant angle	F.R.			8

GLAZIER		s.	d.
21 oz. sheet glass and glazing with putty	F.S.		7½
26 oz. do. and do.	"		8½
Flemish, Arctic, Figured (white) and glazing with putty	"	1	1
Cathedral glass and do.	"	1	2
Glazing only, British polished plate	"		7
Extra, only if in beads	"		2
Washleather	F.R.		4

PAINTER		s.	d.
Clearcolle and whiten ceilings	Y.S.		6
Do. and distemper walls	"		9
Do. with washable distemper	"	1	1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	"	3	3
Do. on woodwork	"	3	6
Do. on steelwork	"	3	0
Do. and brush grain and twice varnish	"	5	6
Stain and twice varnish woodwork	"	1	11
Stain and wax-polish woodwork	"	4	6
French polishing	F.S.	1	2
Stripping off old paper	Piece	2	0
Hanging ordinary paper from	"	2	9

THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION

WALL & FLOOR TILING of Glazed & Unglazed Earthernware.

I. GLAZED TILES, INCLUDING FAIENCE

Standard thickness ⅜". White glazed tiles, sizes 6" × 6" and 6" × 3" only, made also ¼" thick.

GLAZED TILES

CONSIDERED COMPLETE (i.e., as to both body and glaze).

WALL TILES

PLAIN (i.e. FLAT) TILES Principal shapes and sizes :—
- Squares, 6", 4", 3" and 2".
- Oblongs, 6" × 3", 6" × 2", 6" × 1½", 6" × 1", 6" × ½", 4" × 2", 4" × 1", 4" × ½".
- Hexagons (measured from side to side), 4", 3" and 2".

FITTINGS
- CAPPINGS, SKIRTINGS, ANGLE BEADS, SCUM TROUGHS FOR SWIMMING POOLS, ETC. For details see Information Sheets on Glazed Wall Tile Fittings.
- "RECESSO" FITTINGS.—Soap-holders, Sponge-holders, etc. For details see Information Sheets on "Recesso" fittings.

DECORATIVE FEATURES

PRINTED OR STENCILLED. Inexpensive non-embossed borders, the pattern in black or colours on white or cream ground. Suitable—e.g.—for white-tiled bathroom or kitchen. Usual sizes 6" × 1" and 6" × ½".

EMBOSSED OR MAJOLICA, in which the lines forming the pattern are an integral part of the tile body. The type in general use for good-class decorative borders, etc. Conventional designs, classical and modern. Black and white, or in colours. Usual border sizes, 6" × 2", 6" × 1½", 6" × 1", 6" × ½"; also 6" × 6", 6" × 3" and 4" × 4".
Insets for fireplaces usually 4" × 4", for walls 4" × 4" and up to 12" × 12".

TUBELINED. Similar to embossed, and similarly used, but with the relief (thin raised earthenware lines of dark colour) applied by hand, and consequently of less stereotyped appearance. Lends itself to economical reproduction, to order, of simple designs—heraldic devices, Dutch scenes, etc. Borders and insets, sizes as for Embossed. Usually in two or more colours.

ASTBURY. Flat-surfaced tiles finished freehand in an "on-glaze" decoration. Admits of a wide range of design, and of inexpensive production of special designs. Borders of floral or geometrical design, usually 6" × 1" or 6" × 1½".
Insets on one (4" × 4", 6" × 6", etc.) or several tiles : silhouettes, nursery rhyme sketches, floral designs. Suitable for fireplaces, bathrooms, nurseries, etc.

HANDPAINTED. This term, as used technically, applies only to elaborate detailed productions (as, e.g., of cattle grazing—for butcher's shop) in full colour, usually spread over several (commonly 6" × 6" or 4" × 4") tiles. When the painting is done the tiles are "fired" (for the third time) to fuse the colours into the glaze.

BYZANTINE GLAZED MOSAIC. Borders, insets, panels, etc., built up from small hand-cut pieces of vellum-glazed tile. Borders usually 1" to 3" deep. Stock insets 4" × 4" and 8" × 8". Any design to order. No limits as to size or colouring. Supplied mounted on paper for easy fixing. See also notes on mosaic under "Unglazed Tiles."

FIREPLACE TILES For fireplaces many of the ordinary wall tiles (usually 4" × 4" and 3" × 3") and certain fittings and insets are used, as well as Tile Faience. In the tile trade the name "Faience" is given to certain hand-made pieces, similar to but usually larger than die-made tiles, used in the industry. Faience is especially useful for those parts of the fireplace which come in contact with the fire, hand-made pieces having proved more resistant to thermal shock than those made in a press. See Information Sheet on Fireplaces.

GLAZED FLOOR TILES For bathroom floors, in colours. "Duromat" tiles, in a specially hard vellum glazed finish, are used. Usual sizes 4" and 3" squares, 4", 3" and 2" hexagons.

CONSIDERED only as to glaze.

WHITE-GLAZED Of the same class as white-glazed, and of similar low cost, is a cream glaze known as "oven" cream.

COLOUR-GLAZED
- "Enamels," or "bright" glazes, having a glossy surface.
  - Of uniform colour ("plain enamels").
  - Mottled ("bright mottles").
- "Vellum" or "eggshell" glazes having a matt surface.
  - Of uniform colour ("plain vellums" or "plain eggshells").
  - Mottled ("vellum mottles" or "eggshell mottles").

The colour range in each class is practically unlimited.

For unglazed floor tiles, including mosaics, see Information Sheet so headed.

Information from Richards Tiles Limited.

INFORMATION SHEET : CLASSIFICATION OF PLAIN & DECORATIVE TILES.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1.

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 125 •

TILES

Type of Product : Wall and Floor Tiling

The classification given on this Sheet is the first of two charts which set out all the principal varieties of tiles for floor and wall tiling. This chart deals with plain glazed and decorative glazed tiles of all kinds, and gives a short description of each variety. Unglazed tiles are to be classified in the second Sheet.

Fixing of Tiles :

Walls.—Walls should be floated in cement mortar to within $\frac{5}{8}$ in. of the finished surface and the tiling bedded in cement mortar and pointed in neat white cement.

To Baths.—(a) The sides of baths may be framed up in wood, and covered with 26 gauge expanded metal with $\frac{3}{8}$ in. mesh, and floated in cement and sand. This provides a good foundation to take tiling bedded in the usual way.

(b) The sides to baths may be built up in 2 in. breeze or similar blocks, the tiles being bedded directly on to the blocks.

Access panels in sides to baths.—When required, are slabbed in cement or plaster (preferably the former), reinforced with expanded metal or bar iron (about $\frac{3}{8}$ in.), and pierced with holes for fixing it to framing arranged to receive it. Special screws, with detachable porcelain heads glazed to match any tiles, are available for securing the panel in position.

Floors :

Floors for tiles should be screeded to within $\frac{3}{4}$ in. of the finished surface and the tiles bedded in cement mortar.

Floors for mosaic should be screeded to within $\frac{1}{2}$ in. of the finished surface and the mosaic bedded in cement mortar.

Literature :

The following Booklets are obtainable from the manufacturers.

"Richards' Tiles in the Making." 32 pages, 10 in. by $7\frac{1}{2}$ in. Describing the manufacture of Glazed Tiles, Floor Tiles and Mosaics. Booklet R.T.E.

"Tile Fireplaces." 60 pages, 10 in. by $7\frac{1}{2}$ in.

"Bathrooms of Distinction," 24 pages, 11 in. by $8\frac{3}{4}$ in. Booklet R.T. 25

"Floor Tiling." 20 pages, 11 in. by $8\frac{3}{4}$ in. Booklet R.T. 26

"Mosaics." 20 pages, 11 in. by $8\frac{3}{4}$ in. To be issued in July. Booklet R. T. 27

"Wall Tiling." 32 pages, 11 in. by $8\frac{3}{4}$ in. To be issued in August. Booklet R.T. 28

"Swimming Pool Tiling." Approximately 20 pages, 11 in. by $8\frac{3}{4}$ in. To be issued in August. Booklet R.T. 29

"Recesso" Bathroom Fittings. An illustrated folder (cf. Information Sheets Nos. 92, 93 and 99).

Name of Manufacturers :	Richards' Tiles, Limited
Address :	Tunstall, Stoke-on-Trent
Telephone :	Hanley 7215-8
London Office :	25 Victoria Street, S.W.1
Telephone :	Victoria 9128
Glasgow Office :	53 Bothwell Street Glasgow, C.2
Telephone :	Central 1768

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For typical Specification Clauses see back of this sheet.

SUMMARY OF REQUIREMENTS FOR PAINTING VARIOUS SURFACES.

EXTERIOR WALLS ETC.		NOTES FOR SPECIFICATION CLAUSES.
New stucco, Cement & Concrete	4 coats	Prime : fill all cracks etc : paint three coats, final coat to be oily. Should be allowed to age before painting (see over).
Brick or Stonework (not previously painted)	3 coats	Wash down : allow to dry thoroughly : prime & stop : paint two coats (three coats if brick is very porous).
INTERIOR CEILINGS & WALLS (NEW).		
New Lime Plaster (to be painted flat finish)	4 coats	Stop and smooth : paint four coats, final coat to be flatted and stippled. Should be allowed to age (see over).
New Hard Plaster (to be painted flat finish)	4 coats	First coat to be sharp and applied before plaster has set hard. Other coats to be oily, final coat stippled.
New Hard Plaster (to be finished in water paint)	1 coat of lead paint.	First coat to be sharp White Lead paint, applied before plaster has set hard. Paint two coats of water paint.
New Hard Plaster (to be finished in enamel)	4 coats & enamel coat.	First coat to be sharp White Lead paint, applied before plaster set. Three coats lead paint and final enamel coat.
New Hard Plaster (to be finished high gloss)	4 coats & varnish coat.	Four coats as above, but final coat of pale copal varnish.
New Brickwork (to be painted)	3 coats	Rub down : prime : stop and fill : paint two coats. If bricks are very porous, paint three coats.
NEW EXTERIOR WOODWORK.		
New wood (enamel finish)	4 coats & enamel coat.	Knot and prime before fixing : fill and paint three coats and one final coat of enamel.
New wood (high gloss finish)	4 coats & varnish coat.	Knot and prime before fixing : fill and paint three coats and one coat of copal varnish.
New wood (4-coat work, oil gloss finish)	4 coats	Twice knot, and prime before fixing : fill and paint three coats, final coat to be oily.
New wood (black gloss finish)	4 coats & varnish coat.	Knot twice & prime before fixing : fill & paint 2 coats & 1 coat of ready bound black paint & 1 coat copal varnish.
NEW INTERIOR WOODWORK.		
New wood (good enamel finish)	4 coats & enamel coat.	Knot twice and prime before fixing : fill and paint three coats and one coat of enamel.
New wood (high gloss finish)	4 coats & varnish coat.	Knot twice and prime before fixing : fill and paint three coats and one coat of copal varnish.
New wood (flat paint finish)	4 coats	Knot twice & prime : fill & paint three coats, third coat to be flatting coat with proportion of pale copal varnish.
New wood (flat enamel finish)	4 coats & enamel coat.	Knot twice and prime before fixing : fill and paint three coats and one coat of flat enamel.
New wood (good black gloss finish)	4 coats & varnish coat.	Knot twice & prime before fixing : fill & paint 2 coats & 1 coat of ready bound black paint & 1 coat copal varnish.
New wood (good black flat or semi-flat finish)	4 coats & 2 varnish coats.	Knot twice & prime before fixing : fill & paint 2 coats & 1 coat of ready bound black paint, 1 coat copal, & 1 flat varnish.
New wood (4-coat work, oil gloss finish)	4 coats.	Knot twice and prime before fixing : fill and paint three coats, final coat to be oily.

The material given above has been extracted from "White Lead Paints, a book of reference for Architects, Surveyors & Engineers" published by The White Lead Publicity Bureau.

INFORMATION SHEET : THE USE OF LEAD PAINTS FOR VARIOUS PURPOSES

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET
• 126 •
WHITE LEAD PAINTS

This Sheet gives the number of coats of paint recommended for various surfaces, together with notes for specification clauses.

This material has been condensed from "White Lead Paints, Why, When and How Specified. A Book of Reference for Architects, Surveyors and Engineers." Published by the White Lead Publicity Bureau.

Ageing of New Stucco, Cement, etc.

Such surfaces should not be painted until aged, when the lime content has become inactive. If earlier painting is imperative, artificial ageing can be achieved by a preliminary treatment consisting of two applications of a solution of 2 lb. zinc sulphate crystals to one gallon of water.

Ageing of New Lime Plaster.

Paint should not be applied to lime plaster until aged, when the activity of the lime has ceased. Where there is any doubt upon this point, there should be a preliminary treatment consisting of two applications of a solution of 2 lb. of zinc sulphate crystals to one gallon of water.

Specification of Painting New Work.

General Clauses :

1. No painting shall be done upon exterior surfaces that are damp or wet, or in foggy, wet, or frosty weather.

2. Ample time should be allowed for drying and hardening between successive coats of paint.

3. Each coat of paint when dry is to be properly smoothed down by the use of waterproof sandpaper, or other damp process before the application of the succeeding coat.

4. All cracks in plaster or woodwork to be made good, and all knots in woodwork to be either cut out and stopped, or effectively sealed with best shellac knotting. Old unpainted surfaces must be free from any fungoid growths, and any defective stone, brick, cement, etc., to be removed and replaced with material similar to the main structure and allowed to dry.

5. No paint to be applied to new lime plaster until it is perfectly dry and aged.

6. Ample time should be allowed for new cement surfaces to dry and become inactive before being painted.

Materials :

7. All the paint to be used on this contract, except where otherwise specified, shall be White Lead paint of a brand or from manufacturers approved by the Architect, and shall conform to (one or other of) the following specifications (as may be appropriate) :

(a) Priming paints shall consist of genuine White Lead priming paint tinted (unless otherwise specified) with not more than 5 per cent. of genuine Red Lead.

(b) White Lead paint (white colour) shall be mixed by the contractor on the job solely from genuine White Lead paste conforming to B.S.S. 241, with the necessary linseed oil, thinners, and driers, each conforming to appropriate British Standard Specifications. No more driers than are necessary for proper drying shall be incorporated in the paint.

(c) White Lead paint (coloured) shall be mixed by the contractor on the job, and shall consist solely of genuine White Lead paste, conforming to B.S.S. 241, with the addition of not more than one quarter of its weight of best quality paste stainers, and, except by the previous written consent of the architect, shall conform to B.S.S. 262 in regard to its White Lead contents. The requisite linseed oil and thinners conforming to appropriate British Standard Specifications and no more driers than are necessary for proper drying shall be incorporated in the paint.

(d) White Lead paint (white colour) shall be supplied in ready mixed form by the makers and shall conform to B.S.S. 261 in regard to its White Lead contents, and the paint shall have a guarantee by the makers on each container to this effect, and shall be used as supplied. Thinners may be added if in accordance with maker's instructions, or expressly permitted by the architect.

(e) White Lead paint (coloured) shall be supplied in ready mixed form by the makers and shall conform to B.S.S. 262 in regard to its White Lead contents and shall contain no added pigments or extenders other than the necessary stainers. The paint shall have a guarantee by the makers on each container to this effect, and shall be used as supplied. Thinners may be added if in accordance with maker's instructions or expressly permitted by the Architect.

8. All paints, stains and varnishes are to be entirely free from nibs, skins or other coarse particles, and must be strained before use where necessary.

9. The architect, or his representative, shall be entitled to take samples of any of the paint or paint materials being used upon the work at any time, for the purpose of analysis, and shall provide the contractor with a portion thereof under seal.

Workmanship :

10. All paint, varnish,etc.. shall be applied in a skilful and workmanlike manner ; paint to be well brushed out and final coats of varnish to be floated on as heavily as is practicable without running ; finishes to be smooth and free from brush marks.

Source of Information: The White Lead Publicity Bureau

Address : Rex House, 38, King William Street, London, E.C.4

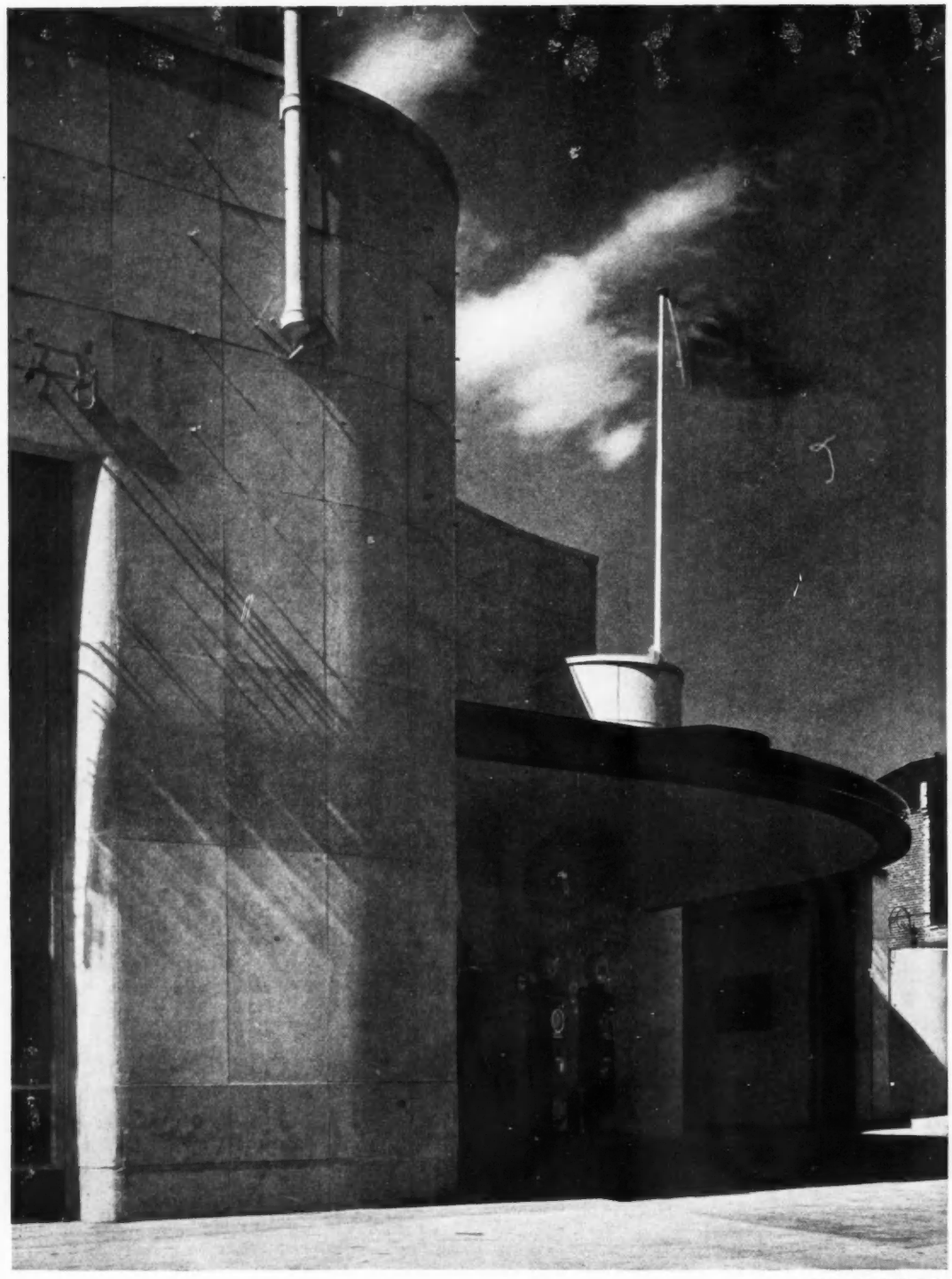
Telephone : Mansion House 2856 and 2857

A NEW THAMES EMBANKMENT

ON THE SOUTH SIDE OF THE RIVER

A scheme for a new Thames Embankment on the south side of the river, from Westminster Bridge to the new Waterloo Bridge, was due for discussion by the London County Council on Tuesday afternoon. It was decided, however, to defer the discussion until the next meeting, which will be held on July 24.

Above is a photograph of the south side, between Charing Cross and Waterloo Bridges. The Highways Committee recommended that legislation should be promoted in the next parliamentary session to acquire by compulsion certain property in the area concerned. They pointed out that "portions of the properties which are held on leases of varying lengths, will shortly come up for redevelopment. While it is not possible without careful study to put forward any specific plan for the area, the Council should, without delay, ensure that the property is safeguarded against piecemeal and haphazard building operations, and the consequent creation of new interests, which might run counter to any comprehensive plan that may be finally adopted and might thereby render prohibitive in cost the execution of a desirable lay-out."

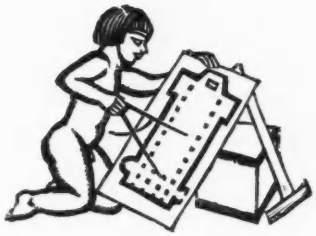


DELL AND WAINWRIGHT

SERVICE STATION AT ILFORD

A detail view of the petrol pumps and the end wall of the showroom.

The building, designed for Messrs. Stewart and Ardern, Ltd., by Cameron Kirby, is further illustrated elsewhere in this issue.



SAFEGUARD THE FREEDOM TO CONTINUE SENSIBLE BUILDING

UNTIL the Ruislip case brought the whole matter into prominence few people had considered the Panel system in the light of a possible obstacle to progressive architectural achievement. It was a worthy though seemingly impotent attempt to check the spoliation of the countryside by illiterate building, and its faults were those of insufficiency and lack of opportunity rather than of misdirection of energy : how insufficient, at any rate in one area, the system proved in the working is shown by the admission by the Chairman of the Ruislip-Northwood Urban Council in a recent letter to *The New Statesman* (reprinted in our last issue) that Messrs. Connell and Ward's design was the first one that Council had submitted to the Panel. The strongest feeling expressed about the Panels was one of sympathy for those giving their services on these Panels, knowing them a potential influence for good, but seeing on all sides depressing evidence that the influence was neither far-reaching nor effective enough to fulfil its admirable intention.

Since then the Ruislip case has brought to public, and particularly to professional, notice failings of the Panel system of a more positive nature. We have discovered its liability to be translated, as in the case of Ruislip, into a system of æsthetic dictatorship wherein opinions as to the æsthetic merits of one kind of design or another take preference over actual facts of amenity and good taste. It is thus possible for the Panel to become a definite handicap to progressive design and for its existence to provide a reason for the layman (the potential client and, in these days of democratic patronage, the eventual arbiter of taste) to avoid mixing himself up with professional quarrels by taking pains to have as little contact as possible with the architectural profession.

In this issue another case is described which fully illustrates the dangers of this tendency. Here the prospect of appeal to a Panel was sufficient to make the client decide to abandon his building project altogether, rather than risk the possibility of the house he proposed building being publicly pronounced by a Panel of experts as of an undesirable nature.

The architect in this case was Mr. Raymond McGrath, and his designs are illustrated on pages 88-90 of this issue. The house was designed for a secluded site, well screened from the road by trees and an orchard. The local authority found, as local authorities are apt to find, something unfamiliar and therefore shocking in an elevation so particularly concerned with the solution of contemporary problems, and refused to sanction the plans.

The rejection of the plans was therefore, in this case, the responsibility of the local Council and not of the Panel, but that does not absolve the Panel from blame for the state of affairs that arose. It is part of the function of a Panel to make itself responsible (however indirectly) for the education of the local authorities in their area to a more sensible outlook towards design, and if cases like this continue to arise the Panels can be said to have failed in their major function.

The R.I.B.A., both as co-founders of the Panel system and through their Public Relations Committee, are also responsible for the prevention of æsthetic dictatorship on other than pragmatic grounds by local authorities ; and continued occurrence of such cases is also an indication of *their* insufficiency. In this case, indeed, as is shown in the correspondence reprinted in this issue, Mr. McGrath did invite the Public Relation Committee's assistance. How much they were able to help is evident from their letters.

The countryside continues to be spoilt in the Panels' despite, and progressive building enterprise continues to be obstructed. The R.I.B.A., it is understood, are now reviewing the whole situation regarding control of elevations. May we hope that the outcome of their deliberations will be energetic action to safeguard, through the Panels or otherwise, both the tradition of sensible building we have left to us and the freedom to continue it in the most aptly contemporaneous manner.

The Architects' Journal
Westminster, S.W.1
Telephones: Victoria
0212-7
Telegrams:
Buildable
Parl
London

NOTES & TOPICS

A NATIONAL HOUSING COMMITTEE

LORD AMULREE'S report of the National Housing Committee has come to me. It is at once the most sensible and the most fantastic document.

*

Sensible because it outlines a programme which in the long run is the only means of bringing about the regeneration of urban England; but fantastic because neither in Parliament nor among the vast masses of property owners is there any will for such a measure, amounting as it does to a revolution in central and local government, and requiring from this government, besides the creation of a vast machinery, a definite promise for a long programme of work—from this government that threw small housing to private enterprise, and is only shamed into action on the slums.

*

I believe in the idea of a National Housing Committee, but not under these stars.

THE SOUTH SIDE

"I can forgive Mr. Morrison his bit of spectacular vandalism about Waterloo Bridge if he really does something about the mess on the south side of the Thames," said an old architect to me. He had a peculiar and special affection for London, and his bitterness about Mr. Morrison's personal demolition act had been pronounced.

*

If the L.C.C. really can clean up the Thames side from Westminster to Waterloo Bridge, London will begin to be worthy of its river. I shall be sorry to see the old red Lion Brewery building go; but that is just a piece of architectural sentiment, too weak to make me condemn out of hand the scheme for improvement.

*

It is often expedient that one building should suffer in the cause of planning; but there are always people (often architects) who will clamour for unimportant preservation at the expense of plan.

*

Of course, H. G. Wells has predicted something about the south side. In 1914 he wrote *The World Set Free*, and mentioned "the Carnegie Foundation school that rose, a long and delicately beautiful façade, along the South Bank of the Thames opposite the ancient dignity of Somerset House."

CROSS-RIVER TRAFFIC

The work on Waterloo Bridge was bound to cause some congestion to cross-river traffic, and matters have not been improved by the fact that one of the approaches to Westminster Bridge has been "up." The other day the police were appealing to motorists, and others bound from Surrey to Victoria and beyond, to make use of Lambeth Bridge; there was a mild suggestion that only incipient idiocy prevented everybody from rushing between the golden pineapples.

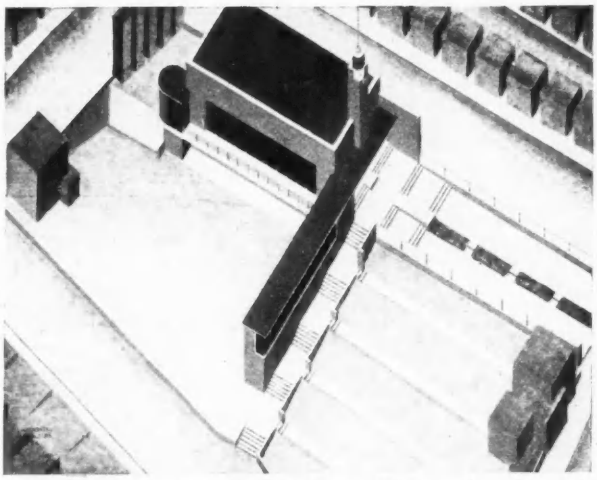
*

Personally, I do not consider the fault to be altogether that of the public. After all, so far as the south side of the river is concerned, where *is* Lambeth Bridge? And, starting at, say, Victoria Station, how does one get to it?

*

The necessity to draw the public's attention to the bridge suggests that there is something wrong either with the bridge

Sculpture on the new R.I.B.A. Building: "The Engineer." By C. Bainbridge Copnall.



A Recreation Centre. By F. Sturrock (first year). From the exhibition of students' work at the Architectural Association. *(See pages 82-83.)*

itself or with its approaches. As Sam Johnson wrote: "What cannot be done without some uncommon trouble or particular expedient will not often be done at all."

*

It is quite a trifling incident, but its significance lies in its being a gentle urge in favour of an intelligent plan—for London in particular and for everything else in general.

WOLVERHAMPTON NOT FLAT MINDED

The issue, said the chairman of the Health Committee, was whether the Corporation should provide a cottage on the outskirts at about 7s. 6d. to 8s. per week, . . . or a flat at 10s. per week near the centre of the town. It was better to put displaced people in cottages, *even though they might be two or three miles from the centre of the town.*

*

One person per family spending 2d. per day travelling to and from work spends 1s. per week, i.e., his rent is 9s. per week. His economic rent, taking into account the cost of servicing people three miles away from the centre, is a great deal more. Elementary mathematics. People cycle seven miles to and from Wythenshawe to avoid the heavy costs of transport. And have you seen the centre of Wolverhampton?

*

Of course nobody wants to live in a flat there, never having seen what a well-planned scheme of flats can look like. Retrospectively I can understand Wolverhampton people not being "flat minded," but in the governors of Wolverhampton one looks for a trifle more elevation.

THE ARCHITECTURAL SCHOOLS

Those students who completed their architectural training in the years closely following the conclusion of peace have by now reached the standard of being in practice on their own. They have achieved sound practical knowledge of their work, learned by the only method by which it can ever be learned—practical experience. They have therefore qualified for the privilege of being able—if not almost in duty bound—to say that "these young fellows from the schools are no good; they have no practical experience."

*

A school education must obviously be largely theoretical, and can be said to achieve success if it turns out men who have an intelligible, as well as intelligent, groundwork of facts, and who have been taught how to think.

*

In the past, school training has probably paid too little attention to the practical side; but from the work shown this year it is evident that the mistake has very largely been corrected. In fact the teaching of architecture today as explained by school curricula and witnessed by the actual output is a fine science, and might serve as a model for the teaching of a great many other things.

COMPARATIVE VALUES

Two advertisements recently appeared in *The Chatham News*, signed by the Town Clerk of the Borough of Gillingham. One invited applications for the appointment of a temporary architectural assistant in the Borough Surveyor's office at £300 a year, the post being guaranteed for eighteen months subject to the Ministry of Health's sanction of a loan being raised to build municipal offices.

*

The other invited "suitable persons" to apply for the job of taking charge of large main electric Sewage Pumping Station and subsidiary electric Pumping Stations at a salary of £260 per annum.

*

Have our architectural schools ever pointed out what a nice, steady future there is in sewage as opposed to the chancy ups and downs of mere designing?

PRESERVATION WITHOUT PLAN

Another beauty spot is threatened by "development." It is Whiteleaf Cross in Buckingham. Last time it was West Wittering in Sussex. But there are no precautions taken to preserve these treasures of English beauty, and there can be no adequate preservation without plan.

*

Also, if England were planned, the term development would not be synonymous with anarchy.

*

Oxford, which has long lost its peace through traffic congestion, is now, by plan, to be relieved. Part of the new Oxford northern by-pass is open to motorists. In a few years' time we shall be able to assess what we owe architecturally to the by-pass roads of post-war England.

*

They have saved many a little town from partial demolition, and its old buildings from increased dilapidation through the passage of heavy traffic.

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

The L.C.C. have deferred discussion on a scheme for a new embankment on the south side of the Thames until July 24 73

The Centenary Conference of the R.I.B.A. will be held from November 21 to November 24 79

The result of the final round in the Gidea Park Competition 79

"No great capital in the world has a smaller schedule of monuments in its area of acknowledged international fame and distinction than London." 101

THE ARCHITECTS' DIARY

Thursday, July 19

R.I.B.A. *Architects' Unemployment Committee. At 7, Bedford Square, W.C.1. Exhibition of Work done under the Architect's Emergency Scheme. Open until further notice.*

R.I.B.A. *Tite Prize and Victory Scholarship. Final en loge competitions.*

VICTORIA AND ALBERT MUSEUM, *South Kensington, S.W.7. In the Central Hall. Exhibition of English Silversmiths' Work. old and modern, showing the development of various domestic types. Open during July.*

Friday, July 20

ARCHITECTURAL ASSOCIATION. *At 36, Bedford Square, W.C.1. Annual Exhibition of Students' Work. Open until July 27.*

SOCIETY OF CHEMICAL INDUSTRY. *At Cardiff. Annual Meeting. Last day.*

Saturday, July 21

INTERNATIONAL FEDERATION OF SURVEYORS. *At 12, Great George Street, S.W.1. Fifth International Congress of Surveyors. Last day.*

LONDON SOCIETY. *Visit to new Headquarters of Lloyds Bank, 71 Lombard Street, E.C.3.* 2.30 *p.m.*

Tuesday, July 24

LONDON SOCIETY. *Visit to works of Messrs F.H. Ayres, Ltd., 111 Aldersgate Street, E.C.1.* 2.30 *p.m. Visit to Headquarters of the Order of St. John of Jerusalem, Clerkenwell, E.C.1.* 3.30 *p.m.*

RECONSTRUCTION OF GUILDHALL, CAMBRIDGE

On July 18 the Cambridge Town Council discussed a report and recommendations by the Guildhall Committee as to the reconstruction of the Guildhall. The revised plans show material alterations and additions resulting in the estimated cost of the building amounting to £152,793.

The architect is Mr. C. Cowles Voysey, F.R.I.B.A.

LEEDS SCHOOL OF ARCHITECTURE

An exhibition of students' work at the Leeds School of Architecture was opened by Mr. Alfred C. Bossom, M.P., F.R.I.B.A., on July 17. It will remain open until August 1.

In former years this exhibition has been part of the College of Art Exhibition which is held in November but this has meant that it has been possible to exhibit only a very small selection of the work of the School itself. The great increase in the amount of work carried out in the School has made it imperative to have a separate exhibition this year. This is, therefore, the first exhibition to be held under the new arrangement.

FRANCO-BRITISH UNION OF ARCHITECTS

At a dinner held in connection with the visit of the Franco-British Union of Architects to Norwich last week, the Lord Mayor of Norwich, speaking of the need of "building for tomorrow," said he thought they would be less proud of their great buildings if they knew that their design was modified by economic considerations. In considering municipal buildings he thought they should raise them in all the majesty and splendour and boldness the greatest architects could give. Such buildings remained long after the generation which built them had passed away. He hoped soon they would be able to see something noble in architecture which the twentieth century has given to Norwich.

Those present included: Messrs. Arthur J. Davies, A.R.A., F.R.I.B.A., H. V. Lanchester, F.R.I.B.A., G. Grey Wornum, F.R.I.B.A., H. M. Fletcher, F.R.I.B.A., M. Gurard and M. Laparde.

£100,000 GIFT FOR NEW LIBRARY AT LIVERPOOL

Mr. Harold L. Cohen, of Liverpool, has made a gift of £100,000 to the University of Liverpool for the erection of a new library.

Mr. Cohen's decision is conveyed in a letter which he has sent to Lord Derby, Chancellor of the University.

Work on the new building, which has long been a necessity of the University, is expected to start at the beginning of 1935. The site selected is that for so long occupied by the School of Architecture—then affectionately known as "Reilly's Cowshed"—in Ashton Street, close to the main block of the University's buildings.

This building serves at present as a temporary home for the Students' Union, while its building in Bedford Street is being extended. That work is expected to be completed this year.

WELSH SCHOOL OF ARCHITECTURE

About 35 members of the Welsh School of Architecture visited Broadcasting House and the new headquarters of the R.I.B.A., Portland Place, on July 3. The party was conducted round the R.I.B.A. building, which is now nearing completion, by Mr. P. Long, the Clerk of Works, and by the architect's assistants, Messrs. P. G. Freeman and L. J. Young. At the close of the visit the architect, Mr. Grey Wornum, F.R.I.B.A., gave an interesting talk on the building, dealing with numerous points in connection with its planning, construction and decoration.

TOWER HILL IMPROVEMENT SCHEME

A short, but interesting, ceremony will take place on Monday, July 23, at 4.45 p.m. at Tower Gardens, when the foreshore in front of the Tower of London will be dedicated as a children's beach and tidal playground.

EXTENSIONS TO BLACKBURN CATHEDRAL

Drawings of the proposed extensions to Blackburn Cathedral have now been passed. The architect is Mr. W. A. Forsyth, F.R.I.B.A., and the estimated cost of the work is £190,000.

LIVERPOOL CELEBRATES

Liverpool has made the opening, yesterday, by the King and Queen, of the Mersey Tunnel, now officially named Queensway, the occasion for a blossoming forth into bunting and a display of pageantry on the largest possible scale.

Mr. H. I. Gordon's designs for the principal street decorations have already been described at length in THE ARCHITECTS' JOURNAL. Owners of buildings have supplemented them with bunting which seems to show no very marked regard for the official request that displays of bunting should follow prescribed colour schemes for the principal streets, although the effort to comply can be detected here and there.

The centre of it all, the very entrance to the tunnel, in Old Haymarket, concerning which there is an official proposal to change is name to Kingsway, has been adorned, apart from Mr. Gordon's scheme for the streets leading to it and surrounding it, under the direction of Mr. Herbert J. Rowse, the architect to the Mersey Tunnel Joint Committee. The craftsman chiefly responsible has been Mr. W. R. Burden, who erected the Royal dais—a platform roofed and be-velveted with much elegance and adequate display of colour.

COMPETITION FOR NEW COUNCIL OFFICES, MARKET BOSWORTH

The following notice has been issued by the R.I.B.A.: "The Competitions Committee desire to call the attention of Members to the fact that the conditions of the above competition are not in accordance with the regulations of the R.I.B.A. The Competitions Committee are in negotiation with the promoters in the hope of securing an amendment. In the meantime Members should not take part in the com petition."

NEW LIBRARY BLOCK, SWANSEA

An open competition is to be held for a new library block at the University College, Swansea. Professor W. G. Newton, F.R.I.B.A., has been appointed assessor.

We understand that conditions will be available in about three months' time.

TOWN PLANNING INSTITUTE

Mr. T. Alwyn Lloyd, F.R.I.B.A., has relinquished the presidency of the Town Planning Institute on completion of his 12 months in office. He is succeeded by Mr. H. H. Humphries, City of Birmingham engineer.

R. I. B. A.

R.I.B.A. CENTENARY

The new R.I.B.A. building is officially to be opened in the first half of November. The Centenary Conference will be held from November 21 to November 24. Programme: Wednesday, November 21: 9 p.m. to 12 midnight, Reception in the new building. Thursday, November 22: 10.30 p.m. to 1 p.m., Inaugural meeting; Presidential address, reception of delegates. 2.30 to 6 p.m., Visits to buildings and places of interest in London. 7.15 for 7.45 p.m., Centenary Banquet. Friday, November 23: 10 a.m. to 1 p.m., Visits to schools of architecture or lectures and discussions. 9 p.m. to 2 a.m., Dance in the new building. Saturday, November 24: 9.30 a.m. to 1 p.m., Visits to places of interest.

COUNCIL MEETING

At a recent meeting of the Council of the R.I.B.A., the following resignations were accepted with regret:—Fellow: Mr. H. P. Roberts. Associates: Messrs. A. Migotti and A. Nisbet. Licentiates: Messrs. W. A. Griffiths, W. J. Heard, S. Keighley and J. E. Pluck.

Transfer to the Retired Members Class: The following members were transferred to the Retired Members Class: As retired Associate: Mr. V. E. Young. As retired Licentiate: Mr. W. H. H. Marten.

FINAL EXAMINATION.—THE THESIS

The Board of Architectural Education state that Final Examination Theses should be simply bound into paper board covers. Elaborate bindings are not required. Separate sheets loosely clipped into a spring back or other type of folder are not desirable. There are no regulations laid down as to size, but it is suggested that ordinary foolscap size (13 in. by 8 in.) is most satisfactory.

THIS ARSHETECTURE

At Donegal Board of Health Dr. O'Deagha is reported to have drawn attention to the amount of tuberculosis prevailing in the county and to have stated that "the effect of concrete houses would only be to increase that dread disease: even the best concrete was liable to crack."

From THE IRISH BUILDER AND ENGINEER.

MODERN HOMES EXHIBITION

GIDEA PARK

[BY OUR SPECIAL CORRESPONDENT]

In June of last year the Directors of Gidea Park, Ltd., in connection with their Modern Homes Exhibition, held a competition (open to members or students of the R.I.B.A.) for designs for five different types of house, ranging in cost from £500 to £1,000. The assessors were: Professor S. D. Adshead, F.R.I.B.A., *Alderman Ewart G. Culpin,* F.R.I.B.A., *and Messrs. A. E. Beresford,* F.R.I.B.A., *E. Maxwell Fry,* A.R.I.B.A., *Howard Robertson,* F.R.I.B.A, *and W. Harding Thompson,* F.R.I.B.A. *The assessors selected five designs in each class and the author of each of the 25 winning designs, in addition to receiving a premium of £10, was appointed by the promoters to execute his design in the Exhibition grounds at Hare Street, Gidea Park. It was a condition of the competition that, after completion, the houses would form the subject of another competition, when the architect of the house the assessors considered the best in each class would receive a further premium of £20. With one or two exceptions the houses are now completed, and the result of the final round of the competition was announced on July 18 as follows:—*

CLASS A (COST £650): MR. J. MOORE SIMPSON, A.R.I.B.A., of 34 Bedford Row, W.C.1.

CLASS B (COST £800): SCOTT, CHESTERTON AND SHEPHERD, FF. AND A.R.I.B.A., of 12 York Buildings, Adelphi, W.C.2.

CLASS C (COST £1,040): MR. J. MOORE SIMPSON, A.R.I.B.A.

CLASS D (COST £1,250): MR. L. W. THORNTON WHITE, A.R.I.B.A., of 26 Regent's Park Road, N.W.1.

CLASS E (COST £1,575): MR. F. SKINNER AND TECTON, of 57 Haymarket, S.W.1.

Photographs and plans of the above houses are reproduced overleaf. The houses will be open to inspection by the public at Gidea Park from July 31 to August 20.

THE term "Modern Homes" does not mean the same thing to many people. In case you should imagine the speculative builder to be alone in his confusion, go to Gidea Park to see how 25 contemporary architects respond to the invitation to design and build a modern home. I promise that you will find no uniformity in their response.

The owners of Gidea Park are the friends of architects, being "investor" builders, which is a very different thing from being "speculative" builders. A year ago they held a competition for architects, and you may see the results of that competition, surrounded by trees and bowered in flowers—growing old beautifully.

Today, when domestic architecture is undergoing momentous changes, they hold another competition, and the public may once again decide for themselves which out of 25 houses fits their fancy or points to the future.

The 25 houses on view at Gidea Park have been built to the designs of the winners in five classes, ranging in cost from £500 to £1,000. The first round of the competitions was open to any architect or student, and was heavily competed for. Every design had to be accompanied by a declaration from a builder saying that he was prepared to build the house and others like it for the amount stipulated, or less—but not more. Five out of each class were then asked to complete working drawings, get tenders, and build their houses in time for the exhibition. Here they are, then, all built; some with a margin of time in hand, and some by the skin of their teeth.

The assessors were able to select the winners in each class by examining plans and houses together—a privilege unique in architectural assessorship. Only those whose houses were, in fact, built for the money have been awarded prizes. This is uncommon, too.

THE WINNING SCHEMES

CLASS A

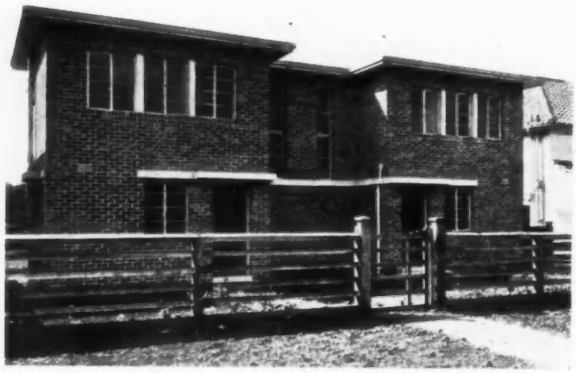
In every class there is a complete mixture of styles. Quite evidently domestic architecture is on the move towards a new form. The flat roof is one indication, but the freer planning of living-rooms and the insistence upon economic and efficient working equipment is even more important, because it is common to all types here. I imagine that the judges were influenced strongly by this factor in giving the prize to Mr. J. Moore Simpson's houses, for although the design is not distinguished the plan is as good as anything in the exhibition, and the equipment in a £650 house miraculous. The long single living-room is completely justified by length alone, though it lacks the character of the living-room in Messrs. Holford, Stephenson and Yorke's very modern and quite delightful pair.

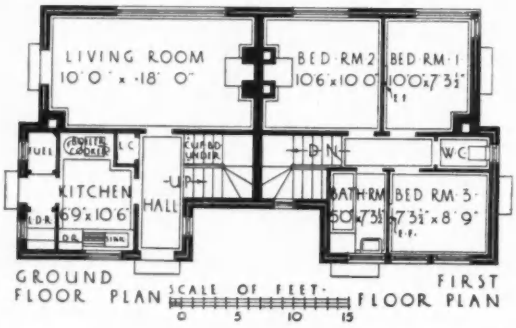
This house has a great deal to be said for it. I hope the public will feel as stimulated as I was, and will admire its feeling of spaciousness. It would certainly be the house for me.

CLASS B

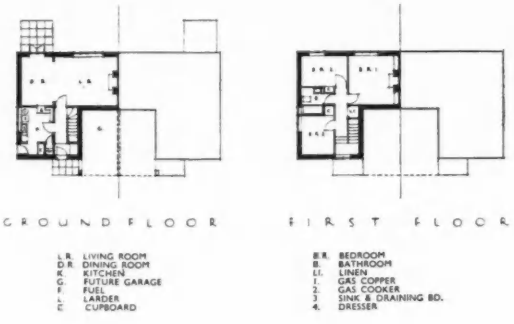
I thought these a dull lot externally. It will be noted that Mr. J. Moore Simpson has eliminated side windows, which practice, in houses built closely together

MODERN HOMES EXHIBITION, GIDEA





Class A (Cost, £650): By J. Moore Simpson, A.R.I.B.A. (Builders: Alfred Clarke (Bishop's Stortford) Ltd.)



Class B (Cost, £800): By Scott, Chesterton and Shepherd, A.F. and A.R.I.B.A. (Builders: H. M. Nowell, Ltd.)

in pairs, is sheer common sense. Joining them together is the next obvious step. His hall is as spacious as his kitchen; the house is properly fitted with cupboards; there is a separated w.c., and equipment is first rate, both it and the materials of floors and walls carefully designed for economic and lasting use.

As a house it has neither the charm nor the character of Messrs. Scott, Chesterton and Shepherd's house with a narrow but interestingly designed hall and a long combined living and dining-room. But it has space, which the latter has not to the same extent, and in an £800 house it is a cardinal sin not to separate the w.c. or to leave a bathroom untiled.

CLASS C

Again, Mr. Moore Simpson, by sheer weight of efficiency, by providing more for the money than any other competitor, and doing it neatly and pleasantly, wins, and deservedly. Again, the essential points in house design: care for materials, understanding of the proper uses of household equipment, compact planning so that space is rated cheaply, provision for cupboards, and so on, have all been attended to. The effort to avoid side windows in this case has led to the underlighting of the smallest bedroom, but this can be rectified easily, and against it can be set the basins and electric fires in bedrooms, both fixed in the right position, and the very handy door into the garage. Messrs. Minaprio and Spencely's house, despite the size of its rooms, is only second best. It is a good suburban house with a traditional plan, best room to the front and so on, and elevation in doubtfully good taste. I would have those wretched bands of colour off quickly if I had to live in it.

Mr. Thornton White's house is charming, but does not provide enough for the money, and Messrs. Smith and Wood's house, separating every room and sloping upstairs ceilings, is too cut up and too much of the past in general character to be a modern home.

CLASS D

This has more good houses than any other class, and Mr. Thornton White redeems his Class C house with a four-bedroom house that is a miracle of accommodation for £1,250. The living-room he divides into areas for dining, sitting and writing, and it is big enough to carry the pretence. The kitchen is the right size. Upstairs are too good bedrooms and two possibles, three of them with cupboards. There is a separate bathroom and w.c. But up again, and by a proper staircase, is a roof garden, with tank and store-room, protecting wall on the north, and screen wall for shade and sleeping out purposes. The elevations are rather mannered, but successfully so.

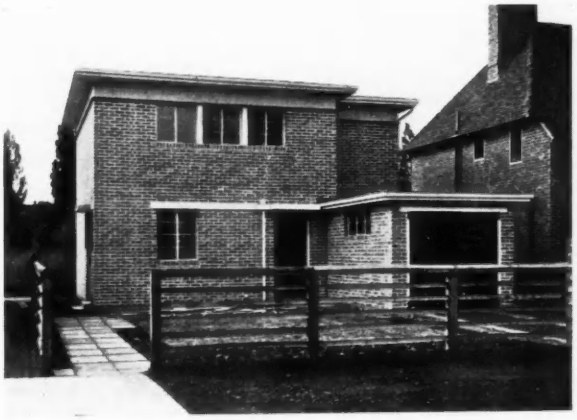
Mr. Spence-Sale's house is an imaginative and a practical piece of work. Again, four bedrooms, which not everyone in this class has found possible; tip-top equipment and cupboards, and a large and airy living-room. It could have been larger, for the kitchen is ridiculously over big, and has two sinks, and if it had been, this house would have shown that reinforced concrete is a possible material for small-house building. As a design it ranks as high as anything in the exhibition, and its character arises out of its plan and structure, which the winning design in this class does not.

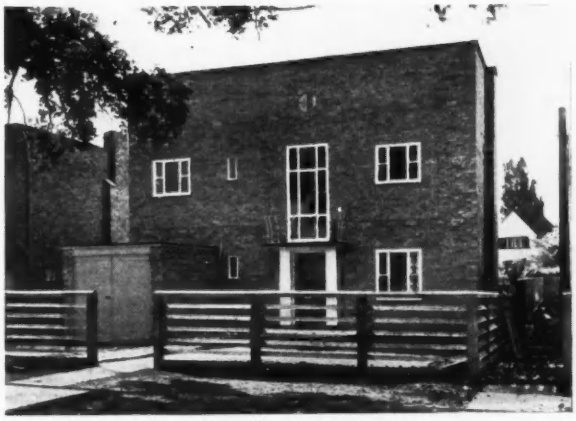
The other three designs are really good, and all three have character in general and in detail.

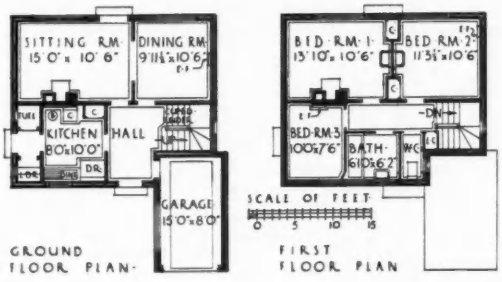
CLASS E

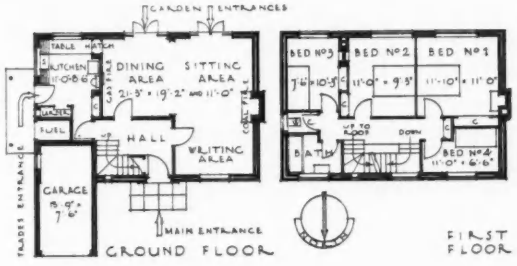
In this class only two houses stand out: the winning design, by Mr. Skinner and Tecton, and that of Messrs. Scott, Chesterton and Shepherd. I am glad one of the modern houses gets a prize, and this particular one will galvanize the public that walks through its spacious, pleasant living-room; turns a critical eye upon the exactly fitted kitchen, with its maid's bedroom beyond, and is delighted to find nearly the only set of bedroom cupboards deep enough to hang clothes economically on hangers on a rail. The idea of a maid's domain, complete with bedroom and bathroom, is humane as well as sensible. I'm not going so far as to say that I would willingly sacrifice house space for roof

PARK: THE WINNING HOUSES



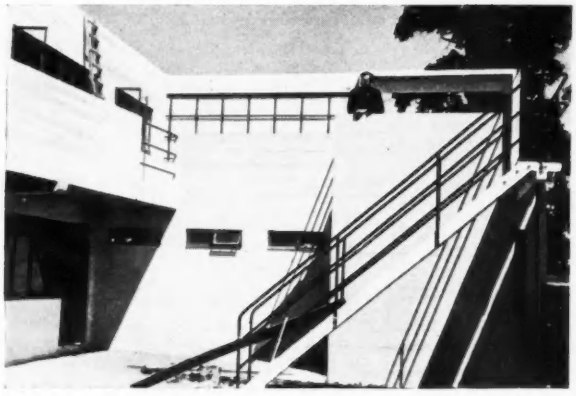


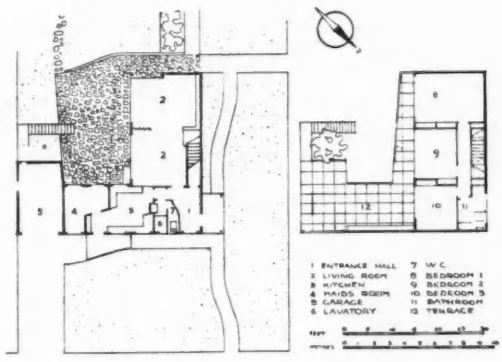




Class C (Cost, £1,040): By J. Moore Simpson, A.R.I.B.A. (Builders: Alfred Clarke (Bishop's Stortford) Ltd.)

Class D (Cost, £1,250): By L. W. Thornton White, A.R.I.B.A. (Builders: H. M. Nowell, Ltd.)





Class E (Cost, £1,575): By F. Skinner and Tecton. (Builders: Pell and Clayton, Ltd.)

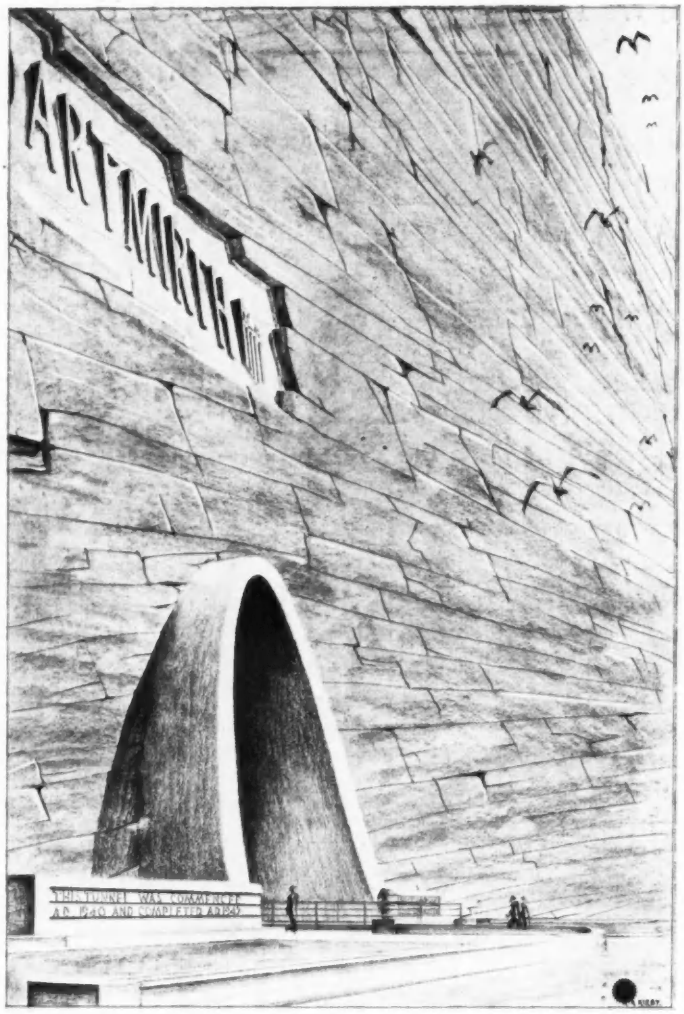
terrace where the garden lies all round me, but I am glad to see the idea of open-air living incorporated in a house of much skill and refinement. The other house mentioned suffers from having no windows in the south and garden wall of the living-room and bedroom above. It is hard to think why, where so much else is well planned and beautifully worked out.

GENERALLY

There is a quite distinct classification. "*Avant-garde*" in reinforced concrete and a range of new materials, open planning, big fenestration, carefully designed equipment. "*Sensible compromise*" in habitual materials, big open living-rooms, good equipment, but not always so well thought out, smaller windows. "*Traditional*"—pitched roofs, cut-up plan—i.e., separated rooms, small windows.

There could well be a separate account of materials and equipment, for there is much of interest in the 25 houses.

As an exhibition it cannot touch either the Stuttgardt or the Vienna Exhibitions, and purely because we have not gone far enough upon the road we are travelling. With all their faults, the houses of the *avant-garde* are by far the most stimulating and interesting, and in point of dignity, spaciousness and reticence, offer the only parallels with our best traditional style of Regency building. But as a cross-section through the contemporary architectural scene the exhibition could not be bettered, and the promoters should be very warmly congratulated upon their courage and its very satisfactory reward. M. O. D.



A road tunnel entrance. Perspective by R. A. Kirby (fourth year).

STUDENTS' WORK AT THE ARCHITECTURAL ASSOCIATION

[*BY M. L. ANDERSON*]

THE last dozen years have seen a procession of foibles in design at the Architectural Association—mostly inspired from abroad. Six or seven years ago it "went Swedish" and even today there are quite a lot of people who still think of the place in that light. Some who have seen the last two or three annual exhibitions of students' work continue to say this, I can only assume, because anything which is neither purely "functional" nor frankly "traditional" must therefore be Swedish.

In the A.A. exhibition there is quite a dash of Dudok; there is some work which might be as well Swedish as anything else; there is some "Stratford Theatre"; a little Byzantine; some classic; a modicum of Mendelsohn; and a very great deal of originality, thought and careful, logical experiment with the idea underlying architectural design. The virility of the school seems to lie in this freedom of outlook; there is no one right way to solve the problem. If a man feels Byzantine he may let himself go, or he may wish to experiment with the Dutch methods of today; but in either case the mental process must be properly carried out and brought logically, and with certain knowledge, to its conclusion. The imitative mind is not discouraged in any way, but it is insisted that the thought behind all the work shall be as to the "*Why?*" and not merely as to the "*How?*" This is, of course, merely another way of saying that in almost every case there is a modification or accentuation of certain features which goes far to create an individual form—but a form supportable by minute research into traditional and modern structure as well as attitude of mind.

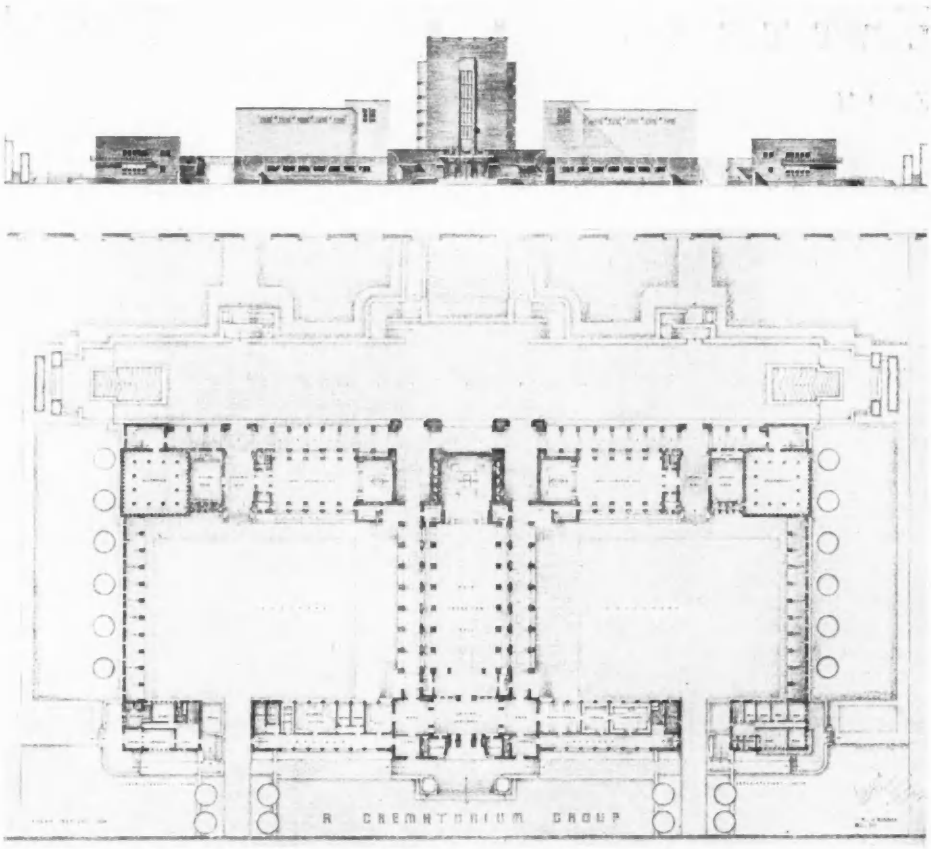
History is taught, but not as a mere record of past forms. It takes into account the sociological character of each period, together with the constructional abilities of its people and materials. (This form of analysis is the proper subject for the term "modernism" as now used. It represents the intelligent approach to any problem. Its results, being generally novel, are always disliked by the romantics.)

However much one may deplore imitation, however much one may argue that every problem is a problem to be solved without reference to other problems, one is bound to admit that, as a school is a place in which to learn how to think, the winnowing of failures and successes in the past is highly essential to the individual. As an instance of the state of inquisitiveness and experimentalism which the training stimulates, I was interested to observe a new technique in rendering by the use of coloured inks in lines drawn with a ruling pen; I admit that it doesn't always quite "come off," but it shows a healthy attitude of mind, and one assumes that the reason for failure is in each case made clear to the author of the drawing.

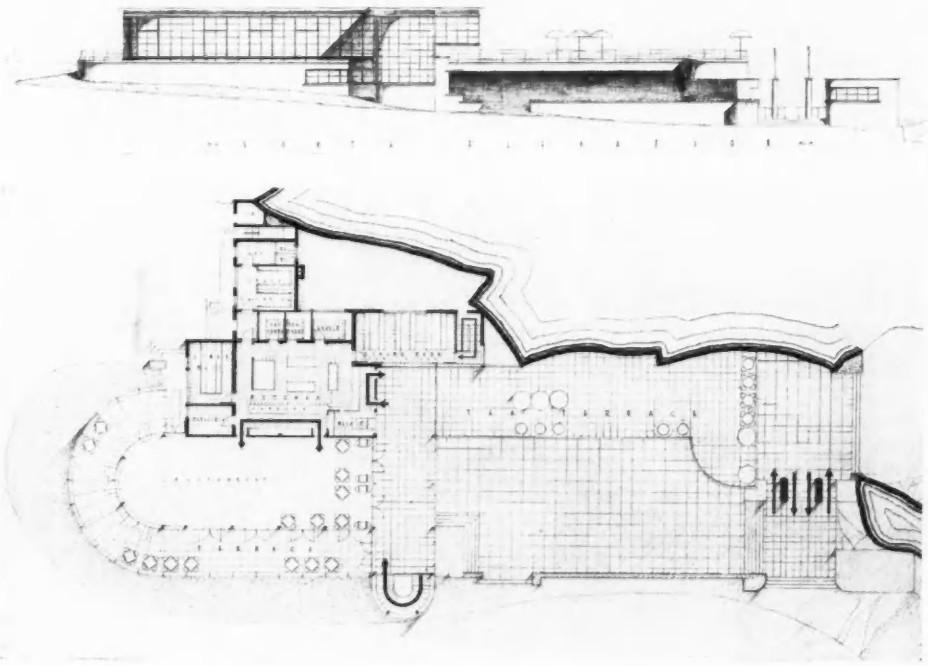
A casual walk round the exhibition, while producing a good deal of admiration both of freedom of design and of draughtsmanship, does not convey a true idea of the careful thought underlying the curriculum. "Research" is the key-word, and some imagination on the part of the visitor is necessary before it can be clear how far its meaning is taken. A student must have a *reason* for everything he does; but even the "study sheets" (where they appear) show only those facts which are to be of actual use for the subject in hand; they do not show the multitude of facts which, though learned, are for the moment irrelevant; nor do they (nor can they) show clearly how design and construction are intricately woven together in the student's mind, so that each is regarded always in the light of the other. My great complaint about the exhibition is that the *output* of the school is given too much consideration, and the *methods* of and *reasons* for the output rather ignored. I have not the responsibility of putting the show together and so can afford to be glib; and I feel that much is lost upon the visitor without some much more detailed review of the curriculum than is contained in the printed guide. I should like to see, if it be possible, a sort of pictorial lecture on the school's plan and policy. It is a most interesting educational scheme, whether applied to architecture or to anything else; and I feel that the annual review of it should not lack the logical thought which is so admirably stimulated in the students.

For the final frustration of those people who imagine, from the foregoing review of the A.A. exhibition, that it is all too far divorced from architectural breadwinning, I think it may be as well to give just one instance of the purely practical side—although here, too, design as such is important.

The programme gives choice of houses



Plan and elevation of Crematorium; by M. J. H. Bunney (fifth year thesis subject).



Plan and elevation of Feddup Falls Road House; by P. H. Laurence (third year).

to be built, the accommodation and requirements varying in each case. The remainder of the programme, however, is common to all types. Cost not to exceed £1,200 at 1s. 2d. per foot cube. First of all ⅛ in. scale plans are required for the "estate office." Then a complete set of half-inches with full-size details; a perspective for the client; half-inch axonometric showing all plumbing; ⅛ in. working drawings on linen, showing drains; outline specification for the work. Each phase, of course, is treated as a "subject," and the whole thing takes place during the third year.

LETTERS FROM READERS

DR. W. FOXLEY NORRIS
(Chairman of the Central Council for Care of Churches)
ARTHUR WELFORD, A.R.I.B.A.
EDWIN WILLIAMS, M.A., F.R.I.B.A.

The Care of Churches

SIR,—My attention has been called to a paragraph in your issue for July 5 as follows: "The Central Council for Care of Churches . . . contains one Bishop, two Deans, five Archdeacons, five Canons, but no Architect," and goes on to say that it is "surprising" that I, as Chairman, have "not invited any Architect."

I am sure you do not wish to be misleading or inaccurate and will therefore welcome the facts which the writer of the paragraph evidently did not know. The Council which, as you say, is a remarkable body, consists of some 90 members, of whom over 70 are representatives, lay and clerical, of the 42 Diocesan Committees, and 15 are men chosen for their special knowledge by the Church Assembly. You say that there is "no architect" among them, but there are no fewer than nine architects, some of them very famous men. We have many times been accused of having too many architects, but never before of having none.

Having said so much it is perhaps hardly necessary to answer the second part of the paragraph, but to make things clear I may as well say that the chairman has no power to "invite" anybody. We work on a Constitution settled years ago by the Church Assembly.

I venture to hope that you will find room for this, because I regard it as an unfortunate thing for us to be misrepresented by so important a paper as THE ARCHITECTS' JOURNAL.

W. FOXLEY NORRIS
(Chairman of the Central Council)
Westminster

Astragal writes:

It is good news to receive this correction, for I have before me the Interim Report of the Central Council for Care of Churches, signed by the Dean, and this contains no reference to any architect.

At the time of writing my paragraph the final Report of the work of this Council was not available, and therefore the correction of Dr. Foxley Norris is very welcome.

ASTRAGAL

This Arshetecture

SIR,—"A bank ought, surely, to look like a bank, conveying a sense of stability, of dignity, and of resources adequate enough to be devoted to ornament as well as utility." (This Arshetecture, *A.J.*, July 5.)

The architect has to think for only a moment to realize that the dignity, etc., of banking is not symbolized adequately in bank architecture. Banking, at the present time, is of far more importance than industry; the latter being merely "something upon which to base The Mortgage."

The dignity of the banking system, the sole creator and destroyer of money, must be made obvious; indeed, its world sovereignty demands an architecture symbolic of its majestic rule.

A new order of architecture, symbolic and "founded on tradition" must be evolved. It must be exclusive to bank building; monopolistic by law.

Therefore bank architecture in the future will certainly not be functional, rather will it reflect the qualities inherent in the system, dignity, exclusiveness, and resource.

Foundations will be small, for all must be symbolic.

The base of the column will be of gold, and the shaft of more ephemeral material. The capital may reasonably be ignored for the system does not lend its capital; even if symbolized it would appear so small as to be negligible.

In order to arrive at the symbolic proportions of the column we must go back to 1928, that time of the greatest triumph of the system: to the "taking over" of the nation's Treasury notes, to the vindication of the system's sovereignty. On November 8, 1927, *The Times* reported, "The reserve in the Banking Department (of the bank of England) to liabilities is today 28 per cent.; in the case of the other banks it is only about 11½ per cent. Actually the percentage of the joint stock banks is less than this, for their deposits at the Bank of England, which they call cash, are covered, as we have seen, by real cash at the bank to the extent of only 28 per cent." Thus the total reserve was only about 3.22 per cent., or, in terms of money, about 7¾d. in the £. Therefore, dividing the column into 240 parts, the base should be 7¾ in height and the shaft 232¼.

As to the form of the column; it must be decidedly pyramidal, inverted.

The columns must always be coupled and balanced, symbolizing loans and deposits, "every loan creating a deposit and every repayment of a loan destroying a deposit."

So much for the symbols of utility. Ornament must be spare, the golden disk of Aten should suffice with, perhaps, little golden calves in the niches.

Then only will "banks look like banks," and not, as the subversive would have them, the ticket office and book-keeping department of a nation.

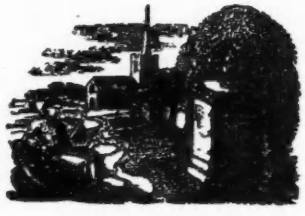
ARTHUR WELFORD
Saxmundham

Economics for Architects

SIR,—Your correspondent, "Archiconomist" does well to champion in your pages the claims of the Green Shirts who are so courageously fighting the battle of monetary reform. The members of the Hundred New Towns Association founded by Ex-Service Man J47485 are certainly not hostile to the Green Shirts. I think that "Archiconomist" is wrong in attributing to the former "Machiavellian principles." The programme of J47485 is, in fact, very much more definite and more easy for the ordinary citizen to understand than are the theories of Major Douglas. J47485 proposes that the British people should build a hundred new towns by the aid of money created by the Treasury especially for that purpose. The new towns, if properly built and in the right places, would not only solve the slum problem in the most convenient and economical manner but quicken the national life at all points.

Obviously, such a scheme is capable of interesting a very large number of voters who are at present not inclined to busy themselves with "pure" economics. When these same voters realize that a scheme of national reconstruction which they are convinced is both practicable and desirable can only be implemented by means of a certain change in the financial system, the political power which can be brought to bear on behalf of that change will be very considerable. Therefore "Archiconomist" is surely making a premature judgment when he affirms that the scheme proposed by J47485 has little chance of being allowed to come into operation.

EDWIN WILLIAMS
London



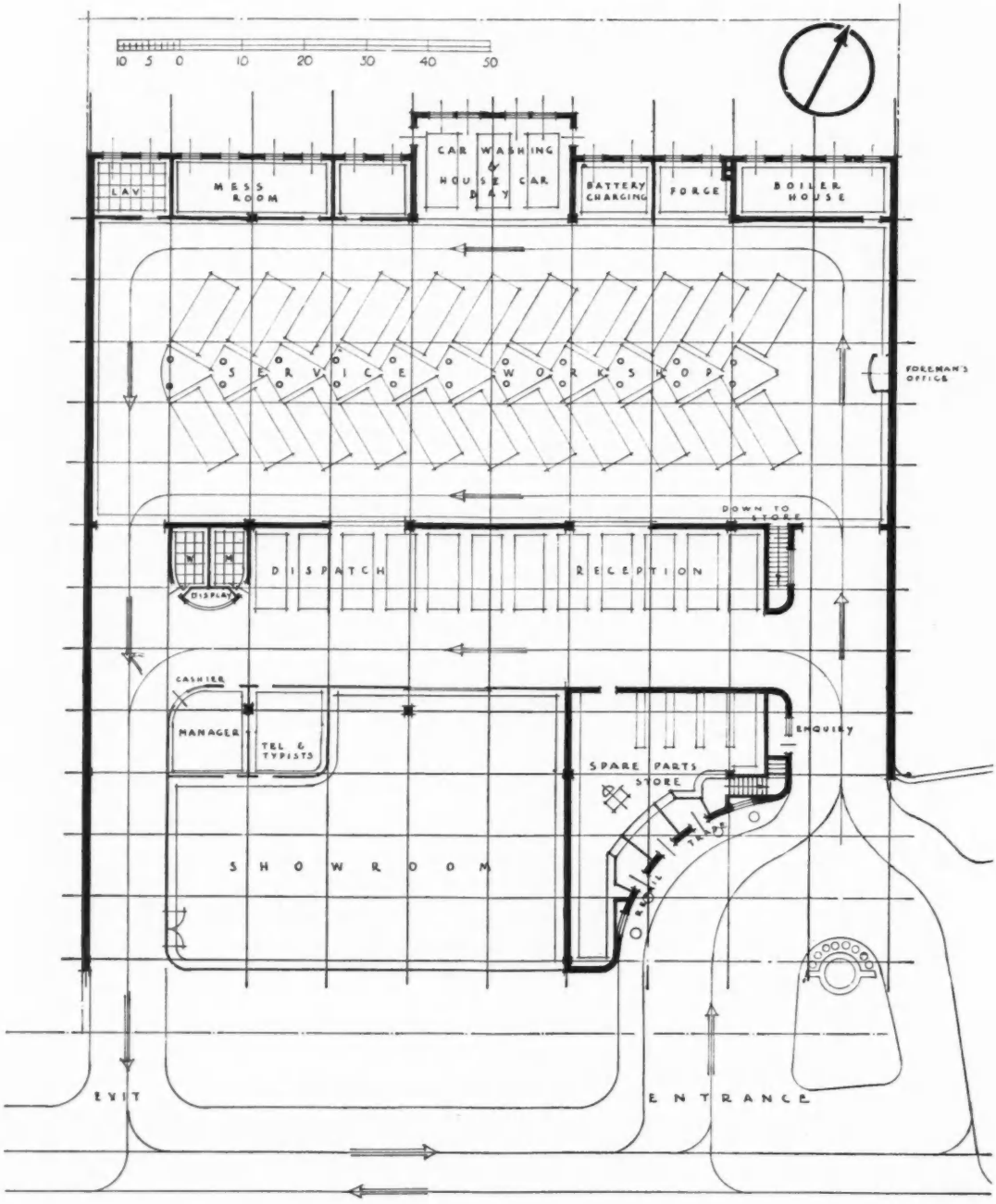
SERVICE STATION AT ILFORD

This service station and showroom is the first of a suburban chain now under construction, and is intended mainly for minor adjustments and light repairs. The building is steel frame and brick, with a facing of reconstructed Ketton stone slabs, relieved by neon name signs on a wood backing. The front of the showroom is set back 10 feet from the building line, and this space is therefore available for the display of cars on fine days, hence the sliding and folding showroom doors. The girder carrying these doors, which weigh some 4½ tons, has a span of over 60 ft., and is 8 ft. deep, with a concrete backing. The facing slabs were used as shuttering, and are held in position by metal ties. The illustrations on this page show: above, the entrance to the service station and the petrol and oil pump unit; right, the showroom.

DELL AND WAINWRIGHT

DESIGNED BY CAMERON KIRBY

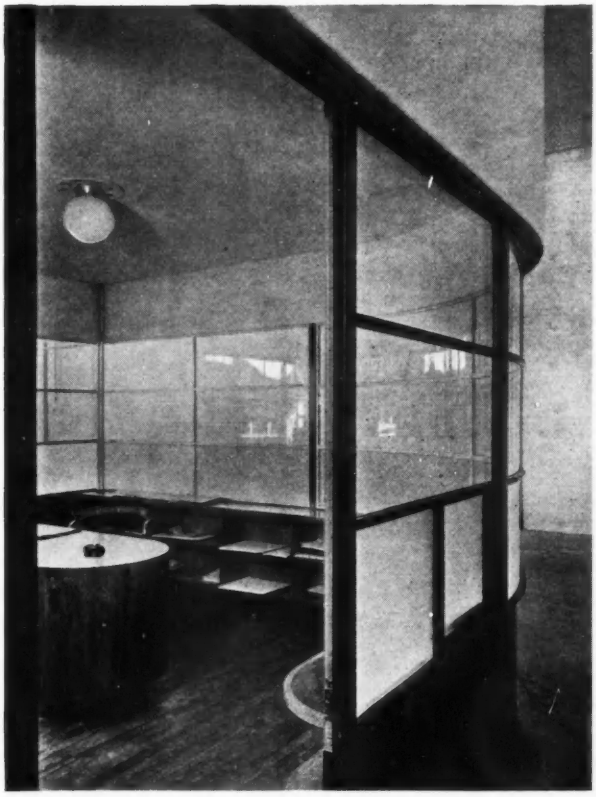
SERVICE STATION AT ILFORD:

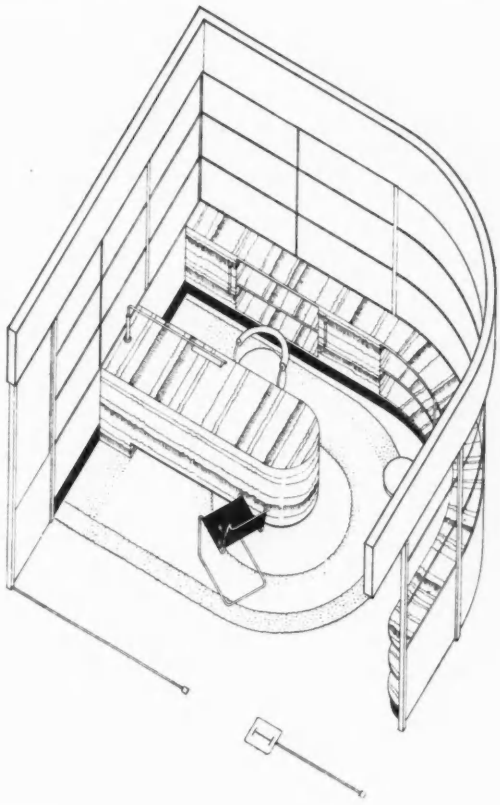


GROUND FLOOR PLAN

This Service station is one of the few to be planned as a whole, rather than developed from the customary tin shanty, and considerable trouble has been taken to keep the circulations clear. The service station entrance leads past the petrol and oil pumps to a gangway parallel with the main workshop, where spare parts may be bought and possible troubles diagnosed, the car being left at the reception end of the gangway and taken subsequently to the repair shop. Accessories are displayed in a case opposite the cashier.

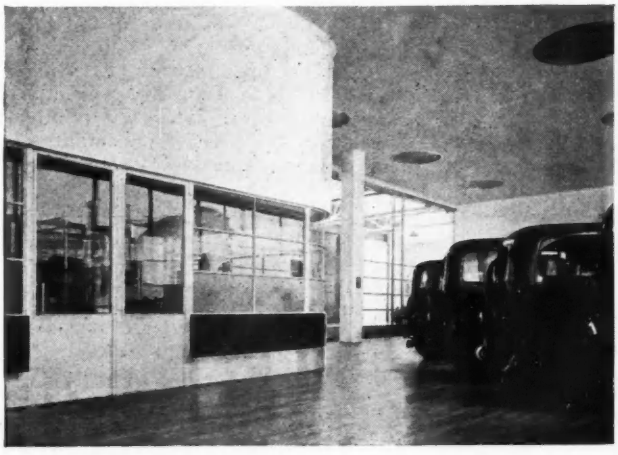
DESIGNED BY CAMERON KIRBY



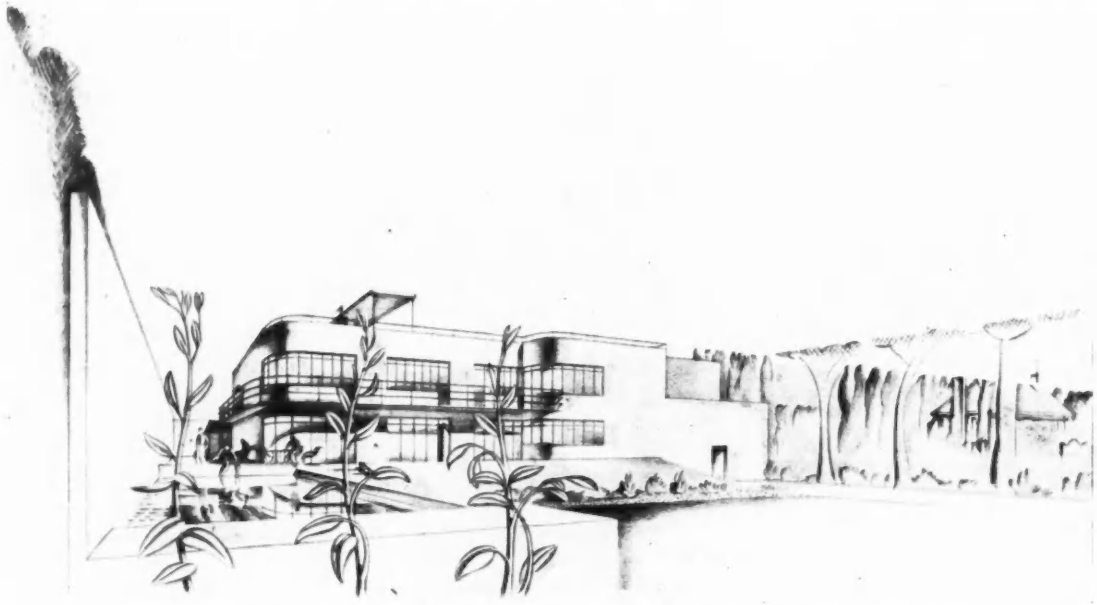


The general colour scheme of the showroom and manager's office is black and silver, with cream walls and ceiling, and maple strip floors. Skirtings and door furniture are in anodized aluminium, with a dado of hard black rubber drawn over a wood core. This dado projects about ½ in., and is intended to prevent the walls being scratched when the cars are moved about. The showroom lighting is by means of circular flush panels of sandblasted plate glass, 4 ft. in diameter, held in position by an anodized aluminium fixing ring. In the centre of this sheet is a 12 in. diameter hole, and immediately above this is a 14 in. disc of sandblasted peach plate supported on small glass discs to provide space between the sheets for ventilation purposes.

The manager's and cashier's office, of which a photograph and axonometric drawing are reproduced above, is furnished in walnut, the desks and shelving cork topped. Below are two photographs of the showroom.



DELL AND WAINWRIGHT



Perspective sketch of a house by Raymond McGrath : rejected last year by the local Council.

A PREVIOUS REJECTION

THE MALDENS & COOMBE CASE

Following our accounts of the Ruislip case we give here details of another design that was turned down last year by a local authority on æsthetic grounds. The design, which is illustrated on this and the facing page, was for a house at Coombe Hill, near Wimbledon. The architect was Raymond McGrath, who kindly placed the correspondence at our disposal.

In this case, although an Advisory Panel exists in the neighbourhood, the designs were not submitted to the Panel because of the client's reluctance to involve himself in any proceeding which might result in public condemnation of the type of house he wished to have built ; rather than that he abandoned the project. The architect, however, did try to obtain the assistance of the R.I.B.A. Public Relations Committee, who were unable to do anything beyond enunciating the difficulties involved.

Following are extracts from the correspondence that passed between the architect and the local authority ; also the complete correspondence between the architect and the Public Relations Committee.

The correspondence with the local authority is the part only which concerned the elevations. The architect was able to satisfy the Council on the points which concerned the construction, which was brick and reinforced concrete.

ARCHITECT AND LOCAL AUTHORITY

Letter dated June 1, 1933, from The Maldens and Coombe Council to Raymond McGrath :

With regard to the elevations of the house, I shall be obliged if you will make an appointment to see me hereon to discuss the matter.

Letter dated June 9, 1933, from Raymond McGrath to Engineer and Surveyor :

I have pleasure in enclosing drawings for submission to your Council, and have incorporated suggestions made by you in your letters of May 20 and June 1. A perspective drawing in colour is enclosed, which I trust will satisfy your Committee on the question of elevations.

Letter dated June 17, 1933, from Engineer and Surveyor to Raymond McGrath :

Pursuant to Section 90 of the Surrey County Council Act, 1931, the Council at a meeting held on May 9, 1933, sanctioned certain bye-laws with respect to elevations of buildings within the Urban District. In accordance with such bye-laws the Council cannot accept your elevations and will have no alternative but to refer your plans to the panel of Architects for determination.

Letter dated June 28, 1933, from Raymond McGrath to Engineer and Surveyor:

Further to your communication of June 17, I note that the Council cannot accept the elevations proposed for the above. Will you kindly inform me, as soon as possible, whether the plans have already been referred to the Panel of Architects for determination, in accordance with the Surrey County Council Act, 1931, and whether this action involves any financial obligation on my client's part.

Letter dated July 4, 1933, from Engineer and Surveyor to Raymond McGrath :

In reply to your letter of the 28th ultimo I have to inform you that I am taking an early opportunity of obtaining the instructions of the Chairman of the Committee with regard to this matter being referred to the panel of Architects. I append copy of Section 90 (Sub-section 9) of the Surrey County Council Act, 1931. The costs of any reference to the advisory committee shall be paid as the advisory committee may direct. Where such costs or part thereof are payable by the person submitting the elevations they shall be recoverable by the local authority summarily as a civil debt and where such costs or part thereof are payable by the local authority they shall be recoverable by the person submitting the elevations in the like manner.

Letter dated July 5, 1933, from Raymond McGrath to Engineer and Surveyor :

In reply to your letter of July 4, I should be obliged if you would take no

further action with regard to the above, since my client does not now intend to proceed with the project.

ARCHITECT AND R.I.B.A.

Letter dated July 10, 1933, from Raymond McGrath to the Chairman of The Public Relations Committee of the Royal Institute of British Architects :

" The Summit," Coombe Hill,
Wimbledon.

DEAR SIR,—I am anxious to draw your attention to the case of a house recently designed by me for a site in The Maldens and Coombe Urban District Council's area.

This house, which, with its gardens, was conceived as a valuable addition to the architecture of the locality, has been rejected, on no stated grounds, by the Council's Building Committee. I am now informed that, in accordance with The Surrey County Council Act (1931) there is no alternative but to refer the plans to the Panel of Architects for a decision.

Before submitting to this invidious delay, I should be pleased to know whether, as Chairman of the Public Relations Committee, you would recommend any other course of action which would allay the natural anxiety of my client.

Reply to the foregoing letter, dated July 13, 1933, from Mr. J. Alan Slater, to Raymond McGrath :

" The Summit," Coombe Hill,
Wimbledon.

DEAR SIR,—In answer to your letter of July 10, as you are no doubt aware, the whole of the panel system was inaugurated by the C.P.R.E. and the R.I.B.A. as an attempt to improve the external appearance of the building which is being put up in this country, very largely without architectural advice, and every effort is being made—and I am sure you would agree, rightly made—to encourage the local authorities and the speculative builders to submit schemes and designs to these panels for their approval. It is clearly impossible to differentiate in a large matter like this between schemes and houses produced by architects and those produced by unqualified people. It is no doubt annoying that you should have to wait the decision of the Panel in the case which you are describing, but I hope you will agree that the general good must come before private convenience in these cases.

The whole question as to the ability of the individual panels to make the right decision is quite another matter, and no doubt will involve anyone who has to deal with this difficult subject in many a dilemma.

As far as the Public Relations Committee is concerned I think that their function is to assist in any way they can :

1. In getting panels established.
2. In encouraging prospective builders to seek the advice of these panels.
3. To see to it that that advice when given is the best advice available.

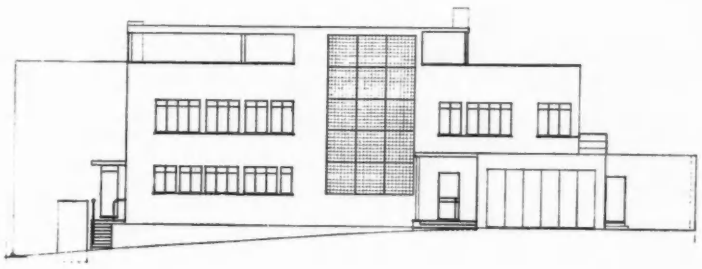
I should be grateful if you would let me have your own views on this very difficult and touchy matter.—Yours faithfully,

(Sgd.) J. ALAN SLATER

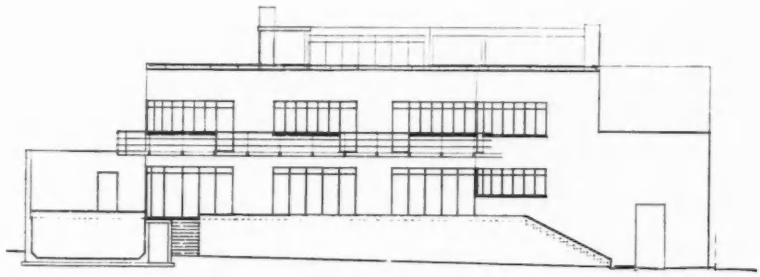
Letter dated July 17, 1933, from Raymond McGrath to Mr. J. Alan Slater :

" The Summit," Coombe Hill,
Wimbledon.

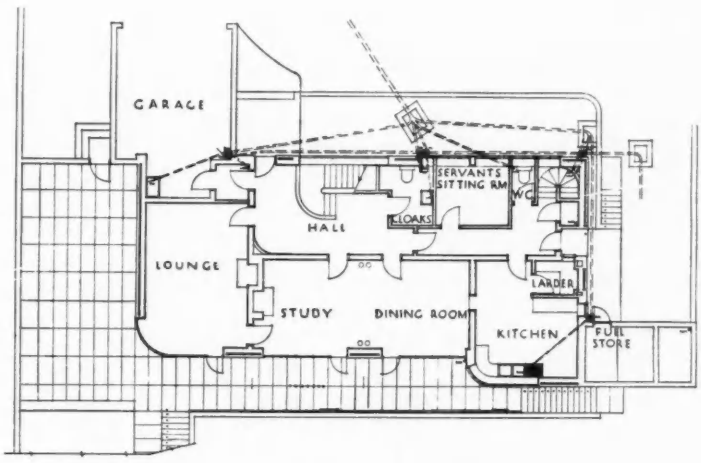
DEAR MR. SLATER,—I am much



NORTH ELEVATION



SOUTH ELEVATION



GROUND FLOOR PLAN

Plan and elevations of the house at Coombe Hill, Wimbledon, designed by Raymond McGrath, which was rejected by the local Council. Extracts from the correspondence regarding it are reprinted here and a perspective is on the facing page. The site provided ample grounds, the house being screened by trees and a small orchard from the road.

obliged to you for your letter of July 13 regarding the Panel system inaugurated by the C.P.R.E. and the R.I.B.A.

I am naturally in complete agreement that every effort should be made to discourage the bad building which is going on all over the country. I can certainly see the difficulty of differentiating between the schemes produced by architects and unqualified persons.

The facts of this particular case will, no doubt, be of interest to you.

The Building Committee of The Maldens and Coombe Urban District Council took strong exception to the character of the house, plans of which I submitted to them. Their reasons were fairly obvious, and they informed me that they had no alternative but to submit drawings to the Panel.

My client, on being informed of the situation, declined to be put in the position of having plans turned down in this way, and immediately disposed of the material on the site and has since put the property in the hands of his agents. It would appear, therefore, that far from encouraging good work in this case it was definitely discouraged.

I should be very interested to know what other plans the Council have so far submitted to the particular Panel.

I must say that I was not aware that the advice of the Panel could be sought before submitting plans to the Local Authorities, and I do not think it is generally known that they can be approached in this way.

I should be very interested indeed to know what the situation is.—Believe me, Yours faithfully,

(Sgd.) RAYMOND MCGRATH

●

The text of section 90 of the Surrey County Council Act, 1931, which was referred to in the Council's letter to Mr. McGrath, dated June 17, and reprinted on page 88, is as follows :

SURREY COUNTY COUNCIL ACT, 1931
SECTION 90

90.—(1) (*a*) For the purpose of assisting in the exercise of the powers conferred by this section a standing advisory committee shall be constituted for each county district except the borough of Guildford and each such committee is with reference to the county district for which it is constituted referred to in this section as " the advisory committee."

(*b*) The advisory committee for a county district shall consist of three members, of whom one shall be a Fellow of the Royal Institute of British Architects to be nominated by the President of that Institute, another shall be a Fellow of the Chartered Surveyors' Institution, to be nominated by the President of that Institution, and the third shall be a Justice of the Peace to be nominated by the local authority of the county district.

(*c*) A person may be a member of the advisory committee for more than one county district but a member of a local authority shall be disqualified from being a member of the advisory committee for the county district of that authority and a member of the Council shall be disqualified from being a member of any advisory committee for any county district.

(*d*) Subject as aforesaid, the members of the advisory committee shall be appointed by the local authority and any vacancy occurring on the advisory committee shall be filled by the local authority on the nomination of the person or body by whom the member causing the vacancy was nominated.

(*e*) A local authority may pay to the members of the advisory committee such reasonable fees and expenses as the local authority thinks fit.

(2) Section 157 of the Public Health Act 1875 is hereby extended so as to enable any local authority to make bye-laws, providing in such manner as they may think necessary for the deposit by a person intending to construct :

(*a*) a building within their district ; or

(*b*) An addition to or an alteration of an existing building within their district (including the reconstruction of an existing addition to any such building) ; or

(*c*) A chimney in their district exceeding 45 ft. from the ground in height ;

of drawings of the elevations and particulars as to the materials of such building, addition alteration or chimney (in this section called collectively " elevations ").

(3) Where elevations are required to be submitted to a local authority by a bye-law made under the said section 157 as extended by this section the local authority shall within one month after the submission to them of the elevations :

(*a*) Approve the elevations ; or

(*b*) If they shall consider that having regard to the general character of the buildings in their district or of the buildings proposed therein to be erected or of the building to which the addition is to be constructed or reconstructed, or which is to be altered, the building addition alteration or chimney to which the elevations relate would seriously disfigure the vicinity of the place where the building addition alteration or chimney is intended to be constructed, whether by reason of the height of the building addition alteration or chimney or its design, or the materials proposed to be used in its construction, refer the question of the approval of the elevations to the advisory committee for their decision thereon, and the reference shall be accompanied by a statement of the grounds on which they proposed building addition alteration or chimney is considered to be objectionable.

(4) The local authority shall forthwith send notice in writing to the person by whom the elevations were deposited of their approval thereof, or, if the building, addition alteration or chimney is considered to be objectionable on any of the grounds mentioned in this section of the reference of the elevations to the advisory committee and the notice shall be accompanied by a statement of the objections to the building addition alteration or chimney.

(5) (*a*) The person by whom the elevations were deposited shall, within fourteen days of his receiving notice of the reference to the advisory committee, be entitled to send to the advisory committee a statement of his answers to the objections of the local authority, and if he does so he shall at the same time send a copy thereof to the clerk to the local authority.

(*b*) (i) The advisory committee shall within one month after the receipt of the reference decide whether, having regard to the considerations mentioned in subsection (3) (*b*) of this section they approve or disapprove the elevations, and their decision shall be final and conclusive.

(ii) If the elevations are disapproved, the decision of the advisory committee shall contain a statement of the grounds on which the proposed building addition alteration or chimney is considered to be objectionable.

(iii) In arriving at their decision, the advisory committee may adopt such procedure as they think fit.

(6) The decision of the advisory committee shall be in writing, signed by them, and a copy of the decision shall as soon as may be after the determination of the reference be sent to the local authority and to the person by whom the elevations were submitted.

(7) If there be a division of opinion among the members of the advisory committee on any reference to them, the matter shall be decided by a majority of votes of the members of the committee but, save as aforesaid, the advisory committee shall act by their whole number.

(8) Where the elevations of a building addition alteration or chimney have been disapproved under this section, it shall not be lawful to erect the building addition alteration or chimney until the elevations thereof have been approved by the local authority, and any person who acts in contravention of this section shall be liable to a penalty not exceeding five pounds and to a daily penalty not exceeding forty shillings.

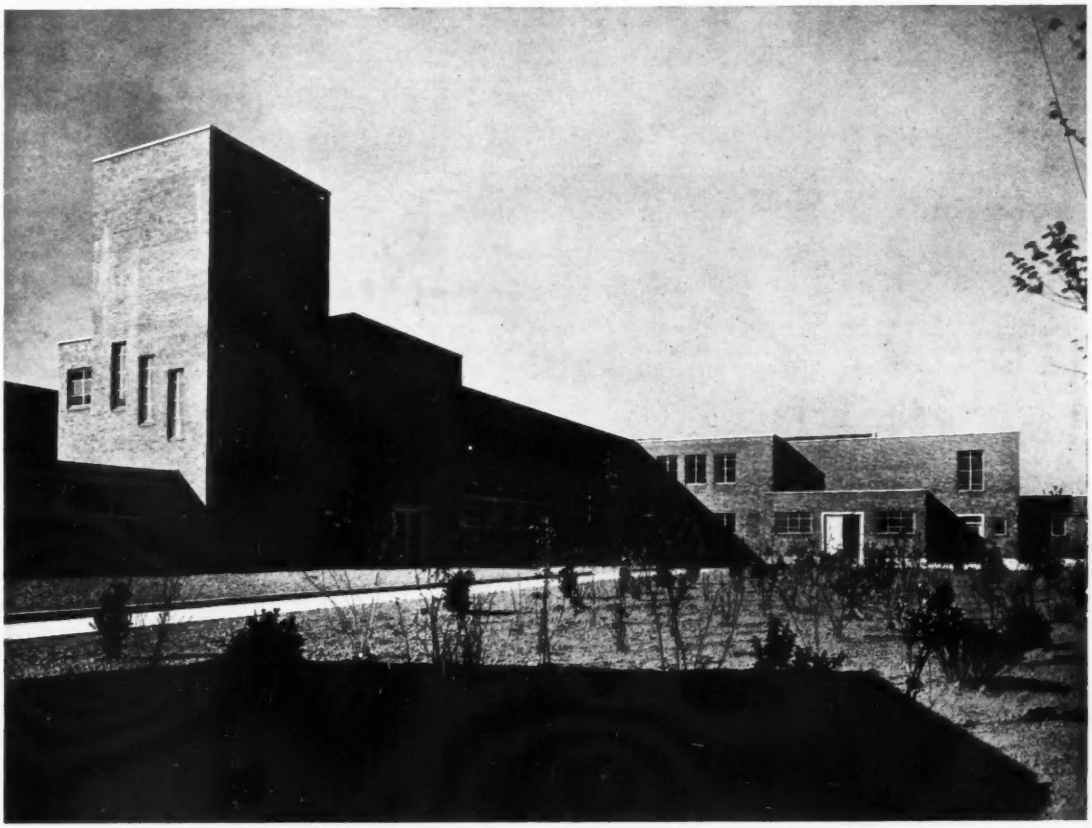
(9) The costs of any reference to the advisory committee shall be paid as the advisory committee may direct. Where such costs or part thereof are payable by the person submitting the elevations, they shall be recoverable by the local authority summarily as a civil debt, and where such costs or part thereof are payable by the local authority they shall be recoverable by the person submitting the elevations in the like manner.

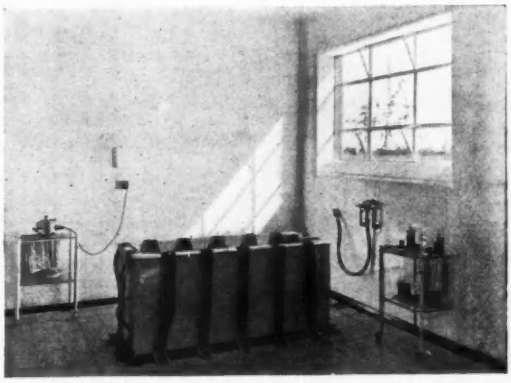
(10) The provisions of paragraph (*b*) of sub-section (3) of this section shall not apply to a wooden hoarding which is used solely for the purposes of billposting.

(11) This section shall not apply to a building (not being a dwelling-house, showroom, or office) belonging to any person or body of persons authorized by virtue of any Act of Parliament, or any Order having the force of an Act of Parliament to manufacture gas or to supply electricity or water, and used or intended to be used exclusively for such purposes under the provisions of such Act of Parliament or Order.

(12) This section shall not apply to or have effect within the borough of Guildford.

HATFIELD MAIN COLLIERY PITHEAD BATHS, YORKSHIRE





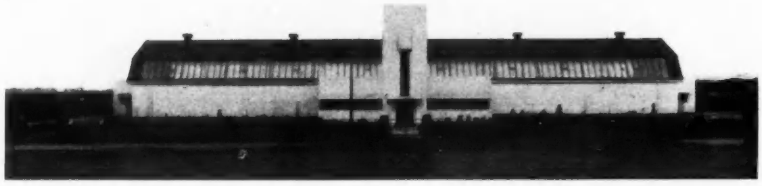
In last week's issue we published an article on the work of the Miners' Welfare Committee, together with illustrations of ten pithead baths recently erected under the supervision of the Committee's Chief Architect, Mr. J. H. Forshaw, M.A., A.R.I.B.A. On this and the following five pages are reproduced a further selection of the baths.

The photographs on this page are of the pithead baths and canteen at the Hatfield Main Colliery, Yorkshire. Top, a general view of the building; bottom (left), the canteen; bottom (right), the ambulance room.

The building was completed in May of this year, and provides accommodation for 2,800 men, with 160 shower cubicles. Cost: Total, £24,487.

ARCHITECT: C. G. KEMP.

PITHEAD BATHS: PRESTONLINKS COLLIERY, LOTHIANS

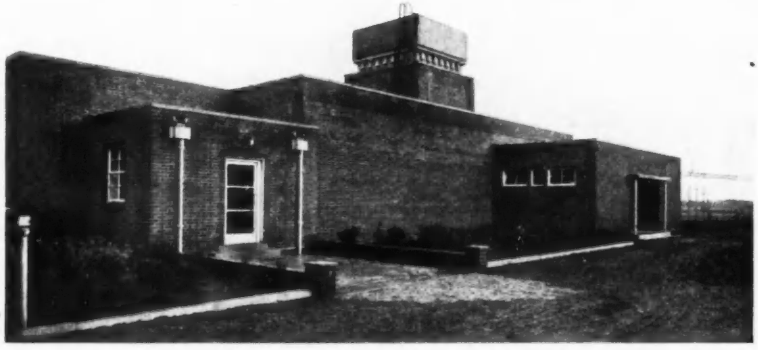


This installation is situated on the main Prestonpans-Edinburgh Road, and fronts on to the foreshore of the Firth of Forth. The calorifier and plenum rooms together with water-storage tower make a central feature. The locker rooms run the full length of the site, with the bath cubicle room immediately to the rear. Clean and pit entrances are shown on the right and left respectively. The building accommodates 924 men, with 74 shower cubicles. Cost, £12,000. ARCHITECT: J. A. DEMPSTER.

AUCHINCRUIVE COLLIERY, AYRSHIRE

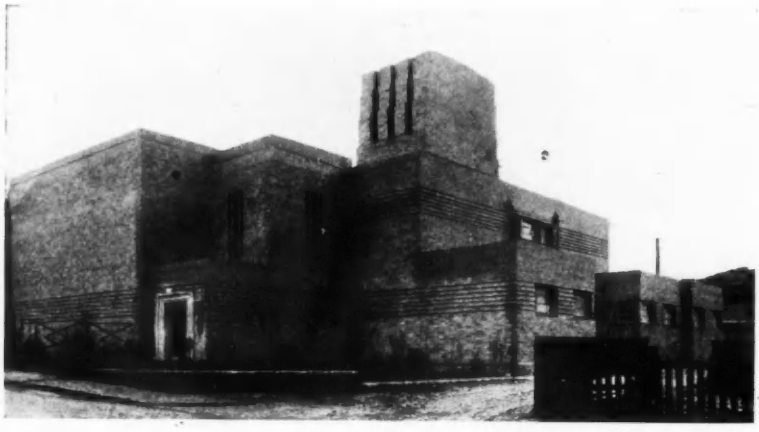
The colliery is electrically equipped, and in consequence an independent boiler plant had to be incorporated in the building. The boiler plant is housed at the foot of the central tower, which contains the water-storage tanks above and the shaft of the boiler chimney. Accommodation is provided for 456 men, with 54 bath cubicles. Cost, £11,000. ARCHITECT: J. A. DEMPSTER.

CALDER COLLIERY, LANCASHIRE



This installation was erected on meadow land adjoining the colliery yard. The clean entrance is on the left and the pit entrance is on the right. It will be noted that the elevational treatment of the tower differs from the other buildings illustrated in this issue, the concrete structure of the water-storage tank being prominently expressed. The building was opened on November 11, 1933, and provides accommodation for 360 men, with 42 shower cubicles. Cost, £7,773, equivalent to £21 12s. per man accommodated.
ARCHITECT: C. G. KEMP.

ELEMORE COLLIERY, DURHAM



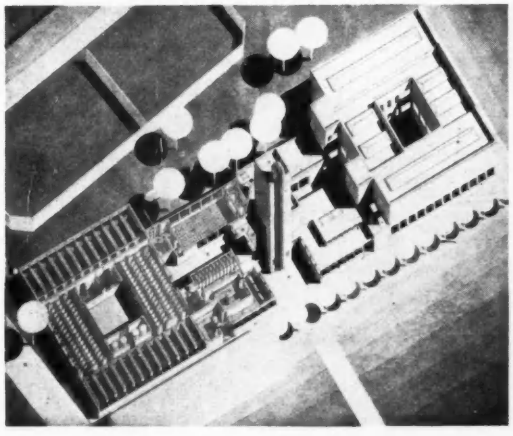
This building occupies a site near the crest of a hill, and is seen prominently over a wide countryside. The site is small and approximately square; the building is, therefore, designed on two storeys, with wide locker rooms side by side. The doorway shown in the photograph is the entrance to the clean locker rooms. The building accommodates 1,670 men for which there are 62 shower cubicles. Cost, £14,194 (including sewage treatment and water-softening plants), equivalent to £8 10s. per man accommodated.
ARCHITECT: F. G. FRIZZELL.

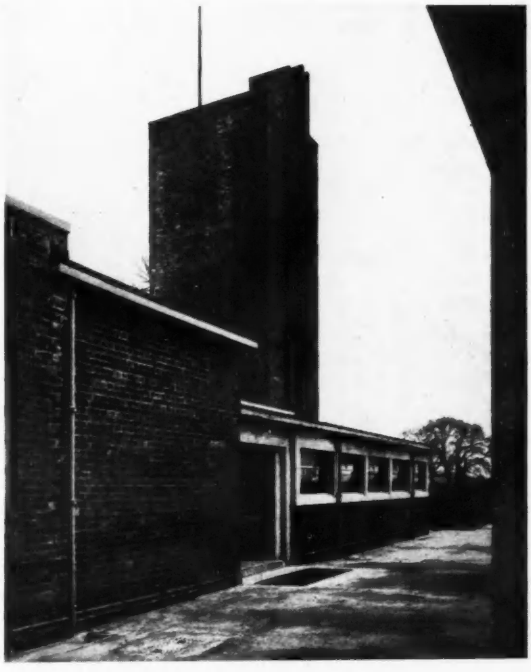
MARINE COLLIERY PITHEAD BATHS, SOUTH WALES

This building stands on made ground sloping steeply to the River Ebbw on the south-east, necessitating reinforced concrete foundations and a reinforced frame construction. Brindled brown bricks have been employed in the faced filling. The photograph shows the north-east elevation, with the bath cubicle section in the centre, the pit entrance on the left and the boiler-house, plenum room and fuel store at the north corner. The clean and pit locker rooms are behind.

The building, opened on November 12, 1933, provides accommodation for 1,932 men with 142 shower cubicles. Cost, £23,890. ARCHITECT : W. M. TRAYLOR.

CRONTON COLLIERY, LANCASHIRE

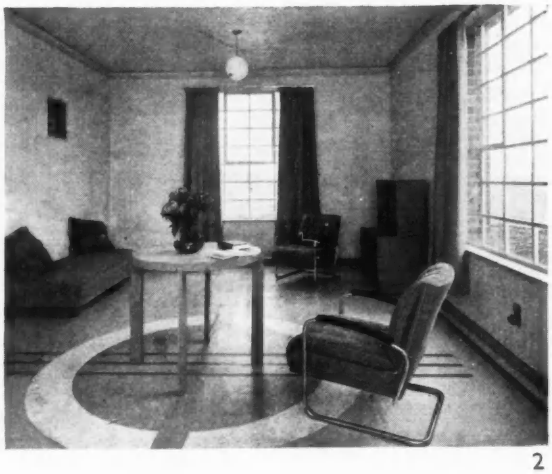




This building, opened on December 12, 1933, provides accommodation for 1,008 men, and has been planned for future extension to accommodate 4,024 men. Above is an isometric drawing of the completed installation, and on the right a photograph of the entrance to the boot-cleaning room and the tower containing water-storage tanks. Cost £18,886, equivalent to £18 4s. per man accommodated. ARCHITECT : C. G. KEMP.

PITHEAD BATHS FOR WOMEN

1



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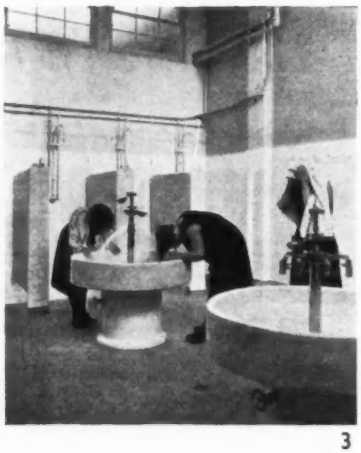


3

1: The canteen in the women's baths at Parsonage Colliery, Lancashire. The dado, counter front and table tops are in aluminium-faced plywood. The walls are finished with birch plywood, button polished, and the floor is covered with quarry tiles. The legs of the stools and tables are finished bright yellow. Cost: £900. ARCHITECT: C. G. KEMP.

2: The rest room in the women's section of the Pithead Baths at Chisnall Hall Colliery. The floor covering is of rubber in bright colours, and the walls are covered with rubber-faced wallpaper. The ceiling is finished in gloss paint. ARCHITECT: C. G. KEMP.

3: The ablution and bath cubicle room of the women's section of the baths at Chisnall Hall Colliery. Each ablution fountain is capable of accommodating 8 women simultaneously, that on the right being fitted with eight sprays for individual operation. ARCHITECT: C. G. KEMP.

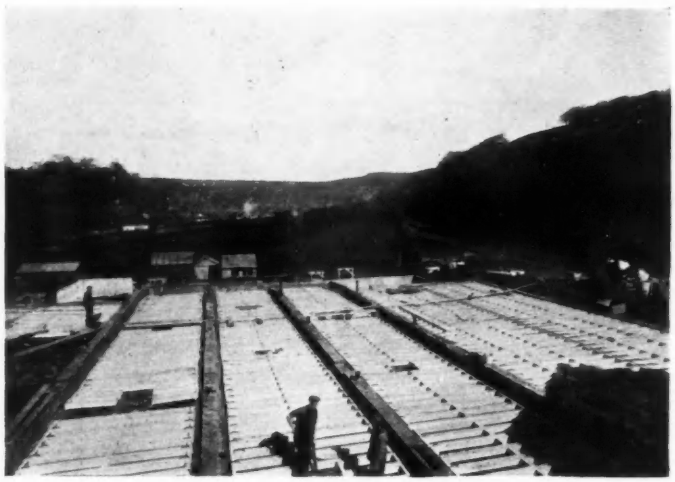
EXTENSION TO PITHEAD BATH, NORTH CELYNEN

This photograph shows the positioning of the floor units after the piled foundation was completed.

The site contained a variety of filling comprising shale, ashes and demolished building material of a depth varying from 30 to 35 feet. Bearing capacity was practically negligible.

In view of the poor quality of the ground reinforced concrete piles of the hollow shell variety were used, driven to a set to enable them to carry from 40 to 50 tons each. Their lengths varied from 30 to 40 feet. The piles were connected together by a framework of reinforced concrete beams which carry the superstructure.

Monolithic concrete floors with a precast frame basis were used throughout this work, as rapidity of erection was essential to the building programme. ARCHITECT: W. M. TRAYLOR.



WORKING DETAILS : 85

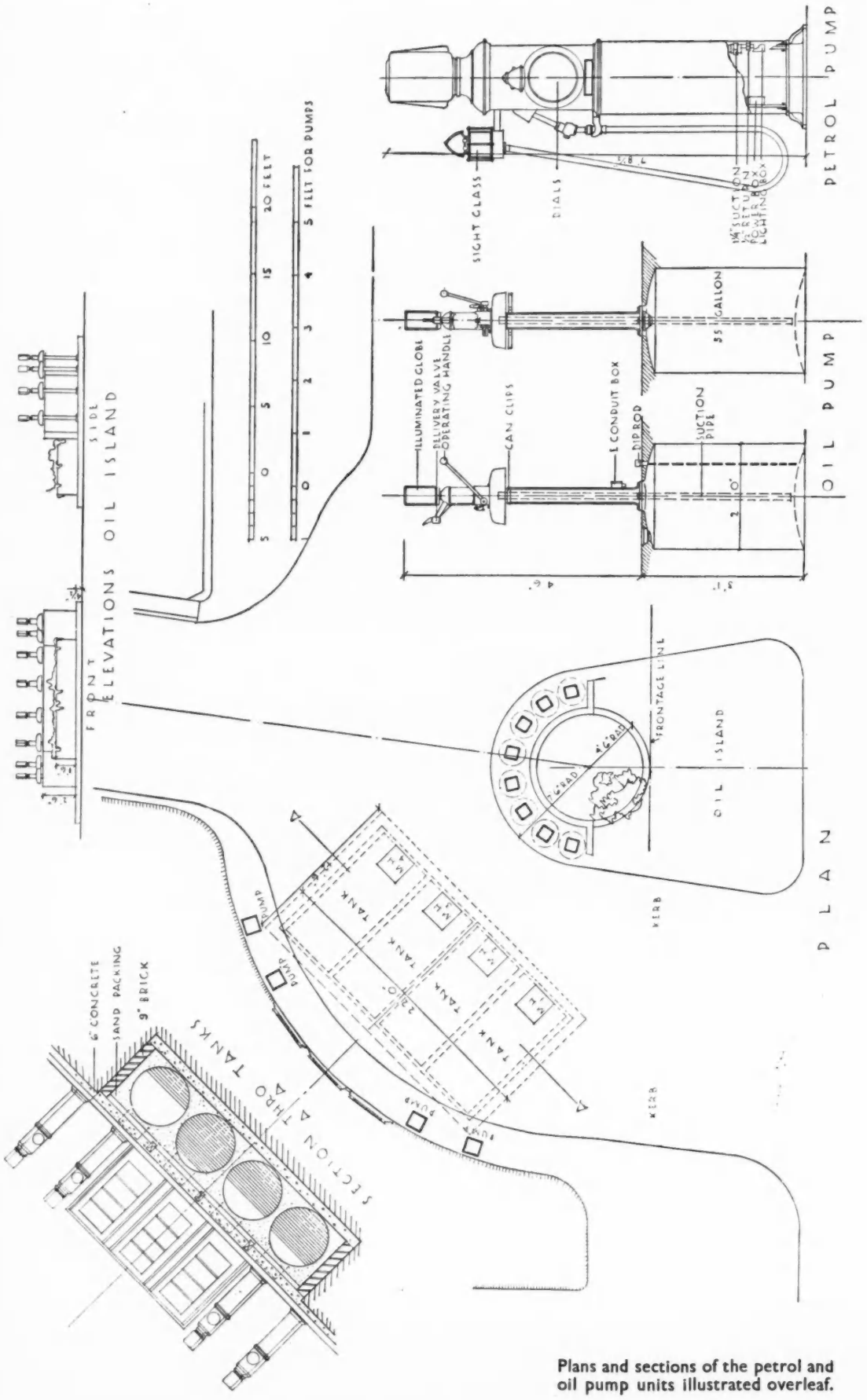
OIL AND PETROL PUMPS • SERVICE STATION AT ILFORD • CAMERON KIRBY

DELL AND WAINWRIGHT

This illustration shows the general lay-out of the four petrol pumps under the canopy and the eight oil pumps on the central island. The petrol storage tanks have a capacity of 1,000 gallons each and are filled from manholes in the service road. The usual stringent L.C.C. regulations for petrol storage do not apply in this area.

WORKING DETAILS : 86

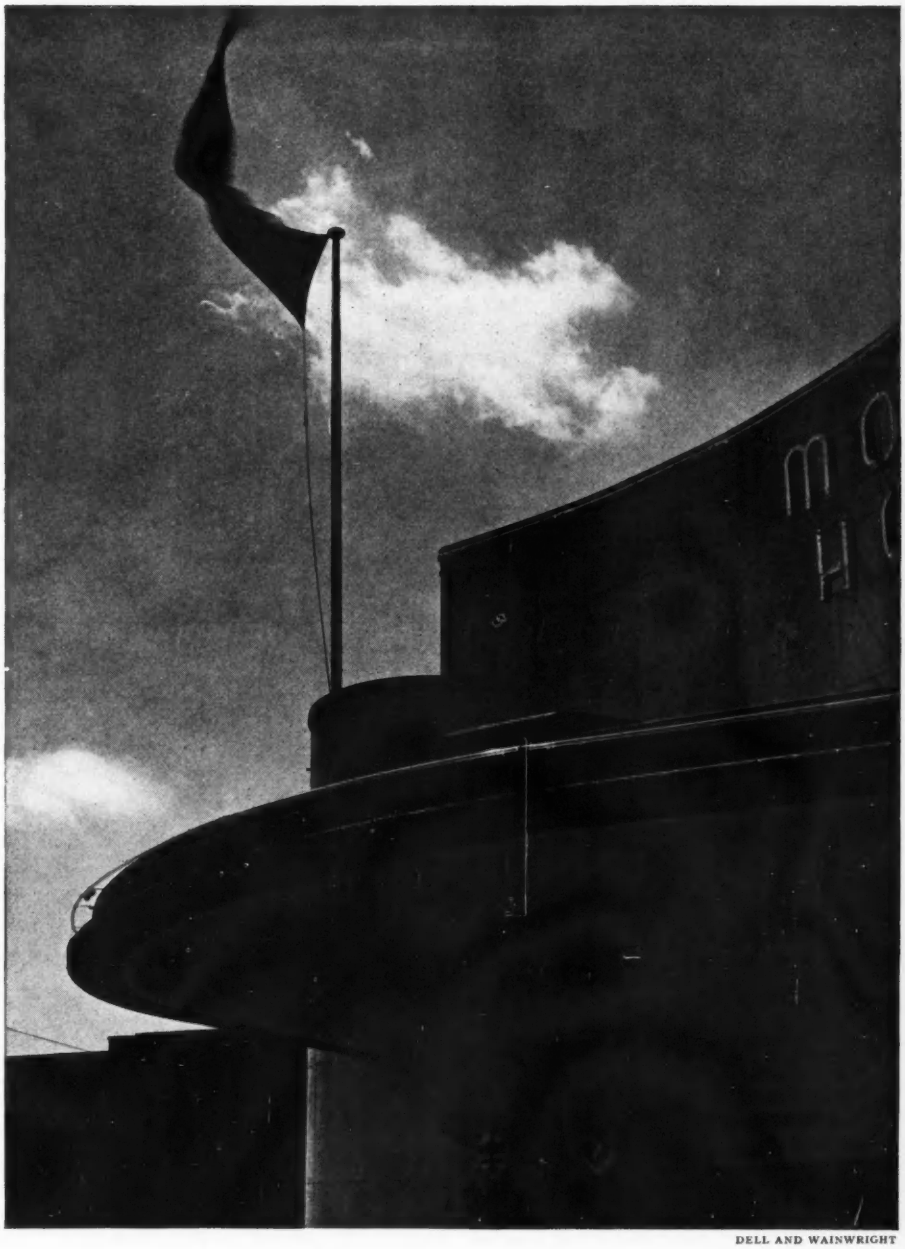
OIL AND PETROL PUMPS • SERVICE STATION AT ILFORD • CAMERON KIRBY



Plans and sections of the petrol and oil pump units illustrated overleaf.

WORKING DETAILS : 87

CANOPY STEELWORK • SERVICE STATION AT ILFORD • CAMERON KIRBY

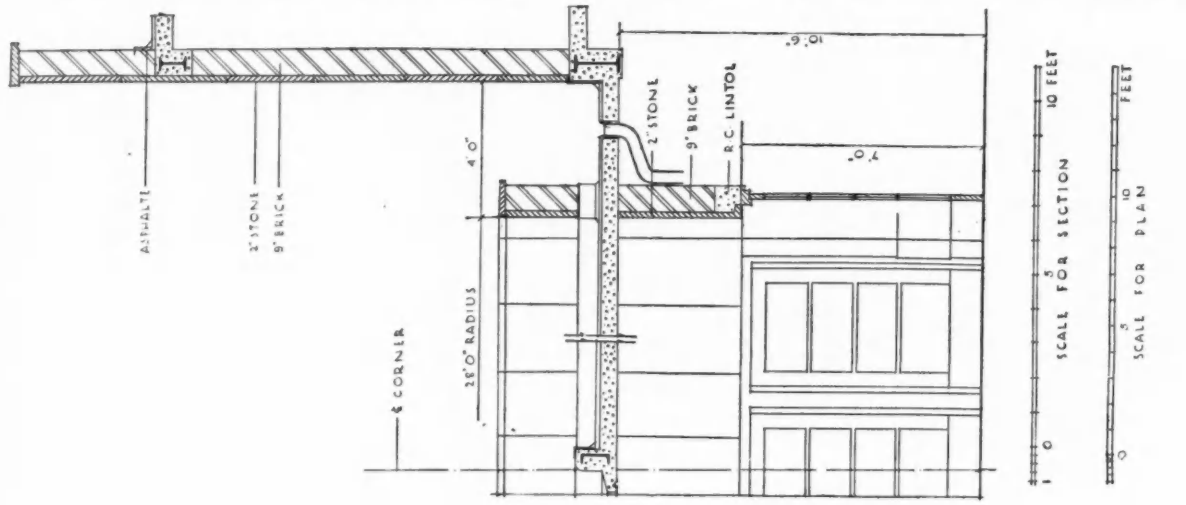


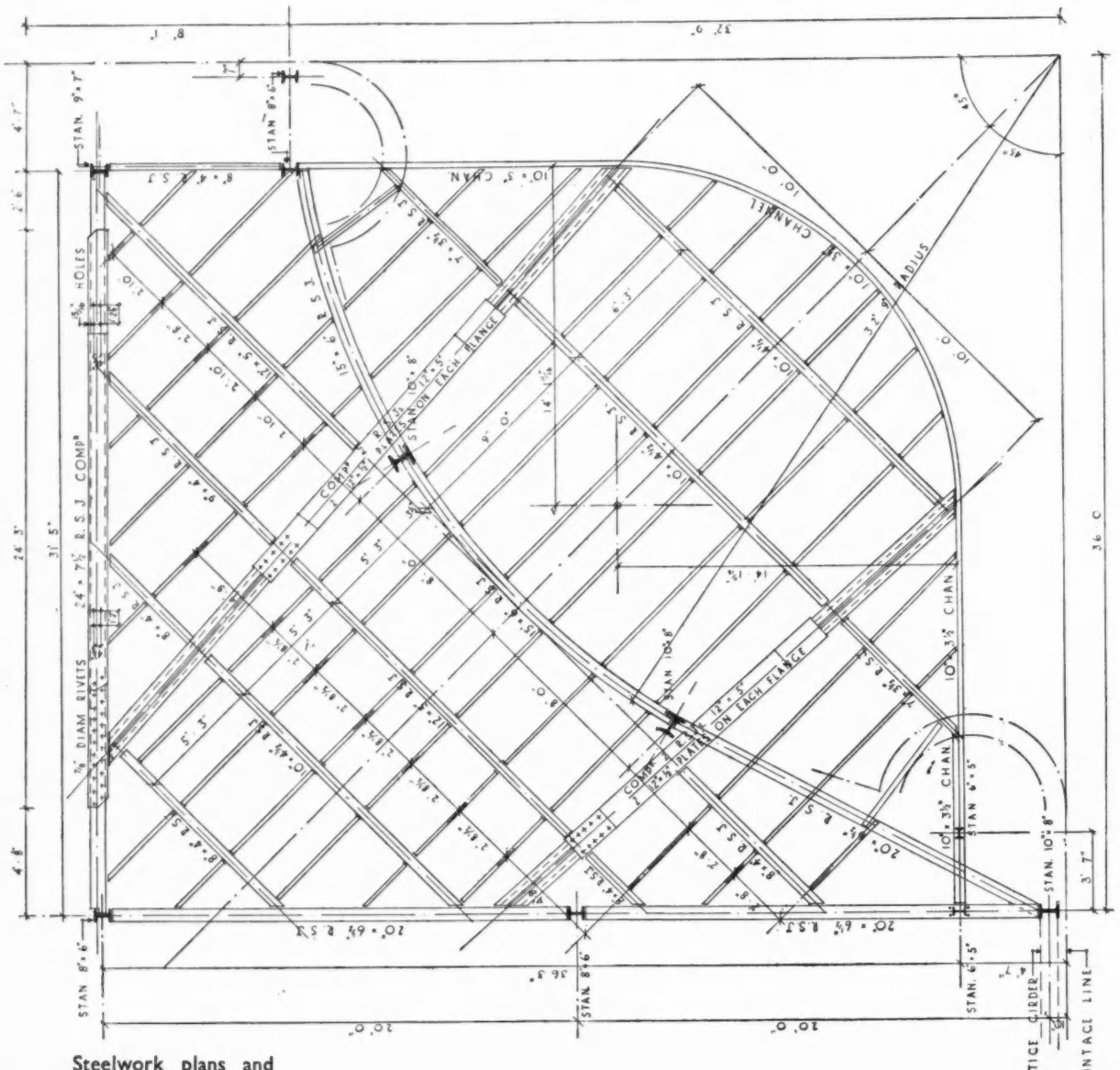
DELL AND WAINWRIGHT

This illustration shows a canopy covering four petrol pumps. The greater part of the soffit is colour-washed cream, but the concrete aggregate is exposed in a narrow band at the edge, and on the vertical face. Steelwork plans and a section are given overleaf.

WORKING DETAILS : 88

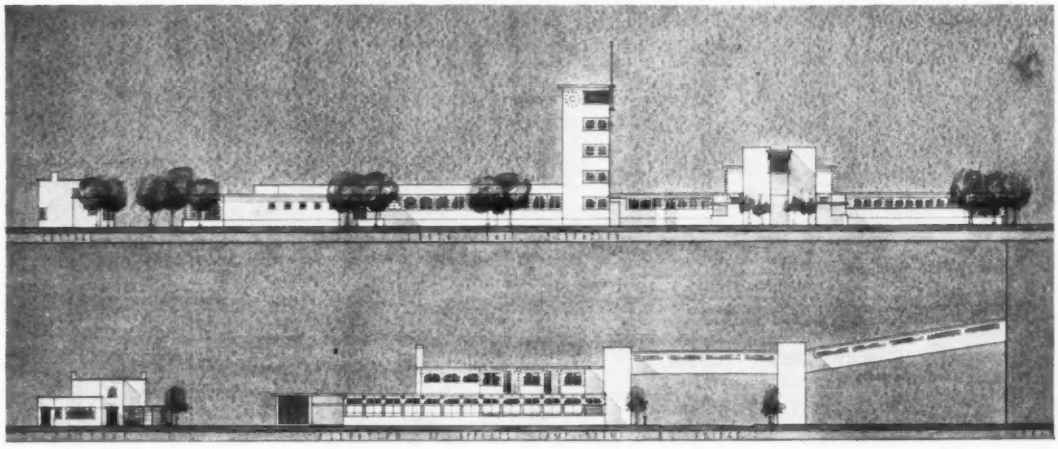
CANOPY STEELWORK • SERVICE STATION AT ILFORD • CAMERON KIRBY

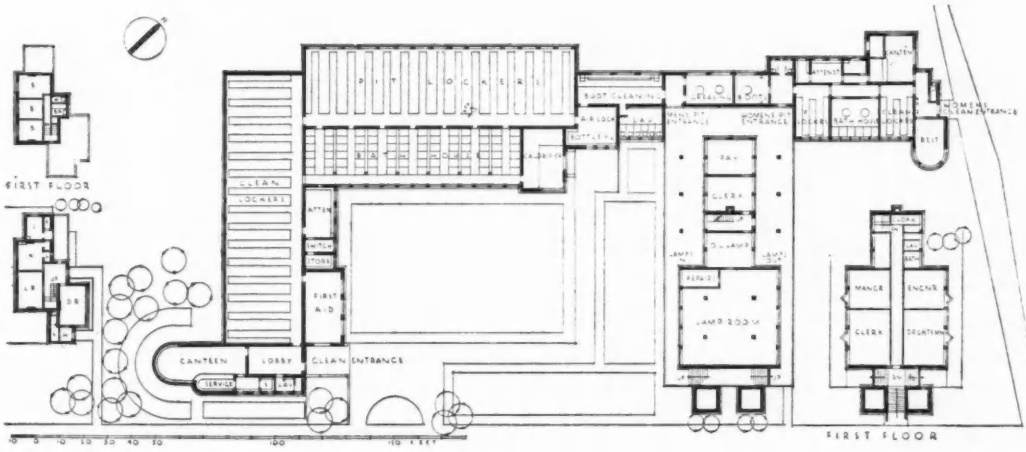




Steelwork plans and sections of the canopy illustrated overleaf.

PROPOSED PITHEAD BATH, LANCASHIRE





Sketch plan and elevations of the pithead bath and ancillary buildings at Clockface Colliery, Lancashire.

This plan, in addition to baths for men and women, includes a canteen, a canteen and rest room, ambulance and rescue rooms, a lamp room, pay and check offices, offices for colliery staff, a bridge and covered way connecting the baths and offices with the pit shafts, and a house for the baths superintendent with separate dining-room for colliery officials and visitors. Accommodation is for 1,500 men and 45 women. This is an example of a colliery company realizing the advantage of ordered planning and undertaking very considerable pithead improvements in a comprehensive scheme. ARCHITECT: C. G. KEMP.

SOCIETIES AND INSTITUTIONS

TOWN PLANNING AND CIVIC DESIGN

On Friday, July 6, Mr. James Burford, A.R.I.B.A., delivered the eighth and concluding lecture of the course of Town Planning and Civic Design at the Regent Street Polytechnic. His subject was "Present Tendencies in Town Planning, and the Cities of the Future." Mr. Burford said :—

The interest taken, at the present day, in the possibilities and ideals of town planning was evidenced by several imaginary plans, on an immense scale, produced by town planners during the last thirty years. The earliest of these was the important work of Tony Garnier, architect to the City of Lyons, for a "Cité Industrielle." This work had been developed in great detail over a period of years, the original scheme being exhibited in the first years of the century. Garnier's work was a valuable contribution to the ideology of the social and economic structure of the city. The idea of "zoning," or area usage, was fully exemplified.

After Garnier, the two most important suggestions for the development of cities of the future were Corbusier's "Plan Voisin" for the reconstruction of Central Paris and his "City for three million inhabitants," both on very similar lines, and the designs by the American Planner, Neutra, for the imaginary "Rush City." In those post-war works the modern element of speed in civic life was given full consideration. Increase in size and increase in speed were inseparable. This remained true whether the city grew by expansion as a single unit or by offshoots or satellite towns. For certain aspects of civic life, decentralization held advantages. On the other hand, local barriers were tending to break down. Whether the method of development followed centralization or de-centralization, provided the city remained either a single unit or a corporate entity, the question of transport and communications remained essentially the same. The problem before the town planner was proper provision for speed, its utilization for the betterment, and not for the detriment of the civic structure.

The lecturer demonstrated by plans, and sup-

ported by figures, the contention that proper planning, orientation and an increase in the heights of buildings would secure increased solarization, higher density and a greater proportion of open spaces than was obtainable under the present system, generally followed, of relatively low building and close planning.

These imaginary schemes were worthy of close attention. The fact that they were imaginary was not to be brought against them. They were inspiring visions, a foresight of possibilities, raising civic planning above the mere level of municipal sanitation or expediency. They were definitely related to factual existence, to the guidance of the tendencies of the present day and to the development of civic life as far as such development could be intelligently foreseen.

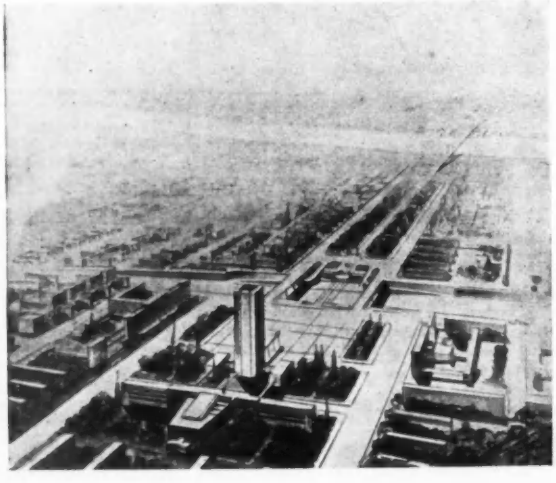
Given propitious circumstances the realization of those ambitions did not appear as a matter of so much impossibility as a first impression might suggest. The recent achievements of Russia provided some proof in that direction.

More than anywhere else, at the present time, conditions in Russia were favourable to the realization of civic planning on a great scale. Great scale alone had little merit, but it was not for scale alone that recent Russian plans were remarkable. They reached an extraordinarily high level of civic quality. Russian planning might be criticized for an excessive mechanical bias. A kind of romanticized mechanization seemed a fault inherent in the present stage of Russian evolution. But the clarity of conception, the mastery of the problem, shown in recent Russian plans, were exemplary and undeniable.

The lecturer showed a projected scheme for the development of Great Zaporozhe, on the Dnieper, and a series of plans by Babenkow, Wlassow and Poljakow for the extension of the city of Nowosibirsk on the Obi. The extension virtually constituted a new city. The plan showed a brilliant combination of the rectangular and diagonal system of street patterning. The buildings maintained alignment with the rectangular streets and thus avoided the sense of confusion created by various angles of alignment. The area planned for the city had been carefully "zoned" in relation to its site, prevailing winds and other considerations, for living quarters, working quarters, and recreational centres, with proper appointment for schools and public buildings. Housing was arranged in large communal blocks on square sites, the high blocks running north and south, securing complete solarization, with low connecting blocks running east and west. Each block held a population of from 800 to 1,000, and was provided with a playing ground and nursery school, a communal dining room, a club and other social and domestic conveniences. The "Culture Centre," planned on an island with natural scenic advantages, contained the

els, amusements, physical training facilities and the "Central Palace for Culture." Schools and technical schools were situated near to, but separate from, the housing blocks. Provision was made for hospitals and all communal services.

The lecturer put this plan forward as a remarkable instance of civic design. Only a study of the plans would reveal the skill with which the multifarious activities and requirements of a city had been brought into a state of unity under conditions which encouraged and controlled its growth.



A projected scheme for the development of Great Zaporozhe. From the Journal of the Town Planning Institute. (See report of lecture by Mr. James Burford.)

IN THAT CONTINGENCY

The following abstracts of inquiries represent a number of those recently submitted to the Building Research Station. The information given in the replies quoted is based on available knowledge. It has to be borne in mind that further scientific investigations may in the course of time indicate directions in which the replies might be supplemented or modified. Moreover, the replies relate to the specific subject of each inquiry, and are not necessarily suitable for application to all similar problems. [Crown Copyright Reserved.]

Moisture in a Suspended Floor

¶ *FLOORS in a block of flats had been constructed with a hollow tile reinforced concrete floor on which were laid deal battens brushed with creosote, a layer of fibre wallboard and tongued and grooved oak boarding. For purpose of sound insulation, the spaces between the battens were filled with pumice. The oak flooring had been laid for three months, during which time the heating had been kept on continuously. On taking up a portion of the floor, pools of water were found on the fibre board, and in places fungus was to be seen on the oak boarding and on the fibre board.*

The enquirers wished to know whether the fungus would spread and lead to a growth of dry rot all over the floors or whether in time the water would dry out and no serious trouble occur.

Assuming that there is no access of water to the floors due to leaking pipes or other cause, it is evident that the moisture introduced during construction had not been allowed to dry out sufficiently before the oak flooring was laid. On starting up the heating the moisture had been drawn up, but had not been able to escape through the dense and tightly-fitting oak flooring. As the boards became wet they would expand, closing up the joints and making evaporation of the moisture all the more difficult. An examination of samples which was made by the Forest Products Research Laboratory showed mould growth on the oak, and both mould and wood-destroying fungus on the fibre board.

Once the moisture had dried out, the danger of dry rot would, of course, cease but it appears that under the present conditions drying would be extremely slow, and the dry-rot fungus might live long enough to do considerable damage.

It is, therefore, suggested that special measures should be adopted to allow evaporation. Evidently some of the boarding must be taken up, and in order to allow ventilation under the floor, it would be desirable to rake out some of the pumice filling. Although pumice is frequently used in this way with the intention of reducing sound transmission, there are as yet no experimental data to show that it is effective, and on theoretical grounds it is very questionable whether indeed it is likely to contribute significantly to the sound insulation of the floor system. Raking out the pumice might, therefore, be no disadvantage in any way.

Once the original moisture had dried out there should be no further danger, and the flooring could then be relaid without taking any further precautions.

Mural Painting on Plastered Walls

¶ *A ROOM in a building which had been completed about two years was to be decorated with important mural paintings. The lower part of the room was lined with wood panelling, and the painting was to be done on a plastered surface above this level. The wall had been rendered at the time of building with lime and hair plaster.*

Advice was sought as to the most suitable way of finishing this to receive the painting and a setting coat of Keene's on plaster of Paris was tentatively suggested.

The building was inspected, and it was found that one of the walls was an external wall of 9 in. solid brickwork. This was considered to involve a risk of injury to the painting in the event of any subsequent penetration of moisture from the exterior, since soluble salts in the wall might then be brought to the inner face. In view of the fact that the preservation of the artist's work was a matter of greater importance in this case than any other factor, it was considered that the most satisfactory course would be to provide a plaster surface, suitable for painting, entirely out of capillary contact with the external wall. After some trials, it was finally recommended that a plaster board should be used, secured to battens suitably treated with preservative. Over this a skimming coat of plaster was to be applied, the plaster being of the retarded hemihydrate variety. This recommendation was accepted, and it was decided also to use a similar finish on the internal walls; here, however, the battens might be unnecessary, and, if desired, the boards could be secured to plugs driven into the brickwork. In order to regulate the suction of the finish to the artist's requirements, and to safeguard against any remote possibility of chemical attack on the paint film, the plaster was given one coat of a proprietary insulating priming paint which had been previously found by test to be efficient as a means for preventing the chemical destruction of paint films by salts of the kind which may occasionally be present in plasters and mortars.

THE HOUSE OF LORDS

ANCIENT MONUMENTS

AN important debate on the future control of the historic monuments of London took place recently in the House of Lords.

Lord Rennell moved : " That the monuments, historical and architectural, of the capital city of the country are matters of national and not solely municipal concern, as would also be any radical modification of sites familiar from long association ; and that, therefore, independently of the source from which funds for the purpose may be derived, no interference with such monuments or sites as may be scheduled by a Commission appointed for the purpose should be undertaken without reference to and approval obtained from Parliament."

He said that such an affirmation of principle was not inspired by any desire to criticize anything that had taken place even if he had been slightly surprised at the exulting manner in which the recent demolition of Waterloo Bridge was commenced in spite of an old Statute of the time of George III. But he frankly admitted that it was the conflict of which they had had recent experience between the majority of the representatives of the nation and the majority of the London County Council, which suggested to him that it would be opportune to determine with whom the ultimate decision should lie when it was proposed to modify or demolish buildings of historic or artistic value. It might be contended that London was a wealthy city and perfectly well able to look after itself. That was no doubt true in all that concerned the administration, the amenities and the conveniences of so great a city. He did not suggest that the Council of the City of London or the London County Council, or any of the administrative bodies which looked after Crown, State or ecclesiastical property were likely to be possessed by a mania of iconoclasm or that they were less likely to be zealous in matters concerning national sentiment than members of that House. But it was the natural order of things that such bodies should be to some extent governed by material and economic considerations. Therefore it seemed to him that the preservation of the monuments of London was a trusteeship which should ultimately be held by the representatives of the nation.

His experience of other countries had shown him that the course which he had advocated had met with acceptance there. The remarkable man and leader who had for ten years presided over the destinies of Italy laid down very definitely some years ago the principle that the status and the decoration of the national capital was not solely a municipal but a national concern. Those who knew what had been done in the last few years to increase the interest and magnificence of Rome would admit that a most important result had been attained. He was anxious to obtain an affirmation of the same principle in the motion which he proposed.

Lord Snell said the motives behind the motion would command the sympathy of everyone. London was not so rich in beautiful things that they wanted to see even one of them wantonly destroyed. But the motion would bring a certain amount of alarm to those responsible for municipal administration. In this matter he was speaking only for himself. If the control of London's monuments was to rest with the nation, was their protection and upkeep to fall upon the local ratepayers? The County Hall was built by the people of London at their own expense, and judged by any high standard of dignity and efficiency, it was a very noble structure and destined to be regarded as one of the great architectural achievements of the present age. Was it really suggested that the authority that built the County Hall and worthily used it, must ask the permission of Parliament, which was not financially concerned with that building, which had not built it, and which had frequently harassed the Council in the prosecution of its work? If it was a question of efficiency, he believed that the London County Council could instruct Parliament itself both in regard to the character of its buildings and the methods by which it did its work. He trembled to think what would happen to the monuments of London if they were taken from the loving care of the London County Council and entrusted to Parliament, which had been guilty of frequent, flagrant and futile acts of vandalism in this connection.

Waterloo Bridge was not a great architectural triumph, but was a straightforward piece of engineering work, put at its best. It was not impossible to build a better bridge in its place. Then, again, Rennie was not an architect at all. He was an engineer. There was a ghost architect somewhere attached to this bridge, and Rennie had been wearing his crown—if indeed, ghosts did wear crowns—for some time. And it was precisely those parts for which Rennie was responsible that had become derelict. The battle of Waterloo was fought on June 14, 1815, and the bridge had been begun many years before that time. It was called Waterloo Bridge as a profit-making device of the promoter, who wanted to use the outburst of patriotism at the time to increase the number of tolls which he could take. The L.C.C. loved beauty and efficiency, and if they had taken a certain course with a certain structure which was neither ancient, historical nor perfect in architectural quality, they did so under a stern sense that a duty had to be performed. The Council wanted beauty to be extended, not restricted, and they believed that the artists of our own day were capable of interpreting the spirit of our own age just as efficiently as artists in previous generations interpreted the spirit of their day.

The Earl of Crawford said that he was sorry that Lord Snell should have gone out of his way to cast ridicule on those who believed that Waterloo Bridge was a great historical entity in London. The glee with which he and others contemplated the loss of something which the noble lord must know was dear to untold thousands was regrettable. Still more regrettable was the fact that the destruction of the bridge was already paralysing the transport of London, and the position would be even worse as soon as it was found that the temporary bridge was unsafe for traffic. The destruction of the bridge would cause the gravest injustice to South London by putting a stop to its development. No great capital in the world had a smaller schedule of monuments in its area of acknowledged international fame and distinction than London. There were Greenwich, the Tower of London, Somerset House, Waterloo Bridge, the Palace of Westminster, Hampton Court, the Palace of Whitehall, the two great Churches, and Chelsea, under a dozen ; and in none of these, except Waterloo Bridge, was the County Council remotely concerned. The problem should not be treated in the flippant and sour manner employed by Lord Snell, but the country ought to see how we could ensure that what was left was properly preserved to posterity. Under the Ancient Monuments Acts the Government had tremendous power to prevent the demolition and the bad restoration of ancient monuments, and between 3,000 and 4,000 monuments had been scheduled. He wished the Government to realize how much good could be done by maintaining our historical monuments. Thousands of people went abroad to see the historical monuments of other countries, and the assumption was that we had got a relatively small number of such monuments in this country. That was true so far as London was concerned. We had incomparable attractions in other directions, but our attractions in that direction were limited. There was every reason, therefore, why greater efforts should be made to maintain what we had got.

Lord Ponsonby said that Parliament was not a suitable body to govern the æsthetic or historical monuments of London. It was advisable that the protection afforded to ancient monuments should be extended, but he should like to see an example set, not in the preservation, but in the demolition of some of our ancient monuments. We had an enormous number of equestrian statues in London, but only two good ones. Some, by the exigencies of traffic, had been driven farther and farther west into Kensington, and he did not think that the demolition of one of these would cause any great grief to one who had any artistic feeling. He had always advocated that no statue should be erected in London until ten years after the subject had died. There would be fewer statues today if that had been the rule.

The Marquess of Lothian said that if the London County Council had brought forward a large programme embracing Charing Cross area, they would have got funds from Parliament which they could not have got for a small scheme.

The Earl of Munster, Lord-in-Waiting, said that the Government considered that all the monuments, historical or architectural situated in London were matters of national interest just as much as they were matters of local interest. It had been the intention of successive Governments to give all the help they could in safely guarding these monuments. Such a Commission as that proposed by Lord Rennell in his motion would possess, perhaps, the most autocratic powers which had ever been given to a Commission. From that Commission there would be no appeal. The question arose, who was going to pay the compensation? He had not heard any suggestion from any

noble lord as to where the money was to come from. The L.C.C. had carried out their obligations in the proper spirit of a local authority. The only point which affected them was a section of the Town and Country Planning Act. With regard to Waterloo Bridge, an answer was given in the Commons recently by Mr. Baldwin in which he said that the Government were not prepared to open up this question again. Under Acts of Parliament dating back to 1803, the L.C.C. had the power, duty and responsibility of maintaining the London bridges in proper working condition. They had absolute right, when they liked, to pull down, rebuild, or alter a bridge. Parliament had given them power over the bridges, and he believed that they had carried it out in a proper spirit. As to enlarging the scope of the Ancient Monuments Act, he was advised that the scheduling of an ancient monument was done on the advice of the Ancient Monuments Board. In the book that was issued by the Office of Works, Sir Patrick Duff wrote that the present enlarged list of monuments could not be regarded as covering in a systematic way the whole of the more important ancient monuments of Britain. Much remained to be done before this could be achieved. There was a list of 3,600 munuments in all parts of the country. No doubt it would be enlarged upon. It received the full sympathy of the Government. He could not see that the motion was in any way going to help solve the difficulty of the fear of destruction of ancient monuments, and he hoped that in the circumstances it would be withdrawn.

The motion was, by leave, withdrawn.

IN PARLIAMENT

[BY OUR SPECIAL REPRESENTATIVE]

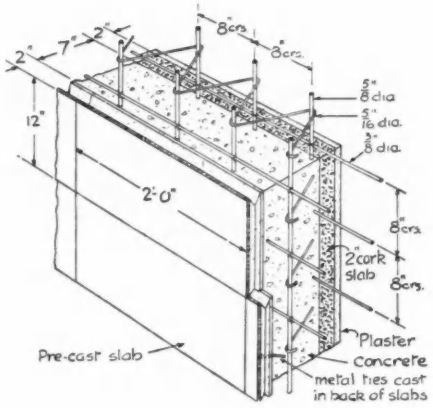
The National Gallery

Sir Park Goff, in the House of Commons last week, asked the First Commissioner of Works whether, with regard to the fire-guard strip at the west side of the National Gallery, his department would divest the strip of the temporary structures and design an architectural screen to hide the present untidy appearance.

Mr. Ormsby-Gore said that a scheme somewhat on the lines of that suggested by his hon. friend had been approved and would be put in hand shortly. The existing trellis would be removed and a high wood fence screened by an evergreen hedge would be substituted further back, so as to shut out the back view of the site. The front part of the site would be laid out as lawn.

Mr. Gardner asked the Minister of Health if he would state what was the number of houses built and under construction at the last convenient date under the Housing Act, 1930: and whether he could state what additional number of houses was added thereby to the total housing accommodation which the new houses replaced.

Sir Hilton Young said that the numbers of new houses completed and under construction under this Act at March 31 last were 17,569 and 10,512 respectively. The number of houses which had been demolished under this Act at the same date was 19,840.



TRADE NOTES

[*BY F. R. S. YORKE, A.R.I.B.A.*]

Copper in Building

I HAVE just received from the recently-formed Copper Development Association a small but interesting booklet on copper tubing and its advantages.

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Copper for all water services seems to me to have very definite merits, particularly from the point of view of ease of erection and durability, and I was interested to see that there is apparently no justification for the old *canard* of copper poisoning in drinking water.

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For tubular furniture, copper is extremely ductile, and short radius bends in small-bore tubes can be easily reinforced with tubular liners, while its natural polished finish is pleasantly warm in tone.

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This booklet is not specifically intended for architects, and it does not cover other copper uses, such as roofings, gutters or flashings; but it *does* make reasonable claims for a material about which only too little is known, and, as such, it well repays more than a casual glance.

Concrete Facing Slabs

The Cement Marketing Co. issue, this month, a brochure dealing with the use of pre-cast coloured concrete slabs, for facing external or internal walls. The slabs described are made with Cullamix or Snowcrete mixture, and are said to provide a surface that is hard, smooth, non-dirt-collecting, durable, and at the same time pleasant in appearance.

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When used as a facing to concrete walls, the slabs serve as formwork—in the manner adopted for the construction of the Dorchester Hotel—and so reduce the cost of timber shuttering.

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The aggregate, it is claimed, is extremely stable, being composed of almost pure silica, which is inert, and unaffected by ordinary atmospheric conditions. When polished, the white aggregate is revealed in its matrix of coloured or white cement.

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In order to show the use of these slabs when used in conjunction with various types of wall, working drawings for a typical shop front are reproduced in the booklet. The structure is shown as a small steel frame building with concrete encasings to the steel, and brick filling and brickwork above the first floor level. The method of fixing the slabs to each part of the building is clearly indicated. Coloured perspective drawings are reproduced to show the possibilities of these slabs when used for a road house, factory, block of flats, swimming bath, cinema and garage.

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The slabs are made to any size required, but it is recommended they be of a uniform thickness of 2 inches, and consist of 1½ inches of concrete made with gravel or other suitable aggregate, and a ½ inch facing of Cullamix or Snowcrete Mixture. They are cast with a groove on all edges so that an effective joggle is formed when they are grouted up, thereby increasing the strength of the wall.

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When the slabs are used to eliminate close-boarded shuttering it is advisable, in order to preserve proper alignment and level, to use a skeleton frame, and build the blocks against it before the concrete is poured. This ensures the fluid load of the wet concrete will not throw the facing slabs out of true. It is possible, of course, to build the slabs one or two courses high and fill with concrete the following day, without any form of shuttering or bracing, but as this is a slower process than conditions will

usually allow, light falsework, as shown in the accompanying diagrams, will usually be found more effective.

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When pouring the backing concrete, care should be taken to keep each lift about three inches down from the top of the slab to avoid spilling down the face of the work, and to ensure a proper broken joint. The top of the concrete should be cleaned and grouted before pouring succeeding lifts. An $\frac{1}{8}$th inch joint will be found the thinnest practicable.

Manufacturers' Item

The question of the prevention of the breeding of vermin in houses has long been a serious problem engaging the attention of architects and housing authorities. For slum clearance schemes especially it is necessary to find methods of construction and finishes which will afford no refuge for vermin.

Messrs. Bettles and Sons of Wolverhampton have recently introduced a patent Vermin Proof All Metal Picture Railing which will greatly assist in the solution of this problem. Besides being vermin proof and hygienic however, it has other advantages which will commend it to architects. It is of solid construction throughout and, light in weight and unbreakable, it is said to be very simple to erect and dismantle, being fixed, at intervals, at a distance of three eighths of an inch from the wall. These patent all-metal picture rails always retain their initial neatness of appearance, and they are claimed to be cheaper to fix than wooden rails.

They have been fitted in a house for the Sheffield Corporation and may be inspected there at any time through the courtesy of the Corporation architect.

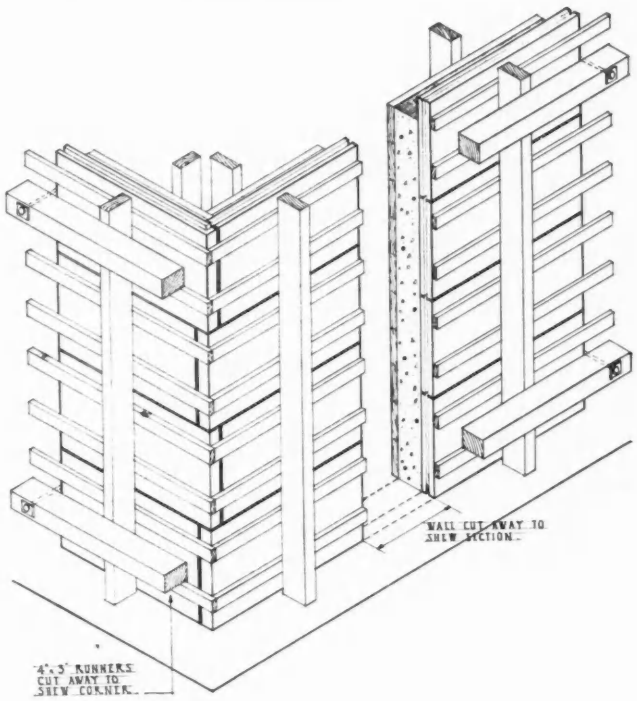
LAW REPORT

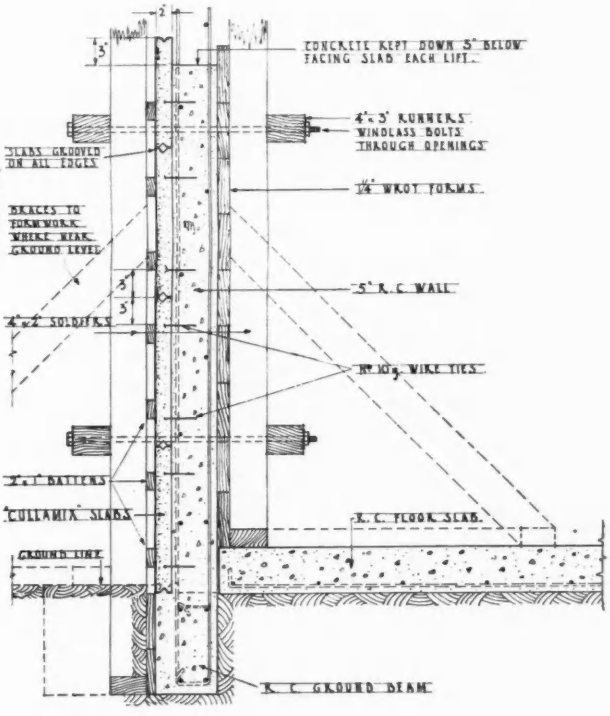
BUILDING CONTRACT DISPUTE—FINALITY OF OFFICIAL REFEREE'S DECISION

Theo. Conway, Ltd. v. Henwood—Court of Appeal. Before Lords Justices Greer and Maugham.

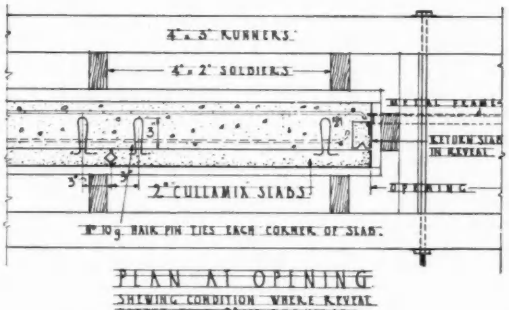
THIS was an interlocutory appeal by the defendants, the Misses Ada and Nancy Henwood, of the Regent Hotel, Bournemouth, against an order of Mr. Justice Macnaghten, in Chambers, reversing an order of Sir Francis Newbolt, K.C., an Official Referee, who had directed that an action brought against them by Theo. Conway, Ltd., of Commercial Road, Weymouth, arising out of a building contract dispute relating to alterations at the Regent Hotel, Bournemouth, should be dismissed for want of prosecution.

Mr. Eastham, for the defendants, said the appeal raised the question whether under the Administration of Justice Act, 1932, there was a right of appeal for any decision of an Official Referee in any interlocutory matter and in any final matters of fact. The plaintiffs sued the defendants for the balance alleged to be due for work done under a building contract. The matter was referred to the Official Referee. In May, 1934, the defendants applied to the Official Referee, and he made an order dismissing the action for want of prosecution. On an appeal to Mr. Justice Macnaghten he made an order discharging the order of the Official Referee, and he directed that within ten days the plaintiffs should apply to have a date fixed for the trial. Defendants now appealed and counsel's submission was that the order of the Official Referee was





Typical details of the use of pre-cast slabs faced with polished Cullamix or Snowcrete mixture.



PLAN AT OPENING SHEWING CONDITION WHERE REVEAL DEEPER THAN 2" IS REQUIRED.

SECTION

a decision within the terms of section one of the Administration of Justice Act, which laid down that there was no appeal from a decision of an Official Referee, except on a point of law. It was obvious, he said, that Parliament had taken away the right to appeal from any decision of an Official Referee in any interlocutory matter and in any final matters of fact, and the only appeal left open was on a question of fact direct to the Court of Appeal.

Mr. Croom Johnson, K.C., for plaintiffs, said, if the contention of his learned friend was right, that there was no appeal from an order of that nature, it was, he thought, well that the matter should receive very wide publicity. The order made by the Official Referee was in a form which in Counsel's experience in applications of that kind he had never seen before except in cases by consent. What the Official Referee did was to dismiss the action for want of prosecution and without giving the plaintiffs any sort of opportunity of putting themselves right. The law had been altered during a pending action, and as it did not appear to have a retrospective effect with regard to actions already begun or rights already vested, he submitted that his position was still governed by the position in which he was at the time when his action started, and he was still therefore not outside the right of appeal which then existed to the Court of Appeal or a judge in Chambers.

Lord Justice Greer, in giving judgment, said this was an important matter, and he could imagine people thinking that this act unwisely gave to Official Referees, a Court in some respects inferior to the High Court of Justice, power to decide matters finally. But that Court had nothing to do with the question, which was to be determined by the legislature.

The action in the present case was begun in September, 1931, and in the following month was referred to the Official Referee, Sir Francis Newbolt. As the law then stood there was an appeal from the decision of the Referee. His lordship could not interpret Section one of the Act as meaning to preserve to litigants, ladder of appeals which then existed with regard to interlocutory decisions.

With regard to Mr. Croom Johnson's arguments his lordship could not understand decisions to the effect that where the substantive rights of the party were altered by a statute it was necessary to look very carefully at the statute to see whether there had been an express alteration of substantive rights which had accrued to the parties before the Act was passed, and he thought the authorities cited by Mr. Croom Johnson had reference to accrued rights, and not to the question of procedure.

In his lordship's judgment, Section one of this Act applied to any appeal sought to be brought in respect of a decision, either interlocutory or final, in any cause or matter which had been given by an Official Referee, and which had been referred to him under the Supreme Court of Judicature (Consolidation) Act, 1925.

Under these circumstances, in his opinion, the appeal should be allowed and the order of the Official Referee restored, with costs there and in the Court below.

Lord Justice Maugham concurred and an order was made accordingly.

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

Following are the names of the general contractors and some of the sub-contractors for the buildings illustrated in this issue :—

Service Station at Ilford (pages 74, 85–87 and 95–98). General contractors, E. A. Roome & Co., Ltd. Sub-contractors : Crittall Manufacturing Co., Ltd., office screens and metal windows ; H. W. Dutton & Co., heating ; Braithwaite & Co., (Eng.) Ltd., steelwork ; Pirie Parlanti, Ltd., metal sliding and folding doors ; Bolton Gate Co., collapsible gates ; Troughton and Young, electrical installation and lighting fittings ; Neon Installations, neon lighting ; S. F. Bowser, petrol and oil pump ; Diespeker, terrazzo ; Leeds Fireclay Co., sanitary fittings ; Vitrea Drawn Sheet Glass Co., vitrea glass.

Hatfield Main Pithead Baths (page 91). General contractors, T. Jenkinson and Sons. Sub-contractors : Grip Steel Bar Co., Ltd., reinforcement ; J. Gibbons, windows ; Lion Foundry Co., Ltd., shirt and towel hooks ; Gummers, Ltd., swilling down cocks, bottle filling valves, boot cleaning machines ; Chas. Winn & Co., Ltd., mixing valves and swilling hoses ; Constructors, Ltd., cubicle mirrors, scraper mats and lockers, boot greasing equipment ; Medical Supply Association, Ltd., first aid room and ambulance room equipment ; Casella & Co., Ltd., thermometers ; Milners' Safe Co., Ltd., waste paper baskets ; Adamsez, Ltd., sanitary fittings ; W. H. Heywood & Co., Ltd., roof glazing ; Eric Munday, Ltd., commemorative plaque and directional signs ; Pyrene Co., Ltd., fire extinguishers ; S. H. Heywood & Co., Ltd., electrical installation ; Best and Lloyd, Ltd., electrical fittings ; Farquharson and Sons, attendant's and canteen equipment ; W. M. Still and Sons, Ltd., tea and coffee making set ; Henry Hope and Sons, ironmongery and hardware ; John Unite, Ltd., cubicle curtains ; Young, Austen and Young, heating.

Calder Pithead Baths (page 92). General contractors, J. W. Lee, Ltd. Sub-contractors : Johnson's Reinforced Concrete Engineering Co., Ltd., reinforcement ; Henry Hope and Sons, windows ; Lion Foundry Co., Ltd., shirt and towel hooks, curtain hooks ; Gummers, Ltd., swilling down valves, and boot cleaning machines ; Chas. Winn & Co., Ltd., bottle filling valves, swilling down hoses ; Constructors, Ltd., steel mirrors and scraper mats, and boot greasing apparatus ; Estler Brothers, lockers ; Medical Supply Association, Ltd., first aid room equipment ; Casella & Co., Ltd., thermometers ; Milners' Safe Co., Ltd., waste paper baskets ; Farquharson and Sons, attendant's equipment ; Hope's Heating and Lighting, Ltd., heating ; Eric Munday, Ltd., commemorative plaque and directional signs ; J. Gibbons, Ltd., ironmongery ; S. H. Heywood & Co., Ltd., electrical installation ; Pyrene Co., Ltd., fire extinguishers ; Adamsez, Ltd., sanitary fittings ; John Unite, Ltd., cubicle curtains.

Auchincruive Pithead Baths (page 92). General contractors, Angus MacDougall & Co., Ltd. Sub-contractors : Johnson's Reinforced Concrete Engineering Co., Ltd., steel reinforcement ; Lambhill Ironworks, Ltd., structural steelwork ; Pennycook Patent Glazing and Engineering Co., Ltd., patent glazing ; J. A. King & Co., Ltd., pavement lights ; James Gibbons, Ltd., steel windows, door furniture ; Wolverhampton Corrugated Iron Co., Ltd., roofing ; James Muirhead and Sons, ventilators; G. N. Haden and Sons, Ltd., heating ; Southhook Potteries, Ltd., sanitary goods ; Scottish Enamelled Brick Co., Ltd., glazed bricks and tiles ; Malcolm and Allen, Ltd., electrical work ; Estler Brothers, Ltd., lockers ; Venesta Ltd., doors ; Gummers, Ltd., boot cleaning and greasing apparatus and mixing, bottle filling and swilling valves ; Jaconello, Ltd., first aid room floor tiles ; John Unite, Ltd., cubicle curtains ; Medical Supply Association, Ltd., first aid equipment ; James Farquharson and Sons, cleaning equipment ; Lion Foundry Co., Ltd., clothes, towel and curtain holders, and rainwater goods ; Eric Munday, Ltd., directional signs and lettering and commemorative tablet ; Toffolo Jackson, Ltd., terrazzo work ; Long, Humphreys & Co., Ltd., sewage treatment fittings ; Walpamur Co., Ltd., paint.

Cronton Pithead Baths (page 93). General contractors, William Townson and Sons. Sub-contractors : Johnson's Reinforced Concrete Engineering Co., Ltd., reinforcement ; J. Gibbons, windows ; E. Munday, Ltd., commemorative plaque and directional signs ; Young, Austen and Young, heating ; Lion Foundry Co., Ltd., clothing, towel and curtain hooks for bath cubicles ; Becco Engineering and Chemical Co., Ltd., water softening plant ; Gummers, Ltd., swilling valves and boot cleaning machine ; Chas. Winn & Co., Ltd., bottle filling valves and swilling down hoses ; Constructors, Ltd., cubicle mirrors, scraper mats, boot greasing plant ; Estler Brothers, lockers ; Medical Supply Association, Ltd., first aid room equipment ; Casella & Co., Ltd., thermometers ; Milners' Safe Co., waste paper baskets ; Farquharson and Sons, attendant's equipment and canteen equipment ; W. M. Still and Sons, Ltd., tea and coffee set ; W. Wadsworth and Son, lift ; S. H. Heywood & Co., Ltd., electrical installation ; J. Gibbons, ironmongery and hardware ; Long, Humphreys & Co., Ltd., sewage plant fittings ; Adamsez, Ltd., sanitary fittings ; Pyrene Co., Ltd., fire extinguishers ; John Unite, Ltd., cubicle curtains ; Best and Lloyd, Ltd., electric light fittings.

Parsonage Pithead Baths for Women, Canteen and Ablution Room (page 94). General contractor, A. Fenton. Sub-contractors : Venesta, Ltd., doors, plywood panelling, tables and stools, grilles ; Best and Lloyd, Ltd., electric light fittings ; Doulton & Co., Ltd., ablution fountains ; Chas. Winn, chromium plated fittings to ablution fountains ; Stourbridge Glazed Brick and Fireclay Co., glazed tiles.

Chisnall Hall Pithead Baths, Women's Rest Room (page 94). General contractors, J. Johnson and Son. Sub-contractors : Dunlop Rubber Co., Ltd., rubber floor ; W. Whiteley & Co., furniture and curtains ; Sanderson and Sons, wallpaper ; Venesta, Ltd., doors and grilles ; Best and Lloyd, Ltd., electric light fittings ; Stourbridge Glazed Brick and Fireclay Co., glazed tiles and cubicle partitions ; Adamsez, Ltd., ablution fountains ; Chas. Winn & Co., chromium plated fittings to ablution fountains ; Young, Austin and Young, hot and cold water fitting to cubicles and fountains.

The contractors for the Elemore Pithead Baths were published on page 68 of our last issue.

Prestonlinks Pithead Baths (pages 92). General contractors, Richard Baillie. Sub-contractors : Johnson's Reinforced Concrete Engineering Co., Ltd., steel reinforcement ; Lambhill Ironworks, Ltd., structural steelwork ; Puttyless Patent Glazing Co., patent glazing ; J. A. King & Co., Ltd., pavement lights ; James Gibbons, Ltd., steel windows, door furniture ; Wolverhampton Corrugated Iron Co., Ltd., roofing ; James Muirhead and Sons, ventilators ; G. N. Haden and Sons, Ltd., heating ; Low and Duff, Ltd., sanitary goods ; Stourbridge Glazed Brick and Fireclay Co., Ltd., glazed bricks and tiles ; Malcolm and Allen, Ltd., electrical work ; Estler Brothers, Ltd., lockers ; Venesta Ltd., doors ; Gummers Ltd., boot cleaning and greasing apparatus, and mixing, bottle filling and swilling valves ; Jaconello, Ltd., first aid room floor tiles ; John Unite, Ltd., cubicle curtains ; Medical Supply Association, Ltd., first aid equipment ; James Farquharson and Sons, installation equipment ; Lion Foundry, Ltd., clothes, towel, curtain holders, and rain water goods ; Eric Munday, Ltd., directional signs, lettering, and

commemorative tablet ; Toffolo Jackson Ltd., terrazzo work ; Byron Imison, Ltd., wrot iron gates and railings ; Walpamur Co., Ltd., paints.

Marine Pithead Baths (page 93). General contractors, W. A. Miles and Sons. Sub-contractors : The Ebbw Vale Steel, Coal and Iron Co., Ltd., and artificial stone cills and copings ; The Western Trinidad Lake Asphalte Co., Ltd., asphalte floors ; Hope's Heating and Lighting, Ltd., heating and ventilating ; R. Alger and Sons, Ltd., lighting and electrical installation ; Johnson's Reinforced Concrete Engineering Co., Ltd., reinforcement ; Hoskins and Sewell, Ltd., windows and grilles ; J. A. King & Co., Ltd., pavement lights ; Adamsez, Ltd., sanitary goods ; Constructors, Ltd., lockers ; Lion Foundry Co., Ltd., rainwater heads and sundries ; Stourbridge Glazed Brick and Fireclay Co., glazed bricks and tiles ; Thos. Parsons and Sons, Ltd., paint ; The Medical Supply Association, Ltd., first aid room equipment ; Bell and Smart, Ltd., boot cleaning machines ; Constructors, Ltd., boot greasing equipment ; General Electric Co., Ltd., extract fans ; Walker and Wood, Ltd., ironmongery.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

CATERHAM. *Houses.* Plans passed by the U.D.C. : Swimming pool, White House, Warlingham, for Messrs. Johns and Freeland ; 24 houses, Clyde Avenue, Hamsey Green, for Messrs. E. A. Thorn and Sons ; three houses, Tillingdon Lane, for Mr. C. H. Harrington ; four houses, Campbell Road, for Mr. C. Dawes ; two houses, Sunny Rise, for Mr. Wm. Butler ; 22 houses, Godstone Road, for Mr. N. C. Webber.

EAST HAM. *Houses.* Plans passed by the Corporation : Two houses, Wakefield Street, for Mr. H. L. Harper ; eight houses, Dersingham Avenue, for Mr. S. Newlyn ; furniture depository, Katherine Road, for Mr. J. W. Lohden ; two houses, Eighth Avenue, for Mr. F. Franckeiss.

FINCHLEY. *Fire Station.* The Corporation has approved plans for the erection of a central fire station at a cost of £30,000.

HAMMERSMITH. *Town Hall.* The B.C. has approved revised plans by Sir A. Brumwell Thomas for the new Town Hall building, which is estimated to cost £200,000, and is seeking sanction for permission to borrow this amount.

HARROW. *Houses, Roads, etc.* Plans passed by the U.D.C. : Houses and road, "Towers" estate, Eastcote Road, Pinner, for Mr. G. A. Gale ; 16 flats and garages, Cross Way, Hatch End, for Southside Estate, Ltd. ; seven roads, land off Kenton Lane, for Davis Estates (Kingsbury), Ltd. ; two roads and houses, Eastcote Road, for Messrs. Howell and Burgess (London), Ltd. ; three roads and houses, Camrose Avenue, Little Stanmore, for Mr. A. Methuen ; 30 houses, Harrow Weald, for New Ideal Homesteads, Ltd. ; roads and houses, White Gate Estate, Elms Road, for Mr. N. W. Chappell ; road and houses, off Rayners Lane, for Messrs. George Brittain and Son. Plans submitted : 38 flats, Gatehouse estate, Edgware Road, for Mr. L. F. Richardson ; shops and flats, Church Road, Stanmore, for Messrs. Stanley Hicks and Son.

ILFORD. *Houses, etc.* Plans passed by the Corporation : five shops and houses, Roden Street, for Messrs. B. Bailey & Co. ; six houses, Canterbury Avenue, for Mr. A. P. Griggs ; 176 houses, Mossford Park estate, for New Ideal Homesteads, Ltd. ; 89 bungalows, Mossford Lane, etc., for Mr. G. F. Seigerts ; two houses, Abury Gardens, for Mr. T. Anders ; 29 houses, Primrose Avenue, for Messrs. P. Triplete Ltd. ; five houses, Trenance Gardens, for Mr. J. T. Perrin ; 47 houses, Longwood Gardens, etc., for Messrs. A. Smith and Sons ; 12 bungalows, New North Road, for Mr. C. Fryatt ; church hall and classrooms, Gantshill Methodist church, Gantshill Crescent, for Messrs. Smee and Houchin ; seven houses, Beattyville Gardens, for Mr. J. Aldridge. Plans submitted: 29 houses, Baron Gardens, etc., for Mr. W. Bullen.

ISLINGTON. *Flats.* The Islington Housing Association is to erect 15 flats at Wynford Road, Islington.

L.C.C. *Schools.* The L.C.C. has prepared its educational programme for the year, provision being made for the erection of new elementary schools at a cost of £293,000, rebuilding and modernizing old schools at £163,000, secondary school buildings £212,000 and technical institutes £83,000.

STEPNEY. *Dwellings.* The L.C.C. is to erect 70 dwellings on the Ellen Street areas, at an estimated cost of £25,200.

WATFORD. *Water Supply.* The Corporation Water Committee has further considered the reports for the provision of an additional water supply. The scheme proposed provides for a new waterworks comprising wells, electrically equipped, pumping station, and softening works, at a total estimated cost of £87,500. The Committee recommends the adoption of the scheme and has instructed the borough engineer to submit it to the Ministry of Health for approval and to negotiate for the necessary sites

SOUTHERN COUNTIES

HERNE BAY. *Houses, etc.* Plans submitted to the U.D.C. : Two bungalows, Carlton Hill, for Mr. Griggs ; eight houses, Mickleburgh Avenue, for Ashford Builders Co., Ltd. ; two houses, Greenhill Road, for Messrs. Carters ; three houses, Clarendon Street, and two houses, Bognor Drive, for Mr. G. S. Joiner ; two houses, Sea View Road, for Messrs. J. Howell and Son ; two bungalows, Lonsdale Drive, for Mr. J. C. Clague ; two houses, Albany Drive, for Messrs. Keeler and Clarke ; two bungalows, Greenhill Gardens, for Messrs. Goodwin and Russell, Ltd.

PORTSMOUTH. *School.* The Education Committee recommends the erection of a school and home for mentally defective children at Paulsgrove, at an estimated cost of £22,040.

SWINDON. The Finance Committee of the Corporation reports that it has further considered the question of the erection of new municipal offices instead of extending the present town hall and recommends the erection of such new offices accordingly on the site of the Princes Street recreation ground, at a total estimated cost of £54,500, and that an architectural competition be promoted for the purpose of obtaining designs for the offices.

WORTHING. *Houses.* Plans passed by the Corporation : Four houses, Coombe Rise, for Mr. R. A. N. Gammans ; five shops and three houses, Upper Brighton Road, for Mr. A. M. Lyne ; 20 houses, Offington Drive, for Mr. R. Hasler ; two houses, West Avenue, for Mr. F. Russell Seller ; five houses, Sea Mill Park Crescent, for Messrs. L. W. Macer & Co. ; two houses, Goring Road, for Messrs. Maddison and Brooks ; two houses, Offington Drive, for Mr. H. P. Roberts ; four houses, Balcombe Avenue, house, Offington Way, and three houses, Tarring Church Road, for Mr. H. M. Potter ; seven shops, bank, and six flats. George V Avenue, for Mr. L. W. Waterman ; six houses, Goring Road, 8 houses, Cissbury Gardens, and two houses, Wallace Gardens, for Mr. M. R. Fletcher ; six shops and houses, South Street, Tarring, for Mr. D. C. Payne ; two houses, Adversane Road, for Mr. J. E. Lund ; two houses, Sompting Avenue, for Mr. E. J. Love ; eight shops and houses and bank, Goring Road, for Jeffery Houses, Ltd. ; 75 houses, vicinity Pevensy Road, and four houses, Offington Court, for Messrs. A. W. Clements, Ltd. ; eight houses, St. Andrews Road, for Mr. R. Twine ; 33 houses, off Leighton Avenue, for Mr. R. Hasler.

SOUTH-WESTERN COUNTIES

BRISTOL. *Houses.* The Corporation recommends the sale of land to the First National Housing Trust, Ltd., which was founded to build and administer local housing schemes. The Trust asks for land at the Southmead Estate for the erection of 300 to 360 houses. Arrangements have been made by the Trust for the erection of 2,000 houses in Birmingham, 1,500 in Sheffield and 226 in Deal.

MIDLAND COUNTIES

CHESTERFIELD. *Houses.* Plans passed by the Corporation : two houses, Hoole Street, for Messrs. Clarke Bros. ; eight houses, Newbold Lane, for Mr. F. L. Short ; six houses, Foljambe Avenue, for Mr. W. Marsden ; factory extension, Portland Works, for Messrs. Robinson and Sons, Ltd. ; two houses, Lockoford Lane, for Messrs. Heath and Longden.

STOKE-ON-TRENT. *Houses.* Plans passed by the Corporation : Two houses, Stone Road, for Messrs. P. Bailey & Co., Ltd. ; two houses, Sommerville Road, for Mr. J. H. Summerfield ; two houses, Highfield Avenue, for Messrs. W. Ball and Sons ; two houses, Brough Lane, for Messrs. Cooper and Jones ; seven houses, Hamilton Road, for Messrs. J. E. Simester & Co. ; two houses, Bog Lane, for Messrs. Allcock and Nixon ; nine houses, Weston Coyney Road, for Mr. R. J. Addison ; four houses, Highcliffe estate, Lightwood, for Mr. A. W. Rushton ; three houses, Sandon Old Road, for Mr. D. Shone ; two houses, Sandon Road, for Mr. J. Bartholomew ; two houses, Longton Lane, for Mr. F. Muston ; two houses, Blurton Road, for Mr. J. Quale.

NORTHERN COUNTIES

BARROW-IN-FURNESS. *Houses.* Plans passed by the Corporation : Two houses, Beverley Avenue, and two houses, Malton Crescent, for Messrs. Neal and Atkinson, Ltd. ; shop front, Dalton Road, for Messrs. Fleming, Reid & Co., Ltd. ; five houses, Durham Street, for Mr. A. Ingham ; eight houses, Beach Crescent, for Mr. A. Morton ; four houses, Ilkley Road, for Messrs. Neal and Atkinson, Ltd. ; 16 houses, Derby Street, for Mr. C. V. Thorpe ; 18 houses, Holebeck Road, for Mr. W. H. Paul ; four houses, Harrel Lane, for Messrs. Moody and Thompson.

DEWSBURY. *Houses.* Plans passed by the Corporation : Eight houses, Hobart Road, for Mr. R. Laycock ; four houses, Edge Top Road, for Mr. J. Tierney ; three houses, Edge Lane, for Miss C. Handley ; two bungalows, Park Road, for Mrs. W. Crosland ; four houses, Dark Lane, for Messrs. Mitchell Bros. ; two houses, Chiltern Road, for Messrs. S. Scott and Son ; two houses, Mill Street, for Mr. H. Kitson ; four houses, Valley Road, for Mr. J. A. Robinson ; three shops, Huddersfield Road, for Mr. T. Clark ; shops, Asman Square, for Yorks (W.D.) Electric Tramways, Ltd. ; three cottages, Hartley Street, for Mr. J. Crossley.

SCARBOROUGH. *Bathing Pool.* The Corporation reports having received sanction to borrow sums of £5,088, £3,765, and £9,431 in respect of the proposed improvements at the South Bay bathing pool.

SOUTH SHIELDS. *Houses.* The Corporation has purchased a site east of Wenlock Road from the L. and N.E. Railway Co., Ltd., and approved plans and estimate for the erection of 148 houses thereon, with the necessary streets and sewers, at a total estimated cost of £49,000. The Corporation reports that it is proposed to erect in all approximately 500 new dwellings in the West Harton area. A site of 29 acres has already been acquired, and negotiations are in progress for the purchase of an additional 9½ acres.

WALLASEY. *Shops and Houses.* Mr. A. E. Shennan is to erect six shops in Poulton Road and 23 houses in Gorsey Lane.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A_1	Abergavenny ..	S Wales & M.	1 5	1 0½
A_2	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A_2	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie ..	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B_2	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
A_2	Atherstone ..	Mid. Counties	1 4	1 0
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry ..	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_2	Bicester ..	S. Counties	1 2	10½
A	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham	Mid. Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth ..	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton ..	N.W. Counties	1 5½	1 1½
A_2	Boston ..	Mid. Counties	1 4	1 0
A_2	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_2	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A	Brighton ..	S. Counties	1 4	1 0
A	Bristol ..	S.W. Counties	1 5½	1 1½
B_2	Brixham ..	S.W. Counties	1 2½	11
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B_2	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
A	Burslem ..	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury ..	N.W. Counties	1 5½	1 1½
A_1	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff ..	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A_2	Cheimsford ..	E. Counties	1 4	1 0
A_2	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester ..	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley ..	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A_2	Colchester ..	E. Counties	1 4	1 0
A	Colne ..	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby ..	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorchester ..	S.W. Counties	1 2½	11
A	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N.E. Coast	1 5½	1 1½
A_2	EASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE	E. Counties	1 4	1 0
A_2	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S.W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	Gosport	S. Counties	1 4½	1 0½
A_2	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B_2	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln ..	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A_2	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_2	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth .. & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson ..	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid. Counties	1 5½	1 1½
A_2	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford ..	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth	Scotland	*1 5½	1 1½
A_2	Peterborough ..	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A_2	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A_2	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby ..	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	Slough ..	S. Counties	1 4½	1 0½
A_1	Solihull ..	Mid. Counties	1 5	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud ..	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swadlincote ..	Mid. Counties	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A_2	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist...	N.E. Counties	1 5½	1 1½
A_2	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay ..	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall ..	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick ..	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid. Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby ..	Yorkshire	1 4½	1 0½
A	Widnes ..	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor ..	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A_2	Wycombe ..	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	11½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 8
Mason (Banker) . . . . . ,,	1 7
,, (Fixer) . . . . . ,,	1 8
Plumber . . . . . ,,	1 7
Painter . . . . . ,,	1 6
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 7
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 3
Timberman . . . . . ,,	1 3
Navvy . . . . . ,,	1 2½
General Labourer . . . . . ,,	1 2½
Lorryman . . . . . ,,	1 5
Crane Driver . . . . . ,,	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . . per ton	2 2 0
Blue Lias Lime . . . . . ,,	1 16 6
Hydrated Lime . . . . . ,,	3 0 9
Portland Cement, in 4 ton lots (d/d site, including Paper Bags) . . ,,	1 18 0
Rapid Hardening Cement, in 4 ton lots (d/d site, including Paper Bags) ,,	2 5 6
White Portland Cement, in 1 ton lots ,,	8 15 0
Thames Ballast . . . . . per Y.C.	6 3
¾" Crushed Ballast . . . . . ,,	6 9
Building Sand . . . . . ,,	7 3
Washed Sand . . . . . ,,	8 3
2" Broken Brick . . . . . ,,	8 0
¾" ,, ,, ... ,,	10 3
Pan Breeze . . . . . ,,	6 6
Coke Breeze . . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . . per F.R	0 9	1 1
Bends . . . each	1 9	2 6
Taper Bends . . ,,	3 6	5 3
Rest Bends . . ,,	4 3	6 3
Single junctions . . ,,	3 6	5 3
Double . . . ,,	4 9	6 6
Straight channels . . per F.R.	1 6	2 6
¾" Channel bends . . each	2 9	4 0
Channel junctions . ,,	4 6	6 6
Channel tapers . . ,,	2 9	4 0
Yard gullies . . ,,	6 9	8 9
Interceptors . . ,,	16 0	19 6
IRON DRAINS:		
Iron drain pipe . . per F.R.	1 6	2 6
Bends . . . each	5 0	10 6
Inspection bends . . ,,	9 0	15 0
Single junctions . . ,,	8 9	18 0
Double junctions . . ,,	13 6	30 0
Lead wool . . . lb.	6	—
Gaskin . . . ,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . . per M.	2 18 0
Grooved do. . . . . ,,	3 0 0
Phorpres bricks . . . . ,,	2 17 3
Phorpres Cellular bricks . . ,,	2 17 3
Stocks, 1st quality . . . ,,	4 11 0
,, 2nd ,, . . . ,,	4 2 6
Blue Bricks, Pressed . . . ,,	8 17 6
,, Wirecuts . . ,,	7 17 6
,, Brindles . . ,,	7 0 0
,, Bullnose . . ,,	9 0 0
Red Sand-faced Facings . . ,,	6 18 6
Red Rubbers for Arches . . ,,	12 0 0
Multicoloured Facings . . .	7 10 0
Luton Facings . . . . ,,	7 10 0
Phorpres White Facings . . ,,	3 17 3
Phorpres Rustic Facings . . ,,	3 12 3
Midhurst White Facings . . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . . ,,	21 0 0
Headers . . . . . ,,	20 10 0
Bullnose . . . . . ,,	27 10 0
Double Stretchers . . . ,,	29 10 0
Double Headers . . . . ,,	26 10 0
Glazed Second Quality, *Less* . ,,	1 0 0
,, Buffs and Creams, *Add* . ,,	2 0 0
,, Other Colours . . ,,	5 10 0
2" Breeze Partition Blocks . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 10
3" ,, ,, ,, . . ,,	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

	s. d.
The following d/d F.O.R. at Nine Elms:	
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . . ,,	2 11
York stone . . . . . ,,	6 6
,, ,, Sawn templates . . ,,	7 6
,, ,, Paving, 2" . . . F.S.	1 8
,, ,, ,, 3" . . . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . . per M.	28 17 6
22" × 12" Marchionesses . . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . . ,,	15 10 0
18" × 9" Ladies . . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, green ,, ,,	24 7 4
Best machine roofing tiles . . ,,	4 10 0
Best hand-made do. . . . ,,	5 0 0
Hips and valleys . . . . each	9½
,, hand-made . . . . ,,	10
Nails, compo . . . . lb.	1 4
,, copper . . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . as 1" F.S.	9
Deal, Joiner's . . . ,, ,,	5
,, ,, 2nds . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . ,, ,,	4
Teak, Moulmein . . ,, ,,	1 3
,, Burma . . ,, ,,	1 2
Walnut, American . . ,, ,,	2 3
,, French . . ,, ,,	2 3
Whitewood, American . . ,, ,,	1 1
Deal floorings, ¾" . . . Sq.	18 6
,, 1" . . . ,,	1 1 6
,, 1¼" . . . ,,	1 2 0
,, 1½" . . . ,,	1 5 0
,, 1¾" . . . ,,	1 10 0
Deal matchings ¾" . . . ,,	14 0
,, 1" . . . ,,	15 6
Rough boarding ¾" . . . ,,	1 4 0
,, 1" . . . ,,	16 0
,, 1¼" . . . ,,	18 0
Plywood, per ft. sup.	1 6 0

Thickness	¼"	½"	¾"	1"
Qualities	AA. A. B.	AA. A. B.	AA. A. B.	AA. A. B.
	d. d. d.	d. d. d.	d. d. d.	d. d. d.
Birch	4 3 2	5 4 3	7½ 6 4½	8½ 7 6
Alder	3½ 3 2	5 4 3	6½ 5½ 4½	8 7 6
Gaboon Mahogany	4 3 3	6½ 5½ 4½	9½ 7½ -	1/0½ 10 -
Figured Oak 1 side	8½ 7 -	10 8 -	11½ - -	1/6 - -
Plain Oak 1 side	6½ 6 -	7½ 7 -	9½ - -	1/- - -
Oregon Pine	5 4 -	5½ 5 -	6 - -	- - -

	d.
Scotch glue . . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:

(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	¼"	½"	1"	1¼"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
,, 3'-11½" long ,,	7	9	1/3	1/8	3/-
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3
,, ,, 3'-14' long ,,	8	10	1/5	1/11	3/6
Bends . . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . ,,	2/-	3/-	5/6	6/9	10/-
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . . ,,	1/-	1/3	1/10	2/6	5/1
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/-	2/-
Flanges . . . ,,	9	1/-	1/4	1/9	2/9
Caps . . . . ,,	3½	5	8	1/-	2/-
Backnuts . . . ,,	2	3	5	6	1/1
Iron main cocks . . ,,	1/6	2/3	4/2	5/4	11/6
,, ,, with brass plugs ,,	—	4/-	7/6	10/-	21/-

Discounts:

TUBES.	Per cent.		Per cent.
Gas . . .	65	Galvanized gas .	52½
Water . . .	61½	,, water	47½
Steam . . .	57½	,, steam	42½
FITTINGS.			
Gas . . .	57½	Galvanized gas .	47½
Water . . .	52½	,, water	42½
Steam . . .	47½	,, steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ¾" . . ,,	8 6
,, ,, ½" . . ,,	8 3
,, ,, ⅝" . . ,,	8 0
,, ,, ¾" . . ,,	7 6
,, ,, ⅞" . . ,,	7 6
,, ,, 1" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1½" . . ,,	7 6
	3" 4"
Cast-iron rain-water pipes of ordinary thickness metal . . F.R	s. d. 8	s. d. 10
Shoes . . . . each	2 0	3 0
Anti-splash shoes . . ,,	4 6	8 0
Boots . . . . ,,	3 0	4 0
Bends . . . . ,,	2 7	3 9
,, with access door . . ,,	—	6 3
Heads . . . . ,,	4 0	5 0
Swan-necks up to 9" offsets . ,,	3 9	6 0
Plinth bends, 4½" to 6" . . ,,	3 9	5 3
Half-round rain-water gutters of ordinary thickness metal . . F.R.	5	6
Stop ends . . . . each	6	6
Angles . . . . ,,	1 7	1 11
Obtuse angles . . . ,,	2 0	2 6
Outlets . . . . ,,	1 9	2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	18 6
,, drawn pipes . . . ,,	17 0
,, soil pipe . . . ,,	18 6
,, scrap . . . ,,	10 6
Solder, plumbers' . . . lb.	9½
,, fine do. . . . ,,	1 0
Copper, sheet . . . ,,	8½
,, tubes . . . ,,	11

L.C.C soil and waste pipes:	3"	4"	6"
Plain cast . . F.R.	1 0	1 2	2 6
Coated . . ,,	1 1	1 3	2 8
Galvanized . ,,	2 0	2 6	4 6
Holderbats . . each	3 10	4 0	4 9
Bends . . ,,	3 9	5 3	10 3
Shoes . . ,,	2 10	4 4	9 6
Heads . . ,,	4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . per ton	2 5 0
Plaster, coarse . . ,,	2 10 0
,, fine . . ,,	4 15 0
Hydrated lime . . ,,	3 0 9
Sirapite . . . ,,	3 6 0
Keene's cement . . ,,	5 0 0
Sand, washed . . Y.C.	11 6
Hair . . . lb.	6
Laths, sawn . . bundle	2 4
,, rent . . ,,	3 9
Lath nails . . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft.	s. F.S.	2½
,, ,, 26 oz. ,, ,, ,,	,,	3½
Flemish, Arctic, Figured (white)*	,,	7
Blazoned glasses . . .	,,	2 6
Reeded; Cross Reeded	,,	11
Cathedrals: eleven varieties (white)*	,,	6½
Crown sheet glass (n/e 12 in. x 10 in)	,,	2 0
Flashed opals (white and coloured)	,, 1 0 and 2	0
¼" rough cast; rolled plate . .	,,	7
¼" wired cast; wired rolled . .	,,	10
¼" Georgian wired cast . .	,,	11
¼" Polished plate, n/e 1 ft. . .	,, †10 to ‡1	1
,, ,, 2 . .	,, †1 2 ,, ‡1	4
,, ,, 4 . .	,, †2 3 ,, ‡2	6
,, ,, 8 . .	,, †2 9 ,, ‡3	2
,, ,, 20 . .	,, †3 7 ,, ‡4	2
,, ,, 45 . .	,, †3 11 ,, ‡4	7
,, ,, 100 . .	,, †5 0 ,, ‡5	7
Vita glass, sheet, n/e 2 ft. . .	,,	1 3
,, ,, ,, over 2 . .	,,	1 9
,, ,, plate, n/e 2 ft. . .	,,	3 0
,, ,, ,, 7 . .	,,	5 0
,, ,, ,, 15 . .	,,	6 0
,, ,, ,, over 15 . .	,,	7 6
"Calorex" sheet 21 oz., and 32 oz. rough cast ¼" and ½" .	,, 2 6 and 3 8½ ,,	6 0
Putty, linseed oil . . .	lb.	3

*Colours 1d. F.S. extra.
†Ordinary glazing quality. ‡Selected glazing quality.

PAINTER

	£ s. d.
White lead in 1 cwt. casks . . cwt.	2 6 0
Linseed oil . . . . gall.	2 2½
Boiled oil . . . . ,,	2 4½
Turpentine . . . . ,,	4 1½
Patent knotting . . . ,,	14 0
Distemper, washable . . cwt.	2 6 0
,, ordinary . . ,,	2 0 0
Whitening . . . . ,,	4 0
Size, double . . . firkin	3 0
Copal varnish . . . gall.	13 0
Flat varnish . . . ,,	14 0
Outside varnish . . . ,,	16 0
White enamel . . . ,,	1 15 0
Ready-mixed paint . . ,,	13 6
Brunswick black . . ,,	7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR	£ s. d.
Digging over surface n/e 12″ deep and cart away	Y.S. 2 9
" to reduce levels n/e 5′ 0″ deep and cart away	Y.C. 8 6
" to form basement n/e 5′ 0″ deep and cart away	" 9 0
" " 10′ 0″ deep and cart away	" 9 6
" " 15′ 0″ deep and cart away	" 10 0
If in stiff clay	add " 2 6
If in underpinning	" " 4 0
Planking and strutting to sides of excavation	F.S. 1 0
" to pier holes	" 5
" " to trenches	" 5
" " extra, only if left in	" 3
Hardcore, filled in and rammed	Y.C. 10 0
Portland cement concrete in foundations (6-1)	" 1 6 0
" " (4-2-1)	" 1 12 6
" " underpinning	" 1 16 0
Finishing surface of concrete, spade face	Y.S. 7

DRAINLAYER	4″ s. d.	6″ s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R. 1 6	2 3
Extra, only for bends	Each 2 8	3 9
" junctions	3 9	4 6
Gullies and gratings	" 16 6	18 0
Cast iron drains, and laying and jointing	F.R. 4 9	6 9
Extra, only for bends	Each 10 6	15 6

BRICKLAYER	£ s. d.
Brickwork, Flettons in lime mortar	Per Rod 27 10 0
" " in cement	" 28 15 0
" Stocks in cement	" 35 0 0
" Blues in cement	" 52 0 0
Extra only for circular on plan	" 2 0 0
" backing to masonry	" 1 10 0
" raising on old walls	" 2 0 0
" underpinning	" 5 10 0
Fair Face and pointing internally	F.S. 1½
Extra over fletton brickwork for picked stock facings and pointing	" 8½
" " " red brick facings and pointing	" 11
" " " blue brick facings and pointing	" 1 4
" " " glazed brick facings and pointing	" 3 6
Tuck pointing	" 7
Weather pointing in cement	" 3½
Slate dampcourse	" 10
Vertical dampcourse	" 1 1

ASPHALTER	s. d.
½″ Horizontal dampcourse	Y.S. 4 6
½″ Vertical dampcourse	" 6 9
½″ paving or flat	" 4 0
1″ paving or flat	" 5 6
1″ × 6″ skirting	F.R. 1 0
Angle fillet	" 2
Rounded angle	" 2
Cesspools	Each 5 0

MASON	s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C. 17 9
Bath stone and do., all as last	" 13 6
Artificial stone and do.	" 13 0
York stone templates, fixed complete	" 10 6
" thresholds	" 13 6
" sills	" 1 0 6

SLATER AND TILER	£ s. d.
Slating, Bangor or equal, laid to a 3″ lap, and fixing with compo nails, 20″ × 10″	Sqr. 3 10 0
Do., 18″ × 9″	" 3 7 0
Do., 24″ × 12″	" 3 17 0
Westmorland slating, laid with diminished courses	" 6 0 0
Tiling, best hand-made sand-faced, laid to a 4″ gauge, nailed every fourth course	" 3 0 0
Do., all as last, but of machine-made tiles	" 2 16 0
20″ × 10″ medium Old Delabole slating, laid to a 3″ lap (grey)	" 4 6 0
" " " " " (green)	" 4 15 0

CARPENTER AND JOINER	£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr. 2 5 0
Shuttering to sides and soffits of beams	F.S. 8
" to stanchions	" 8
" to staircases	" 1 8
Fir and fixing in wall plates, lintols, etc.	F.C. 3 9
Fir framed in floors	" 4 6
" " roofs	" 6 6
" " trusses	" 7 6
" " partitions	" 8 6
⅞″ deal sawn boarding and fixing to joists	Sqr. 1 14 6
1″ " " " " "	" 1 17 6
1½″ " " " " "	" 2 3 0
3″ × 2″ nr battening for Countess slating	" 9 6
Do. for 4″ gauge tiling	" 12 0
Stout feather-edged tilting fillet	F.R. 4½
Patent inodorous felt, 1 ply	Y.S. 2 3
" " " 2 "	" 2 9
" " " 3 "	" 3 3
Stout herringbone strutting to 9″ joists	F.R. 10½
1″ deal gutter boards and bearers	F.S. 1 2
1½″ " " " "	" 1 6
6″ deal wrought rounded roll	F.R. 8
1″ deal grooved and tongued flooring, laid complete, including cleaning off	Sqr. 2 1 0
1¼″ do.	" 2 10 0
1½″ do.	" 2 17 0
1″ deal moulded skirting, fixed on, and including grounds plugged to wall	F.S. 1 6
1⅛″ do.	" 1 9

CARPENTER AND JOINER—*continued*	s. d.
1¼″ deal moulded sashes of average size	F.S. 1 9½
2″ " " " "	" 1 11½
1¼″ deal cased frames double hung, of 6″ × 3″ oak sills, 1¼″ pulley stiles, 1¼″ heads, 1″ inside and outside linings, ⅝″ parting beads, and with brass faced axle pulleys, etc., fixed complete	" 3 7
2″ " " " "	" 3 10
Extra only for moulded horns	Each 6
1¼″ deal four-panel square, both sides, door	F.S. 2 0
2″ " " " "	" 2 8
1¼″ " but moulded both sides	" 2 4
2″ " " " "	" 3 0
4″ × 3″ deal, rebated and moulded frames	F.R. 1 0
4½″ × 3½″ " " " "	" 1 4
1½″ deal tongued and moulded window board, on and including deal bearers	F.S. 1 9
1½″ deal treads, 1″ risers in staircases, and tongued and grooved together on and including strong fir carriages	" 2 6
1¼″ deal moulded wall strings	" 2 1
1½″ " outer strings	" 2 4
Ends of treads and risers housed to string	Each 1 9
5″ × 2″ deal moulded handrail	F.R. 1 3
1″ × 1″ deal balusters and housing each end	Each 2 0
1½″ × 1½″ " " " "	" 2 9
3″ × 3″ deal wrought framed newels	F.R. 1 3
Extra only for newel caps	Each 6 0
Do., pendants	" 6 0

SMITH AND FOUNDER	£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt. 15 6
Riveted plate or compound girders, and hoisting and fixing in position	" 19 6
Do. stanchions with riveted caps and bases and do.	" 19 0
Mild steel bar reinforcement, ½″ and up, bent and fixed complete	" 17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S. 11
Wrot-iron caulked and cambered chimney bars	Per cwt. 1 10 0

PLUMBER	£ s.							
Milled lead and labour in flats	cwt. 1 12							
Do. in flashings	" 1 15 6							
Do. in covering to turrets	" 2 3 0							
Do. in soakers	" 1 7 6							
Labour to welted edge	F.R. 3½							
Open copper nailing	" 3							
Close " "	" 4							
	½″	¾″	1″	1¼″	2″	4″		
Lead service pipe and fixing with pipe hooks	s. d. F.R. 10	s. d. 1 0	s. d. 1 3	s. d. 2 0	s. d. 2 10	s. d. —		
Do. soil pipe and fixing with cast lead tacks	—	—	—	—	—	5 6		
Extra, only to bends	Each —	—	—	—	2 0	6 9		
Do. to stop ends	" 6½	8	9	11	1 0	—		
Boiler screws and unions	" 3 3	3 9	5 0	8 0	—	—		
Lead traps	" —	—	—	6 3	8 9	—		
Screw down bib valves	" 6 9	9 6	11 0	—	—	—		
Do. stop cocks	" 7 0	9 6	12 6	—	—	—		
4″ cast-iron ½-rd. gutter and fixing	F.R. 1 0							
Extra, only stop ends	Each 1 0							
Do. angles	" 1 6							
Do. outlets	" 2 9							
4″ dia. cast-iron rain-water pipe and fixing with ears cast on	F.R. 1 2							
Extra, only for shoes	Each 1 3							
Do. for plain heads	" 5 6							

PLASTERER AND TILING	s. d.
Expanded metal lathing, small mesh	Y.S. 2 0
Do. in n/w to beams, stanchions, etc.	" 2 9
Lathing with sawn laths to ceilings	" 1 3
½″ screeding in Portland cement and sand for tiling, wood block floor, etc.	" 1 5
Do. vertical	" 1 7
Rough render on walls	" 1 2½
Render, float and set in lime and hair	" 1 9
Render and set in Sirapite	" 1 11
Render, backing in cement and sand, and set in Keene's cement	" 2 9
Extra, only if on lathing	" 4
Keene's cement, angle and arris	F.R. 6
Arris	" 1½
Rounded angle, small	" 3
Plain cornices in plaster, including dubbing out, per 1″ girth	" 1½
1″ granolithic pavings	Y.S. 3 6
1½″ "	" 4 6
6″ × 6″ white glazed wall tiling and fixing on prepared screed	" 17 6
9″ × 3″ " " " "	" 1 2 6
Extra, only for small quadrant angle	F.R. 8

GLAZIER	s. d.
21 oz. sheet glass and glazing with putty	F.S. 7½
26 oz. do. and do.	" 8½
Flemish, Arctic, Figured (white) and glazing with putty	" 1 1
Cathedral glass and do.	" 1 2
Glazing only, British polished plate	" 7
Extra, only if in beads	" 2
Washleather	F.R. 4

PAINTER	s. d.
Clearcolle and whiten ceilings	Y.S. 6
Do. and distemper walls	" 9
Do. with washable distemper	" 1 1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	" 3 3
Do. on woodwork	" 3 0
Do. on steelwork	" 3 0
Do. and brush grain and twice varnish	" 5 6
Stain and twice varnish woodwork	" 1 11
Stain and wax-polish woodwork	" 4 0
French polishing	F.S. 1 2
Stripping off old paper	Piece 2 0
Hanging ordinary paper	from " — 9

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WALL & FLOOR TILING of Glazed & Unglazed Earthenware

II. UNGLAZED TILES, INCLUDING MOSAICS

Mainly for floors. Made from refined materials (as distinct from quarries, made from the crude unwashed clay).

Standard thickness, ½". Sizes 6"×3", 4" squares and 4¼" hexagons made also ⅜" thick.

UNGLAZED TILES

CONSIDERED COMPLETE

FLOOR TILES (mainly large units)

PLAIN (i.e. FLAT) TILES. Principal shapes and sizes —
- Squares 6", 4¼", 4", 3", 2¼".
- Oblongs 6"×3", 6"×2", 6"×1½", 6"×1".
- Hexagons 4¼", 3", 2" (measured from side to side)
- Octagons 6", 4¼", 3" " " " " "
- Rhombus 2½" (= short axis : long axis 4¼")
- Also the necessary halves, etc., for forming patterns.

FITTINGS —
- Step nosings of — Smooth surface : size 6"×4", ⅞" thick.
  Ribbed " : " 6"×4", 4¼"×4¼", ⅜" thick.
  Non-slip " : " 6"×4", ⅞" thick.
  } Re surfaces, see below.
- Cove skirtings : Usual sizes 6"×6" and 6"×2"
  Cappings : " " 6"×6"
  Rounded edge tiles " " 6"×6"
  } ⅜" thick. { Actually wall fittings made in unglazed flooring material.

MOSAICS (small units)

GEOMETRICAL —
- Squares — ⅜" — Set with straight joint
  Set with broken joint
  ⅜" — Used only in patterns with units of 1 5/16" × ¾"
- Hexagons 1"
- Oblongs — 1 5/16"×¾", e.g., in plain basket pattern
  1 5/16"×½", e.g., Herringbone pattern

ROMAN. Units—irregular cut pieces up to about ¼ square inch in area.

Standard thickness ¼" { These mosaics are used for —
- Walls—Mural Mosaic.
- Floors — Mosaic pavements.
- Swimming pool linings.

Notes: GLAZED MOSAIC, both geometrical and Roman, also is supplied. See Notes on Byzantine Mosaic, under Glazed Tiles. A proportion of glazed mosaic is sometimes added to unglazed for greater richness of effect.

CONSIDERED only as to

Colour —
- Uniform : Black, white, cream, red, chocolate, buff, drab, blues, greens, etc.
- Speckled : Composed of one of the above colours with an admixture of another. (Note that " non-slip " tiles—see below—are slightly speckled by reason of the dark grit they contain.)

Character of Surface Porosity —
- Vitreous : Completely impervious to water. (White, cream, green and blue floor tiles and mosaics are usually vitreous.
- Semi-vitreous : Less impervious to water. (Black, red, chocolate and buff floor tiles and mosaics are usually semi-vitreous.)

Character of Surface —
- Smooth
- Ribbed : having a surface thus — (round ribbed) : made only in 4¼" and 3" squares and in step nosings (see above)
  flat ribbed) : made only in 4¼" and 3" squares.
  } Does not apply to mosaics.
- Non-slip : " Durundum " floor tiles and mosaics, containing an admixture of abrasive grit which renders the surface harsh and slip-resisting.

For glazed tiles and faience see Information Sheet so headed

Information from Richard's Tiles Limited.

INFORMATION SHEET: CLASSIFICATION OF FLOOR TILES & MOSAICS.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 127 •

TILES

Name of Product : Wall and Floor Tiling

This Sheet gives a classified account of different types of Unglazed tiles, including mosaic, and their standard sizes and general uses. It is the second Classification covering Wall and Floor tile work, the first Sheet dealing with Glazed Tiles and Faience. Sheets on Wall Tile Fittings are to follow.

Fixing of Mosaic :

Mosaic is commonly supplied mounted, by means of a special paste on sheets of stout paper about 2 ft. by 1 ft. The fixer presses the sheets, paper side upwards, on to the screeding ; when the paste has softened he lifts off the paper, revealing the mosaic. The work is done in a fraction of the time required by the old piecemeal method.

Floors should be screeded in the usual way to within ½ in. of the finished surface. This screeding should be thoroughly saturated before the laying of the mosaic commences. Mosaic is laid on a bed of 3 : 1 or 5 : 2 cement mortar, and is trued up with a wooden beater. The beating, in addition to levelling the mosaic, forces the cement mortar into the interstices between the tablets or tesserae.

When the floor is set the joints should be grouted in with neat cement, the surface being cleaned off afterwards with sawdust.

The Manufacture of Wall and Floor Tiles and Fittings.

Materials :

The materials used vary somewhat according to the precise product required, but substantially they, and the treatment they receive, are as follows :

(a) Ball Clay
(b) China Clay } each is churned up with water in large vats and reduced to a thick fluid state.

(c) Cornish Stone is crushed and ground with water.

(d) Flint is calcined, ground and mixed with water.

These materials are mixed together in certain fixed proportions in a large central vat, the resultant mixture being called "slip." The slip is passed through sieves of some 15,000 holes to the square inch, run over electro-magnets to remove any iron particles, and finally filtered to remove the water and leave the plastic compound called "potter's clay." This clay is dried out and ground into a very fine powder known as "dust." This dust, very slightly damped, is the material directly used in tile making.

Tile Pressing :

The dust is pressed under steel dies to the shape required.

Three types of presses are used :—

(a) Automatic electric power presses.

(b) Hand-operated (i.e., semi-automatic) electric power presses.

(c) Hand-operated presses, now but little used in a modern works, and only for certain small pieces.

The larger accessories, such as "Recesso" fittings, are not pressed, but are cast (from the "slip" above mentioned) in plaster-of-Paris moulds, and finished by hand.

Faience pieces are pressed up by hand, with the help of moulds, from the plastic compound.

"Firing" of Tiles and Fittings :

The first "firing" takes place either in a large bottle-shaped—or in the more modern tunnel—oven. The latter may be from 300 to 400 feet long, the hottest zone being in the middle : tiles are fired by being passed very slowly through it on fireclay trucks running on metal rails. The firing period varies from five days, for the newer, to eight or nine days for the older, method, and the temperature reached in either case is about 1,150° centigrade. On being taken from the ovens and after the rejection of any found to be faulty they are ready for despatch, if floor tiles, or for glazing if wall tiles. Mosaic is "assembled" on paper, as explained above.

Glazing :

Glaze is a specialised form of glass with which the tile is coated, giving it a non-porous finish, with or without colour.

Glazes are of two main classes, "bright" and "eggshell" (the latter called also "matt" or "vellum") and both of these may be either plain or mottled. The glaze is prepared in the form of a creamy liquid, which in the case of plain white tiling is applied by a machine process, and in that of fittings and coloured tiles usually by hand. After the application of the glaze the tiles are again fired—in a tunnel kiln in the manner already described—in order to fuse the glaze and burn it on to the face of the tile. In the case of certain types of decorative tile a third firing is necessary to fuse the decorative colours into the glaze.

Sorting and Sizing :

After the final firing all tiles and fittings are individually examined for defects. They are also machine-sorted according to their exact size (to $\frac{1}{32}$ of an inch) this because the firing contraction (of about 4 per cent.) is not constant, tiles varying consequently from slightly over to slightly under their nominal dimensions.

Delivery :

Tiles are usually sold to the trade loose, for fixing on the job (fireplaces either loose or slabbed) and are commonly despatched from the factory in cartons (if for the Home market) each containing as a rule one or one-and-a-half square yards of tiles. Tiles for export are usually packed in five-yard crates.

Manufacturers :	Richards Tiles Ltd.
Address :	Tunstall, Stoke-on-Trent
Telephone :	Hanley 7215-8 (four lines)
London Office :	25 Victoria Street, S.W.1
Telephone :	Victoria 9128
Glasgow Office :	53 Bothwell Street, Glasgow, C.2
Telephone :	Central 1768

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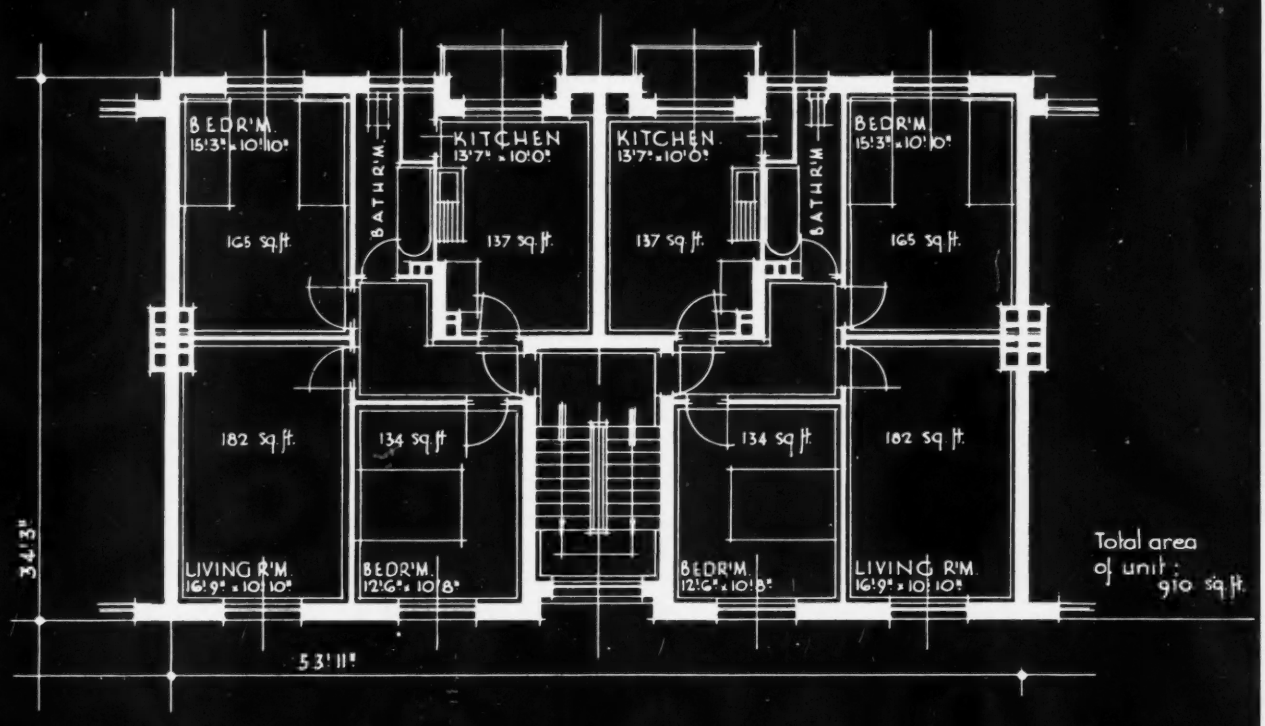
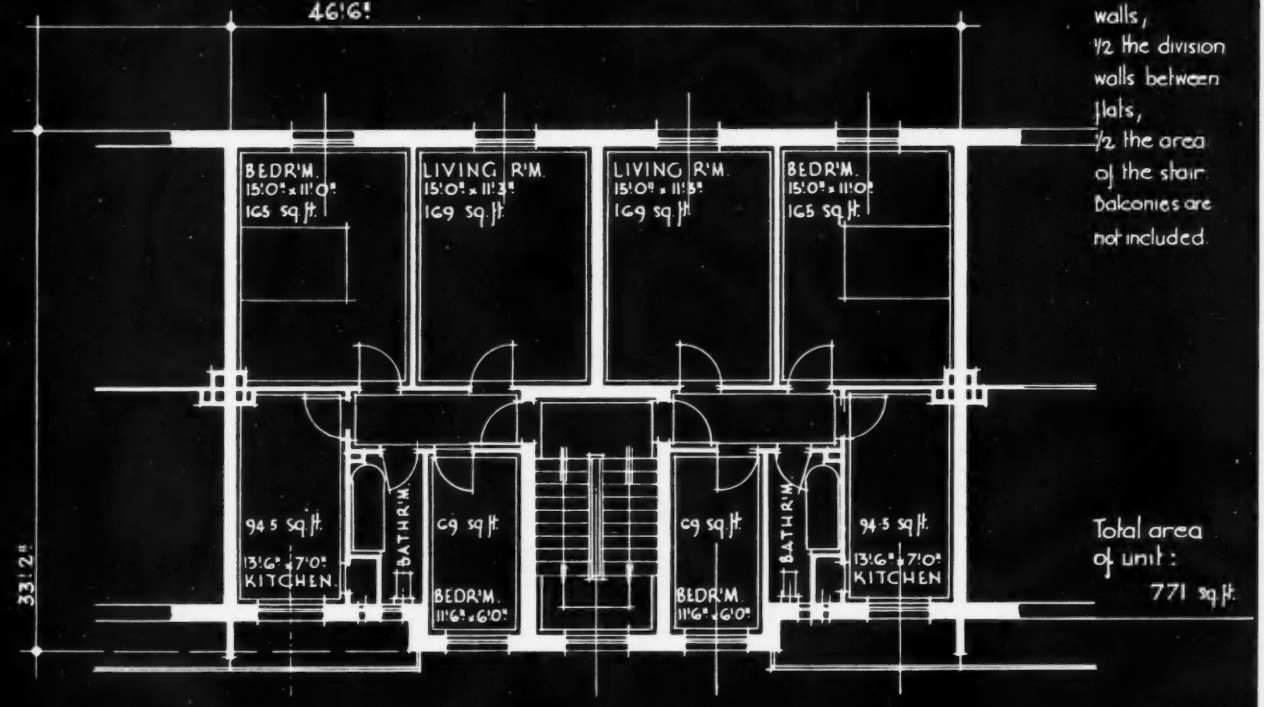
TYPES OF FLAT UNIT : HAMBURG.

ACCESS : Internal staircase.
TYPE : 3-room, kitchen & bathroom.



Total area of unit : 910 sq ft.

Areas given include : the external walls, ½ the division walls between flats, ½ the area of the stair. Balconies are not included.



Total area of unit : 771 sq ft.

INFORMATION SHEET : INDUSTRIAL HOUSING. 2.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1.

Supplement to THE ARCHITECTS' JOURNAL for July 19, 1934

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

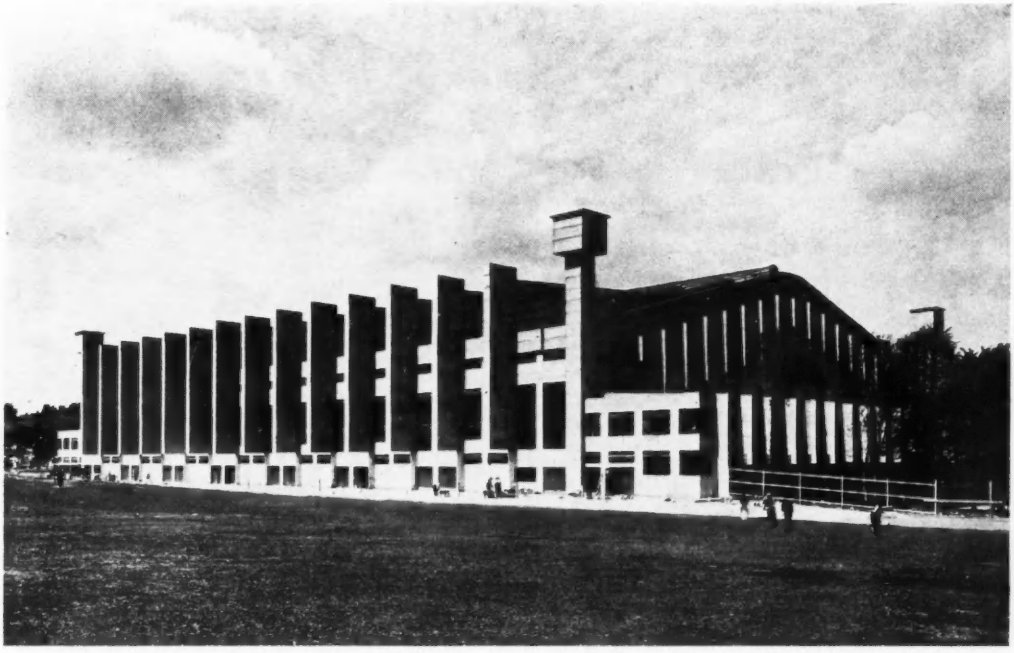
• 128 •

HOUSING—II

THIS, the second of our series of Sheets dealing with housing, shows three-room units from Hamburg, by Hermann Distel and A. Grubitz, the upper plan built in 1926-1927, the lower in 1927-1928. Further Sheets in this series will give additional English and Continental examples. The previous sheet, No. 124, was presented with our issue for July 5.

THE EMPIRE SWIMMING POOL, WEMBLEY

OPENED YESTERDAY BY THE DUKE OF GLOUCESTER

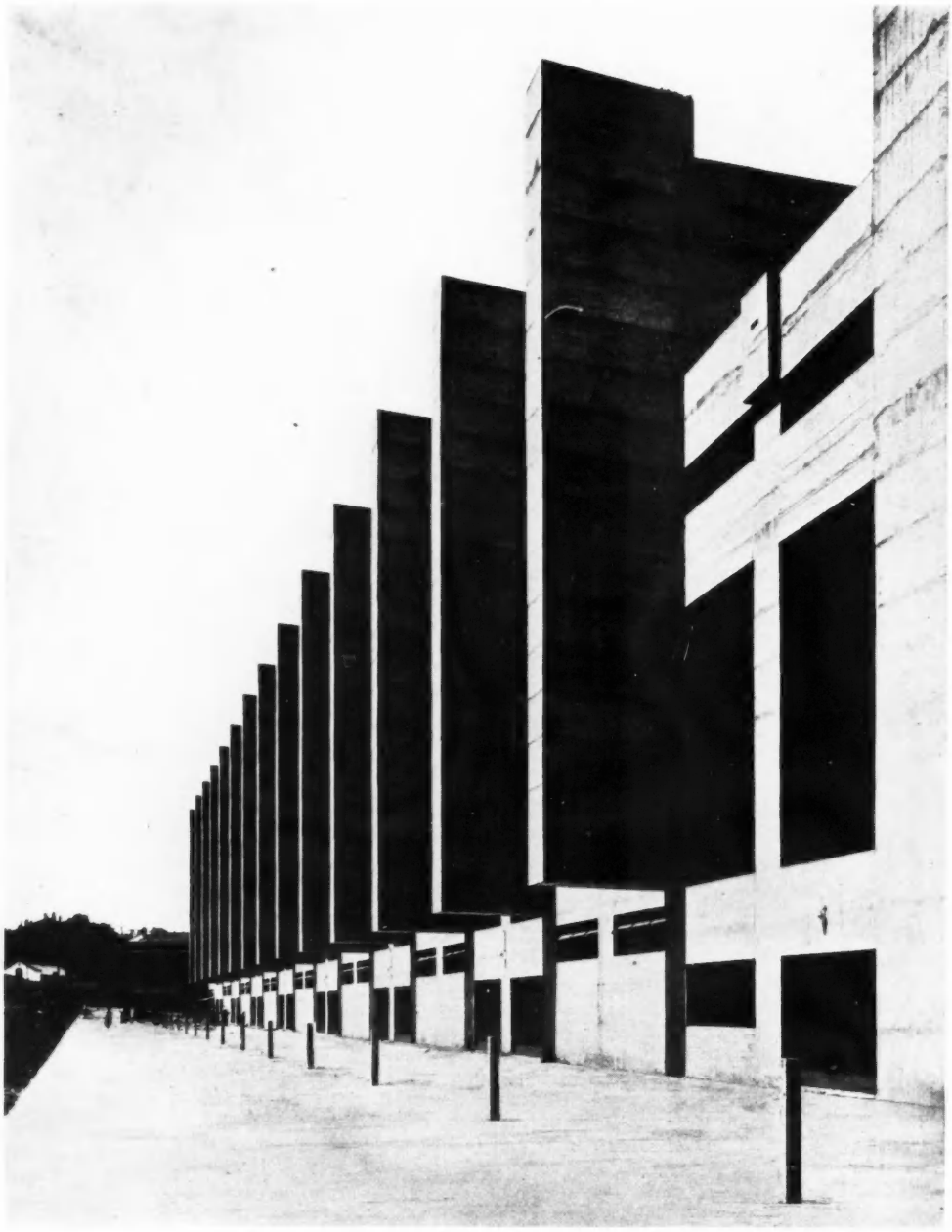


ABOVE is a view from the south-east of the new Empire Swimming Pool, Wembley, which was officially opened by the Duke of Gloucester on July 25.

The building, designed by Sir E. Owen Williams, K.B.E., will be used for a variety of purposes, principally swimming, ice skating, and tournaments. The swimming events in the Empire Games are to be held there from August 4 to August 10.

Situated adjacent to the Empire Stadium, Wembley—an open-air arena accommodating 100,000 people, built in 1923 for the British Empire Exhibition—the new building takes the form of a covered arena approximately 2 acres in extent and is constructed entirely of reinforced concrete.

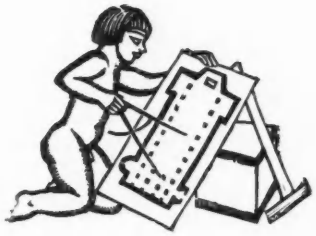
Further photographs appear overleaf and on pages 116-117 of this issue.



S. W. NEWBERY

FIN-LIKE EFFECTS IN CONCRETE

These fin-like effects on the exterior of the Empire Swimming Pool at Wembley are used as a necessary stiffening for the roof—a three-hinged arch of 236 ft. 6 in. span. The main fins of the roof are 21 ft. deep, and those immediately over the side walls 9 in. thick. The building has been designed by Sir E. Owen Williams, K.B.E.



SCALE OF SALARIES FOR ARCHITECTS' ASSISTANTS

At its meeting on July 11, 1934, the Council of the Association of Architects, Surveyors and Technical Assistants had before them a communication from the Secretary of the R.I.B.A. stating that on June 18, 1934, the Council of the R.I.B.A. rescinded its resolution of November 6, 1933, which rejected the principle of laying down a scale of salaries for the assistants of private architects. This leaves the Council of the R.I.B.A. free to deal with any suggestion of co-operating with the A.A.S.T.A. on this matter.

An official communication from the A.A.S.T.A.

THE above statement signifies that the Council of the R.I.B.A. has opened the way for both discussion and, we hope, settlement of the question of the salaried architect: a question that has attracted much attention and has been in some quarters the cause of not a little heart-burning.

The R.I.B.A. have made a wise decision, for there were many who thought that the previous rejection (now rescinded) must have been due to some misunderstanding. The Council of the R.I.B.A. had already approved the principle (and application) of a guide for salaries in departmental offices under employing bodies, and when the R.I.B.A. rejected the scheme the A.A.S.T.A. were seeking to apply this principle to the private office.

In order that our readers may be quite clear as to the position, we enquired if the A.A.S.T.A. is returning its representatives to the R.I.B.A. Council and we are informed that it is not. The A.A.S.T.A. will not participate in the work of the R.I.B.A. but this, of course, does not prevent the two bodies discussing the matter, each in its respective capacity.

The wide growth of architectural practice through the medium of department offices under local government bodies, railway companies, and commercial or industrial firms, means that the remuneration of the architects employed on a salary has become of far greater importance than was the case years ago.

In the nineteenth century nearly all architectural service was provided by the private practitioner, and the majority of men entering the profession had a good chance of starting in practice on their own account. In such circumstances their period of service as assistants was a transitional stage leading to private practice, which many could take up before they were thirty. Under these conditions it is obvious that the question of their remuneration during this transitional stage was not of great import.

But all this has changed. The change that has come about is not peculiar to the architectural profession, it is common to all professions and occupations. Most of the men who now come into the profession will spend their professional lives in positions of employment on a salary.

For many years, a guide to remuneration in the shape of a Scale of Fees (for the private practitioner) was all that was needed. But today, when the volume of architectural work passing through departmental offices is larger than that dealt with by private practice, a guide to remuneration which applies only to the minority must be abortive.

It is true that a guide or scale has been evolved for those employed in departmental offices, but we understand that a difficulty has arisen in those cases where its application is most needed. Those employing bodies who pay low salaries, and who are pressed to make improvement, will naturally enquire whether architects as employers recognize any liability of this kind. Upon finding that private architects do not do so, they will readily find an excuse for ignoring the claim for increase and continue to pay low salaries.

While we do not expect perfection in this matter (which is quasi-legislative), we feel sure that both the A.A.S.T.A. and the R.I.B.A. will approach a solution in the right spirit. Much, however, is to be said for Mr. Maurice Webb's plea, in a recent letter to this JOURNAL, that full consideration should be given to the question, by all concerned, before a minimum scale of pay is fixed.

The Architects' Journal
Westminster, S.W.1
Telephones: Victoria
9212-7
Telegrams:
Buildable
Part
London

NOTES & TOPICS

A NEW THAMES EMBANKMENT

THE new L.C.C. is getting into its stride. Letters from Sir Reginald Blomfield and Sir Leslie Scott in *The Times* cheer it on its good work, which, in its more spectacular aspects, is taking the form of an attack on the south bank of the Thames, but with about double the fury of their predecessors in office.

*

Nobody is very sure of the extent of this south bank improvement, how deep it will go, or what chances there are of carrying it on beyond Waterloo Bridge, but the L.C.C. are lucky in coming to this problem at a time when common opinion agrees that an improvement that includes Waterloo Bridge and provision for the future disposal of Charing Cross Bridge, and is sufficiently comprehensive, can hardly fail to turn out a profitable investment.

*

Mr. Morrison is not going to let the land racket hold him up. Next session he is going to promote legislation to enable the L.C.C. to acquire property by compulsion without stating the purpose for which it is wanted. And very properly so.

*

The L.C.C. is provedly as good and often a better land developer and owner than most private concerns. Why should it not control its methods of development without having to ask for land for this and land for that as though nobody trusted it further than the end of a corridor?

*

I was talking with a man about the land racket a few days ago. Why, said he, should every municipal development be shrouded in mystery and secrecy?

*

I know that the idea is to prevent the price of land rising. But does it prevent those interested in large profits from knowing all about it, or from quietly and without fear of disturbance, acquiring the tit-bits before the price rises? Since few people know what their council are about until the price is paid there is, of course, not the faintest outcry when the cost of doing it is announced.

THE NEXT R.A. WINTER EXHIBITION

I am far too hardened (some may say soured) a spectator of current events to absorb without question everything that I see printed in the newspapers. In fact, I spend a good deal of time in correcting what are obviously misstatements of sound fact, and commenting on true statements of absurdity. I realize the difficulties which beset the untechnical reporter in this revoltingly technical age, and uncover to him for the comparative accuracy of his news items as a whole.

*

But in spite of all this I am a little bit nervous about a report of a meeting of the Royal Academy Committee held last week, which discussed next winter's exhibition of Art in Industry. I was surprised when I first saw the statement in a leading "Daily"; but I was not very disturbed. Even when I observed that *The Times* had the same story I made allowance for misreporting, or at least misunderstanding.

*

So far, however, I have not seen any repudiation or correction by the Academy authorities, and I sincerely hope that the vital importance of the mistake has not escaped them. It would be fatal to the success (if not even to the significance) of next winter's exhibition if manufacturers were to have their ambitions damped at this stage.

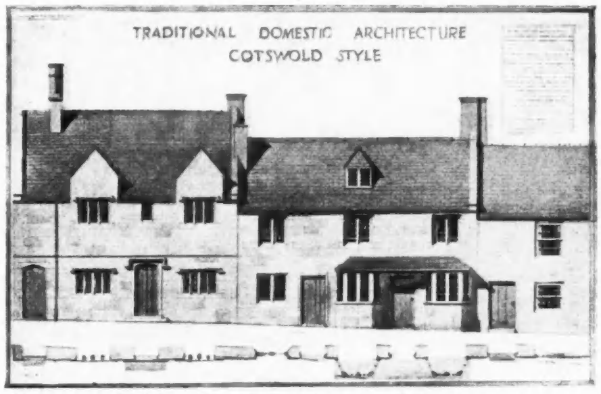
*

The Times says that "*nothing which has been seen before in any shop or exhibition will be shown—except in exceptional cases.*" Surely this cannot be so. I read into that statement some probably excusable but very dangerous misunderstanding of the Committee's outlook.

*

After all, such an ideal (and who shall deny that it might

From the exhibition of work by students of the Leeds School of Architecture: Fifth year thesis design, by D. Steel.



From the exhibition of work by students of the Leeds School of Architecture: First year design, by Frank Booth.

be salutary in many ways?) can hardly be imposed as yet upon a country which is only waking up to "Design Consciousness"; and, if it could, would it not produce that sort of "hot-house," pot-boiling technique which we have at all costs to avoid?—new things (intelligent, rational or not) just to send to the Academy?—(To be thrown out.)

*

I do hope that before these words are printed the Academy will ease the minds of manufacturers about this matter; more especially as two individuals have already "thrown in the sponge" in their expressions to me. One said: "I thought all along that standard products, new or old, were eligible; but I can't *possibly*, even if I had time now, make new designs, in quality for the Academy *and* in quantity for the shops."

*

The Royal Academy knows its own policy, and I hope that it will immediately make it clear to the industries that *all good standard* design will be accepted as a reflection of this country's standards.

WHAT THE ROYAL ACADEMY STANDS FOR

From a lengthy article by Mr. W. R. M. Lamb, the Secretary of the Royal Academy, on what the Royal Academy stands for, which appears in the current issue of *The Listener*, we cull the following choice phrases:—

British Art of the present time is showing its vitality less by productions of outstanding genius than by a number of diverse movements which ignore accepted standards and the guidance of experience, and aim first and foremost at startling adventure. From the zealous heat of some who assume the part of reformers one might almost suppose that they were suffering from an inhibition of religious controversy.

The professional critic may find at the Academy little enough of eccentric, exotic or savage art to please his jaded palate: for the Academy *is mainly concerned with the unsophisticated visitor who hopes to apprehend readily what he sees and to cultivate a personal taste in contemporary work . . .*

*

The italics are mine, but the confession of faith belongs entirely to the Academy. Please note the rather clumsy unkindness of the word "professional."

VISIBLE NUMBERS AT NIGHT

There is an old conspiracy in the residential streets of English towns and cities: it has been going on for generations. It is a form of reticence, or perhaps of snobbery. It causes householders to conceal the numerical identity of their houses by night, and sometimes by day.

*

It's a bit of a come down to be plain number 10 after being "The Laurels" or "The Pines" or even "Balmoral," in theory if not in fact; and numbering is an anticlimax after such names. So tiny numerals are tucked away inconspicuously upon the fanlight, occasionally Gothic variants being used for the Arabic forms, although some people have used Roman figures.

*

All this concealment may indicate some deep-rooted English dislike of regimentation, and I wonder whether the ambitions of E.L.M.A. will be realized. The Electric Light Manufacturers' Association has announced its intention of interesting building contractors in the idea of having illuminated house numbers. Efforts will also be made to stir the Government into some sort of consciousness of the desirability of decreasing the amount of wear and tear upon the eyes of postmen. This will probably be opposed by the prohibitionist M.P.s, if it ever gets as far as the House, on the grounds that visible house numbers will make life easier for inebriates.

"ODDNESS" AT RUISLIP

The fact that this JOURNAL has criticized the Ruislip panel's recent decision has stimulated *The Middlesex Advertiser* to a somewhat inconclusive reply. I enjoyed immensely the collection of Ruislip's architectural misdeeds which this JOURNAL illustrated, and their "oddness" is admitted by *The Middlesex Advertiser*, which then goes on to state that this oddness is "of a normal kind" though it confesses that the designs would probably have been turned down by any enlightened panel.

*

Precisely. "Oddness" of a "normal kind" can be run up everywhere by anybody, without any control by experts or even amateurs; but any attempt at rational thinking is really *too* odd to be tolerated.

MORE THREATS TO BEAUTY: NO PLANS

Bishopstone, in Sussex, is being threatened by "development." This beauty spot has been warned in time. One significant sentence occurred in the description of the locality in *The Times* last week: "Now the people do not know what is to come."

*

They don't. They never will, until England is planned and "development" loses the sinister sound it now possesses.

*

Meanwhile, I hear of another piece of England that is ripe for "development." The discontinuance of the Poldhu wireless station in Cornwall releases coastal land to the extent of 50 acres for sale. It is suggested that the land should be laid out as a building estate.

*

Those are the facts: what are the plans?

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

The R.I.B.A. has rescinded its resolution of November 6, 1933, which rejected the principle of laying down a scale of salaries for the assistants of private architects .. 111

"*The Royal Academy is mainly concerned with the unsophisticated visitor who hopes to apprehend readily what he sees and to cultivate a personal taste in contemporary work*" 112

The premiated designs in the competition for proposed Council Offices, Slough. 119

"*By organization and forethought it is possible to build as cheaply in America as here whilst paying from three to five times the wages of the English workman*"..... 132

NEW CIVIC CENTRE FOR EXETER

The Exeter City Council have agreed to erect a city hall at an estimated cost of £104,450. The scheme makes provision for a City Hall and a group of civic buildings, bounded in parts by new streets.

SHERIFF COURT HOUSE, EDINBURGH

Mr. Ormsby-Gore, First Commissioner of Works, stated in the House of Commons last week that the final plans of the new Sheriff Court House, Edinburgh, had been submitted to the Royal Fine Art Commission for Scotland and to the Sheriff Court House Commissioners, and had been approved by these bodies.

ST. GEORGE'S HOSPITAL SITE

We understand that a syndicate is considering the possibilities of the site of St. George's Hospital, Hyde Park Corner, for the erection of an entertainment centre, to include a cinema and an opera house.

ROYAL COLLEGE OF ART

Mr. Ormsby-Gore, First Commissioner of Works, speaking at the distribution of diplomas won by students of the Royal College of Art at the Victoria and Albert Museum on July 20, said that success in our future industrial activities would depend more and more upon the employment of people who had been trained to adapt what they had learnt by study of the fine arts to the various articles of utility

THE ARCHITECTS' DIARY

Thursday, July 26

R.I.B.A. *Architects' Unemployment Committee. At 7 Bedford Square, W.C.1. Exhibition of work done under the Architects' Emergency Scheme. Open until further notice.*

ARCHITECTURAL ASSOCIATION. *At 36, Bedford Square, W.C.1. Annual Exhibition of Students' Work. Until July 27.*

LEEDS SCHOOL OF ARCHITECTURE. *At the City Art Gallery, Leeds. Annual Exhibition of Students' Work. Until August 1.*

Friday, July 27

LONDON SOCIETY. *Annual River Trip to Dagenham. Leave Westminster Pier at 5 p.m.*

Tuesday, July 31

MODERN HOMES EXHIBITION. *Gidea Park. Until August 20.*

required in modern civilization. There was a steady improvement in the standard of design and the standard of taste. There was, he believed, increasing opportunity for those whose standards of design were soundly based.

NEW CIVIC CENTRE, STRATFORD-ON-AVON

The Stratford-on-Avon Town Council, at a recent meeting discussed a scheme, prepared by Mr. William T. Benslyn, F.R.I.B.A., for a new civic centre with municipal buildings and offices on the site of the existing Town Hall, Corporation offices and other premises in Sheep Street.

The cost of the scheme was estimated at about £27,000, and further consideration of it was deferred until the October meeting of the Council.

£45,000 COLWYN BAY SCHEME

A scheme for an entertainments centre to replace the burned-down pavilion at Colwyn Bay has been accepted by the Colwyn Bay Council. Professor S. D. Adshead, F.R.I.B.A., is the architect, and the estimated cost is £49,000.

HANTS. AND ISLE OF WIGHT ARCHITECTURAL ASSOCIATION

The Hants. and Isle of Wight Architectural Association's annual exhibition of members' works and the prize drawings of the R.I.B.A. (1934) was opened at Cumberland House, Portsmouth, on July 18, and will remain open until August 25. Lieut.-Colonel R. F. Gutteridge, F.R.I.B.A., presided at the opening, which was performed by Mr. John Dower, M.A., A.R.I.B.A.

MATERIALS FOR HOUSING

A writer in *The Times* Trade and Engineering Supplement for July 21, discussing the importance of materials in housing, gives the following approximate estimate of the quantities of materials required for the construction of a million small brick houses :—

Bricks, 18,000,000,000 ; cement, 2,450,000 tons ; lime, 2,900,000 tons ; timber, 1,750,000 standards ; slating or tiling, 6,750,000 squares ; sand, 15,000,000 cubic yards ; broken brick or other aggregate, 10,000,000 yards ; lead, 225,000 tons ; gutter and rainwater pipes (cast iron), 75,000,000 ft. ; drainpipes, 20,000,000 yards ; galvanized cisterns, 1,000,000 ; closets, 1,000,000 ; flushing cisterns, 1,000,000 ; baths, 1,000,000 ; hot water cisterns, 1,000,000 ; boilers, 1,000,000 ; ranges and grates, 5,000,000 ; doors, 9,000,000 ; window frames, 6,000,000 ; chimney pots, 4,000,000 ; glass, 100,000,000 sq. ft. ; putty, 25,000 tons ; screws, 5,000,000 dozen ; nails, 50,000 tons ; red lead, 3,000 tons ; glue, 5,500 tons ; size, 5,000 tons ; floor tiles, 275,000,000 ; and gas, water and electric light fittings, meters, etc.

£35,000 BATHING POOL

The Whitley and Monkseaton U.D.C. decided last week to apply to the Ministry of Health for sanction to borrow £35,000 for the erection of a bathing pool and winter gardens on the site of the present Panama Gardens.

OBITUARY

C. STANLEY PEACH

It is with deep regret we record the death of Captain Charles Stanley Peach, F.R.I.B.A., of Warwick Square, London.

Born in 1858, he received his architectural training in the office of the late Mr. H. R. Gough, F.R.I.B.A., and commenced private practice in 1884. Although he designed several houses and flats in London and the provinces, Mr. Peach's practice was devoted largely to works of an industrial character. These included : Electricity generating stations at Grove Road, St. John's Wood, N.W., Eccleston Place, S.W., Horseferry Road, S.W., Duke Street, W.1, Marshall Street, W.1, City Road, E.C., Wandsworth, S.W., and for the Corporations of Oldham, Kirkaldy, Kilmarnock, Ipswich, West Hartlepool, Battersea and Weymouth ; offices for the Westminster Electric Supply Corporation, the St. James's and Pall Mall E. L. Co., the County of London Electric Supply Co., Ltd., offices, factories and warehouses for the Oriental Carpet Manufacturers, Ltd. ; and printing works for Messrs. W. H. Smith and Son and the Sun Engraving Co.

He was also responsible for the design of the stadium for the All-England Lawn Tennis Club at Wimbledon ; and architect to the Church of England Waifs and Strays Society, for whom he designed or reconstructed over 40 homes in different parts of the country.

In 1892 Mr. Peach was elected a Fellow of the R.I.B.A., serving on the Council and also as member of the Science and Practice Committees.

During the War he was a captain in the Artists Rifles. His practice will be carried on by his son-in-law, Major Harington.

COMPETITION NEWS

FLATS : STOKE NEWINGTON

The Stoke Newington Borough Council have adopted a recommendation of the Housing Committee to hold a limited architectural competition in respect of the preparation of flats to be erected on the Glebe Place site, and to invite the following firms to compete : Mr. W. R. Davidge,

Messrs. Hobden and Porri, Messrs. Howes and Jackman, Mr. E. M. Joseph, Mr. E. C. P. Monson and Mr. Granville Streatfield (in conjunction with Mr. M. J. Dawson).

Prizes of £250, £100 and £50 are to be offered for the designs obtaining the first three places.

THE SLOUGH COMPETITION

The premiated designs in the competition for proposed Council Offices, Slough, are given on pages 120-124.

Competitions Open

July 31.—Sending-in Day. Proposed Municipal Sanatorium and Children's Hospital, Belfast. Competition limited to architects who have resided in Northern Ireland since March 1, 1933. Assessor: R. S. Wilshere, F.R.I.B.A. Premiums: 500, 200 and 100 guineas. The last day for questions was April 28. Designs should be submitted to the Town Clerk, City Hall, Belfast.

August 17.—Sending-in Day. Proposed new Municipal Offices for the Swinton and Pendlebury Urban District Council. Assessor: J. R. Adamson, F.R.I.B.A. Premiums: £150, £100, £75. Last day for questions was June 11. Conditions (deposit one guinea) from the Clerk to the Council, Council Offices, Swinton, Manchester.

August 31.—Sending-in Day. Proposed Memorial Assembly Hall at Methodist College, Belfast. Assessor: Mr. R. S. Wilshere, F.R.I.B.A. Competition is open to architects resident in Ireland. Premiums: £100 and £50. Designs must be submitted to Mr. Wilshere at the Education Offices, Belfast, not later than 10 a.m. on Friday, August 31. The last date for questions was July 2.

September 22.—Sending-in Day. Civic Centre, Tunbridge Wells, for the Corporation of Tunbridge Wells. Assessor: E. Berry Webber, F.R.I.B.A. Premiums of £300, £200, £100 and £75. Conditions are now obtainable (deposit £1 1s.) from Mr. J. Whitehead, Town Clerk, Tunbridge Wells. The last day for submission of designs is September 22.

October 1.—Sending-in Day. Proposed Municipal Assembly Halls, Wolverhampton, for the Wolverhampton Corporation. Assessor: C. Cowles Voysey, F.R.I.B.A. Premiums: £350, £250 ond £150. Conditions from the Town Clerk, Town Hall, Wolverhampton. Last day for questions was May 21. (Deposit £1 1s.)

THIS ARSHETECTURE

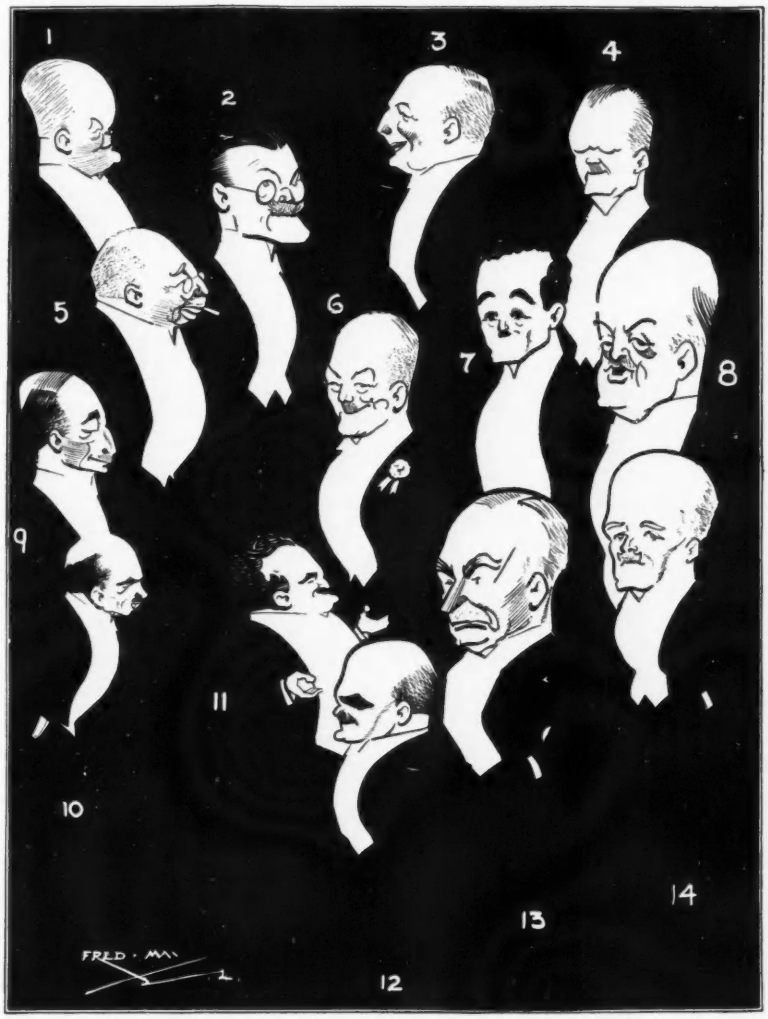
An Oxford business woman has a house that is so unusual and attractive that passers-by refuse to believe that she did not win it as the result of a competition or lottery. The house, built in Tudor style, with pretty timbered effects and lattice windows, with the date 1932 on its front, is situated on the Southern by-pass road near Botley, and bears the name "Timbers."

Its owner tells me that passers-by frequently remark on the house. "I chose the plot about the same week that the road was opened," she said, "and had the house built to my design. For twelve months I have laughed and paid little attention to the remarks overheard, but I have been advised that if I wanted to sell the property the belief that it is a competition prize would be detrimental. Let me add hastily that I have no wish to sell—I only want to live there happily and undisturbed with my niece.

"Only last Sunday morning we heard some youths, between the ages of 25 and 35, call out, 'I like that house.' To which the others replied, 'Cheap enough for sixpence.' In the evening girls who were passing made similar remarks. I have tried to take no notice, but it does become trying, and I feel that the time has come to let the truth be known."

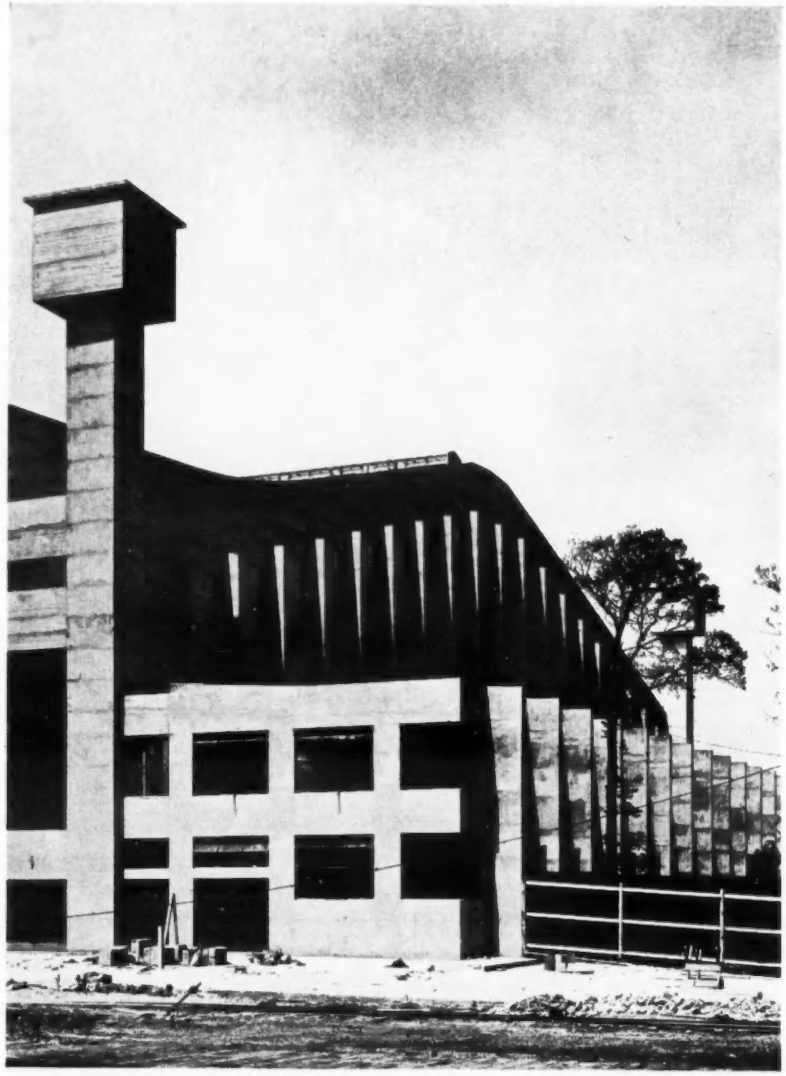
From THE OXFORD MAIL.

INTERNATIONAL SURVEYORS AT DINNER



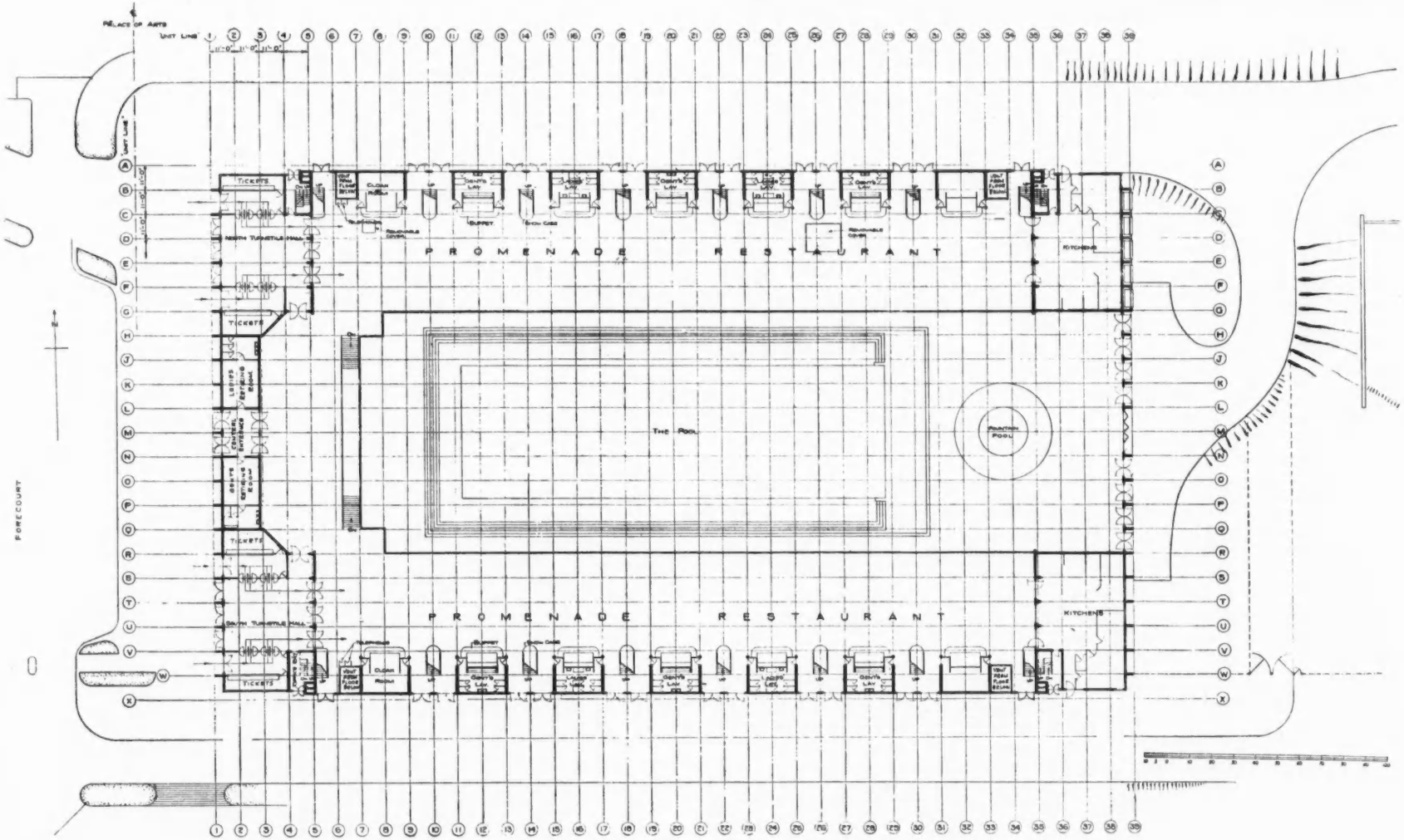
At the dinner of the Comité Permanent de la Fédération Internationale des Géomètres at the Mayfair Hotel, July 19: 1: W. H. Christy Clay, O.B.E. (Chief Estate Agent, L.M. and S. Railway); 2: A. C. Driver, F.S.I., P.P.A.I.; 3: H. James King, F.S.I., F.A.I. (Member of Council, Chartered Surveyors' Institution); 4: Colonel H. C. Cole, C.B.E., F.S.I., F.L.A.S. (Member of Council, Chartered Surveyors' Institution, and President-Elect of the International Federation of Surveyors); 5: Sir Edgar Horne, Bt., P.P.S.I. (Past-President, Chartered Surveyors' Institution); 6: Major A. H. Killick, D.S.O., M.C., B.A. (Secretary, The Chartered Surveyors' Institution and Secretary-General of the Fifth Congress); 7: P. F. Gleed, F.S.I. (Vice-Chairman of the Quantity Surveyors' Committee, Chartered Surveyors' Institution); 8: C. Gerald Eve, P.P.S.I., F.A.I. (Past-President, Chartered Surveyors' Institution); 9: Francis Peter, F.S.I. (Member of Council, Chartered Surveyors' Institution); 10: Brigadier H. St. J. L. Winterbotham, C.M.G., D.S.O., A.D.C. (Hon. Member of The Chartered Surveyors' Institution—Ordnance Survey Office, Southampton); 11: Monsieur Jacques S. Roupcinsky (Président d'honneur de la Fédération Internationale des Géomètres—Membre du Conseil de Perfectionnement du Cadastre—Hon. Member, Chartered Surveyors' Institution); 12: Alan Arnold, P.S.I. (President, Chartered Surveyors' Institution); 13: A. J. Burrows, F.S.I., P.P.A.I.; 14: A. Goddard, C.B.E. (Hon. Member, Chartered Surveyors' Institution—Secretary (1905-1932), Chartered Surveyors' Institution).

THE EMPIRE SWIMMING POOL, WEMBLEY



S. W. NEWBERY

Two exterior photographs of the east end and a view of the swimming pool and sports arena, looking towards the entrance (west) front. The pool is 200 ft. long by 60 ft. wide and holds 650,000 gallons of water.



PLAN AT ENTRANCE LEVEL

The building is 420 ft. long (including the annexes, back and front) and 240 ft. wide. Every 44 ft. in length of the main hall is a complete entity as far as the accommodation of the public is concerned, having within that length the appropriate exits, buffet bars, lavatories, staircases and gangways to meet the requirements of the licensing authorities. The swimming bath can be decked over to take an ice skating rink, 200 ft. by 85 ft., or a tournament area, 300 ft. by 85 ft. The annexes were necessary constructional bases to give stability to the end gable walls. The whole building is planned and built to a unit of 2 ft. 9 in.; this being the width of the spectators' terraces. This unit, and multiples of it, is carried throughout for widths of lavatories, dressing boxes, doors and windows. Vertically, the unit of construction is 3 ft. A subdivision of these dimensions, into 11 in. and 6 in. respectively, gives the limiting tread and rise of stairs allowed by the licensing authorities and produces the pitch of the spectators' terracing. The building will be further illustrated in our next issue.

DESIGNED BY SIR E. OWEN WILLIAMS, K.B.E.

LETTERS FROM READERS

YORKSHIRE ARCHITECT

AN OLD SUBSCRIBER

R. B. LEIGHTON
(John Moon & Son, Ltd.)

Engineers and Amenities

SIR,—Two questions asked by your correspondent, Mr. Morris, in the JOURNAL for May 31 read as follows: (1) "Explain how a member of the R.I.B.A. should be better ordained or equipped to deal with outrages than a member of the Institution of Municipal and City Engineers"; and (2) "May I ask who is more responsible for the spoliation of the countryside than the architectural profession?" The replies seem to me to be too obvious to be worth mentioning.

Mr. Morris supports the view of the I.M. and C.E. circular letter which says "it sees no difficulty in an official directing the attention of his authority to proposed elevations that seem undesirable." But, unfortunately, how often is that done? Is it not a question of training when the official fails to "administer and interpret the powers given to authorities by the Town and Country Planning Act, which are *quite simple.*" If these powers are "quite simple" to administer, it should be equally so to direct attention to the "vain, vulgar, ostentatious and ill-mannered efforts of the speculative builder" whilst these are *on paper* Have they not to be "*approved*" *by an authority before building operations commence?*

There are other matters besides elevations, and far more advantage could be taken of the powers under Sections 46, 47 and 53.

I submit, Sir, that the general body of officials are extremely reluctant to take advantage of the Panel system. The Ministry of Health say "much can be achieved by education and friendly guidance" and "informed foresight" and also speak of "design and external appearance." Very few authorities have approached an architectural society with a request for the society to nominate some of its members to sit on a Panel.

Mr. Morris has unfortunately regarded my remarks on housing as personal: this was not intended. But his sweeping remarks on the architectural profession undoubtedly called for a reply. The latter comparison on official and other housing is equally unfortunate. The work of a so-called architect is always labelled, and these "architects" can often be found in official ranks as well as outside them. Only too often the speculative builder says he can "get his plans through easier" by employing some junior official to prepare him "a bit of a plan." How can an official properly administer the Act when his hands are tied in this fashion? It is a fashion prevalent in scores of official departments all over the country, as many architects in private practice can testify.

The last paragraph reminds me of a saying that "they are all out of step but our Jack."

YORKSHIRE ARCHITECT

Economics for Architects

SIR,—I have followed the correspondence in your columns regarding the Douglas Credit Proposals with the keenest interest. For a long time I have been convinced that if architecture is to expand and develop as it should the architect must be freed from the financial trammels which now cramp and hinder him at every turn. How many times have we not seen a fine conception marred by the need for pandering to a pettifogging economy! How often has the public had to put up with a deliberate eyesore because, forsooth, the money was not forthcoming for an erection worthy of the site and of the purpose for which it was intended!

The Douglas Credit Proposals, admirably summarized in "Archiconomist's" last letter, seem to promise the architect that freedom of action for which he ever craves. If this scheme were put into operation there would be no need to consider cost at all in designing a new building. Provided the materials and necessary facilities were available, its creator could go right ahead with its erection, secure in the knowledge that when it was finished the public would automatically receive sufficient money to defray his charges. Who can doubt that under such conditions we should see a new architectural renaissance, surpassing anything the world has yet seen?

But before matters can be brought to such a happy issue it will be necessary for the architect to carry his craft into an unfamiliar field. The fabric of the old financial system is crumbling day by day. Who will set to work to clear the site of its debris, level the ground, and lay the foundations of the new Temple of Man's Freedom? The time is very short—shorter perhaps than some of us realize. Unless we start operations soon we may find ourselves—and our whole civilization—buried beneath a ruin on which no structure worth the name can be erected for many generations.

It is for this reason that I welcome the allusion to the Green Shirt Movement in "Archiconomist's" last letter. There is no doubt in my mind that this body, small though it is, is equipped both with the knowledge and the will to build a new world on the ruins of the old. It rests with the people of England to give it the power. By the very nature of his craft the architect must be a pioneer. Are there no young architects to cry: "Power to the Green Shirts! Issue the National Dividend!"

AN OLD SUBSCRIBER
London

Substitution

SIR,—We are most interested to see that you are raising so energetically the question of Substitution.

We, as timber merchants, have found from experience that we can give a better service when handling a product which a manufacturer has had the courage to brand, than when marketing unbranded goods. We are able to maintain quality, and as long as we can be certain that the architect will maintain his specification, there is no necessity to carry out the suggestion which Astragal makes in the JOURNAL for June 14, and later in your leading article. In fact, if it were carried out to any extent, it would mean that the architect would not be able to take advantage of the merchant's service in giving quick delivery to a large variety of commodities. The importance to the merchant, and thereby ultimately to the architect, of maintaining a specification cannot be over-stressed. There are a number of instances where firms hold large stocks of branded commodities which can be delivered to a site on immediate demand. Any step, therefore, that will strengthen the architect's specification so that he gets what he originally wanted would most certainly be backed up by all reputable timber merchants throughout the country.

R. B. LEIGHTON
(John Moon and Son, Ltd.)
Guildford

THE SLOUGH COMPETITION

Mr. H. S. Goodhart-Rendel, F.R.I.B.A., the assessor in the competition for proposed Council Offices, Slough, has made his award as follows :

DESIGN PLACED FIRST : No. 142 (Premium £250) : MESSRS. C. H. JAMES AND S. ROWLAND PIERCE, F. AND A.R.I.B.A., of 33, Bedford Place, W.C.1.

DESIGN PLACED SECOND : No. 188 (Premium £150) : MESSRS. EDWARD ARMSTRONG AND OSCAR A. BAYNE, AA.R.I.B.A., of 5, Vigo Street, Regent Street, W.1.

DESIGN PLACED THIRD : No. 144 (Premium £100) : MESSRS. W. H. MCNICOL AND W. N. SPENCE, AA.R.I.B.A., of 9, Dowgate Hill, Cannon Street, E.C.4.

SPECIAL MENTION : Design No. 18 : Mr. D. H. MCMORRAN, A.R.I.B.A. ; Design No. 157 : Messrs. PITE, SON AND FAIRWEATHER, FF.R.I.B.A.

On this and the following five pages are reproduced the assessor's report, the premiated designs and extracts from the report presented by the authors of the winning design. The whole of the designs submitted in the competition are now on exhibition at No. 88 Buckingham Avenue, Trading Estate, Slough, between the hours of 9 a.m. and 9 p.m. The exhibition will remain open until July 31. (Excluding Sunday, July 29.)

THE ASSESSOR'S REPORT

Having made a careful examination of the 205 designs submitted in competition for the proposed new Municipal Offices at Slough, I beg to report that in my opinion the design numbered 142 best meets your requirements, and that its author should receive the first premium and be appointed your architect. I further consider that the designs numbered 188 and 144 should be awarded the second and third premiums respectively.

In arriving at these conclusions I have minutely weighed the merits and defects of the considerable number of excellent designs that remained after those with grave faults had been eliminated. It is therefore with complete confidence that I put forward my selection of No. 142, having repeatedly compared it with those most nearly approaching it in all-round merit. Its general arrangement is convenient and economical, the detail of its planning is very well studied, its fenestration is particularly admirable, and its architectural treatment appropriate and dignified. It may perhaps be suggested that an alteration bringing the secondary staircase and the secondary entrance closer to each other would be an easily achieved improvement. The building would contain 368,004 cubic feet, which, priced at 1s. 6d. per foot cube, gives a cost of £27,600. In this sum the author of the design believes that the cost of the furniture of the Council Chamber and of the necessary walls and fences could be included. Even should it be found desirable to increase the importance and expense of these items, the building would remain an economical one, both in first cost and in upkeep.

The plan of Design No. 188 is in many ways not inferior ; indeed in some respects this is the best plan submitted. Unfortunately the architectural treatment of the elevations would probably be regarded by few as appropriate to the purposes and situation of the building, and is not such as I can recommend.

In Design No. 144 the area demanded for the Council Suite has been exceeded in order that this suite, together with the clerk's private offices, should occupy the whole of the first floor. This arrangement results in a plan of great rationality and neatness and involves no serious or disqualifying sin against economy. That this design is accorded no higher place is due chiefly to the inadequacy of the elevations.

Among the remainder of the designs two deserve especial mention. No. 18 has a plan of masterly simplicity clothed in well designed elevations of slightly Scandinavian character. The fenestration, however, appears to be contrived rather for external appearance than for internal suitability or adequacy. It may also be doubted whether architecture so traditional can allowably be combined with steel-framed construction and with a tower having no visible means of subsistence internally.

Design No. 157 has elevations of exceptional charm very beautifully drawn. The plan, however, is inferior to those already mentioned in several particulars—as, for example, in the western exposure given to the drawing-offices.

It has been interesting to observe in the designs submitted how constantly inappropriateness in appearance has been accompanied by inappropriateness of function. With one or two exceptions the buildings (many of them possessing much merit) that, to most eyes, would not look like municipal offices would, in fact, serve their purpose less well than those in which a reasonable degree of respect is accorded to convention. I mention this because the winning design appears to me to strike an admirably just mean between enterprise and tradition. Its architecture is flexible and functional, attaining dignity without pomposity, and its arrangement is thoroughly sensible and convenient. I venture to congratulate the District Council of Slough upon the excellent building this competition will have secured for them.

THE WINNERS' REPORT

Following are some extracts from the report presented by the authors of the winning design :

General Considerations : The chief factors governing the layout of the plans were the probability of an Assembly Hall being required in the future, and the interim appearance of the Offices. During the period prior to the erection of the Hall, these, coupled with the fact that the Council Chamber Suite had to be in close proximity to the Hall, suggested an asymmetrical lay-out. The main entrance, while giving access to all departments, need only be used by the public for access to the Rates Office and by Councillors—via the main staircase—for access to the Council Chamber Suite. All other departments are easily accessible from the secondary entrance, and the staff can use that entrance or that designed for service and caretaker below the secondary stairs.

Forecourt : This is simply and directly laid out with easy access for cars to both main and secondary entrances, and ample parking space. A service road passes up the east side of the building and connects across the back with the future car park for the Hall, and continues to the entrance in Montem Lane.

Future Assembly Hall : The Hall is connected to the main building by means of a door below the main stairs, which would give access to the space below the platform and by means of large double doors off the half-space landing, which would form a ceremonial access from the Council Suite to the platform level. The Hall occupies a conspicuous position on the Bath Road frontage, and it would be very accessible to the public : but while the Hall is necessary to complete the composition as a forecourt, its omission would leave a pleasant building mass in the proposed municipal offices.

Planning : The building is laid out in regular units of 10 ft. by 17 ft. for the main block and 15 ft. by 8 ft. 6 in. for the east wing. All the fenestration is regular, and advantage has been taken of the north aspect to give an almost continuous range of windows to the Surveyor's Drawing Offices, etc. All corridors receive direct daylight—those serving the offices being 7 ft. wide, and that to the Committee Rooms and Council Suite 9 ft. wide. Lavatories adjoin the secondary staircase on both floors. The offices are 11 ft. from floor to floor, the Committee Rooms 13 ft. and the Council Chamber 23 ft.

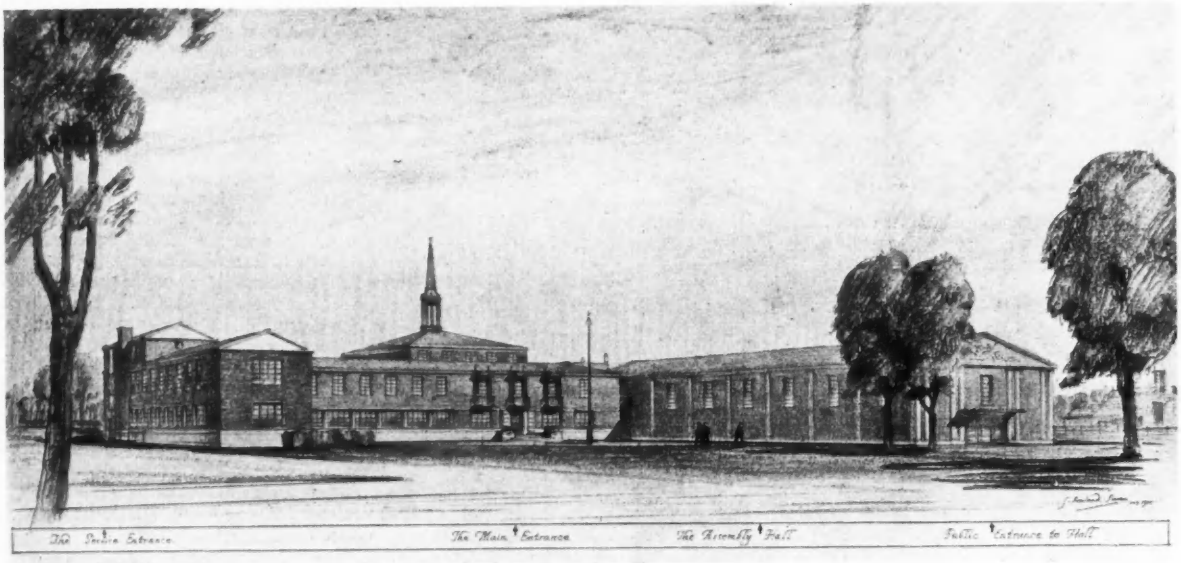
Council Chamber Acoustics : The acoustic conditions have been carefully studied. The room will have a permanent all-over carpet (provided for in the estimate) on a deal sub-floor. The walls up to a height of 9 ft. will be panelled in hardwood ; above this the walls will be covered with acoustic plaster, and the suitably-shaped ceiling will be of hard plaster.

Future Extension.—Future accommodation up to any extent can be provided by extending the east wing in a southerly direction.

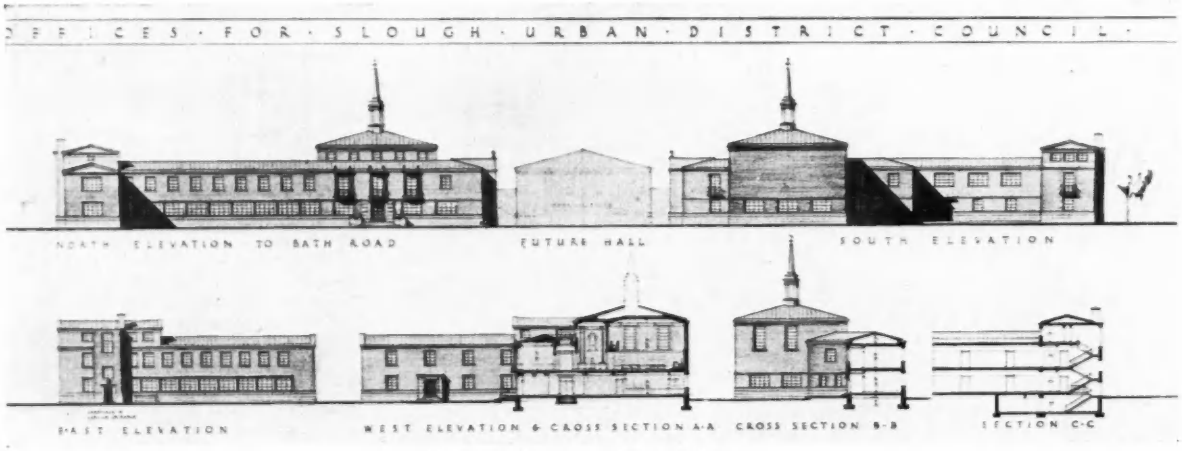
Notes on Construction : It is proposed to face the building generally with local bricks of a brownish colour, with a plinth of Ketton stone. The walling generally will be of 14-in. brickwork. Ornament is confined to the bronze bases at the front entrance, bronze doors and iron columns and balcony railings to the Committee Room windows.

The Roof is intended to be of 16-oz. 24-gauge copper, with wood-cored rolls and doubled-welted cross seams, laid on felt over boarding. The main gutters are part of the structure and are cased with 19-oz. 22-gauge cold-rolled strip copper. The flèche will be covered with copper on

COMPETITION FOR PROPOSED COUNCIL



Perspective.



Elevations and sections.

wood, and the canopies over the Committee Room windows with copper on wood and steel. The copper is to be left to weather naturally.

The Floors and the first floor ceiling will be constructed generally with hollow terra-cotta blocks and reinforced concrete, battened or screeded for floor finishes. The roof above first-floor ceiling level will be constructed with timber.

Partitions, where not of brick, will be constructed with pre-cast blocks, and glazed partitions between offices with teak and glass.

Windows will be of steel, with the small lower panes of the office windows fixed.

Doors will be of veneered hardwood.

Staircases will be constructed of reinforced concrete, the main stair being finished in Hopton Wood or other stone, with a balustrade or wrought and welded steel. The secondary staircase will be finished with terrazzo, with wrought-iron handrail, and the Gallery staircase is granolithic.

Floor Finishes will be as follows: Office floors generally will be covered with Cellulin or some similar material; the main entrance-hall floor with stone or marble; the Ante Room and Committee Rooms with hardwood; the Lavatories with terrazzo, and the Basement in granolithic.

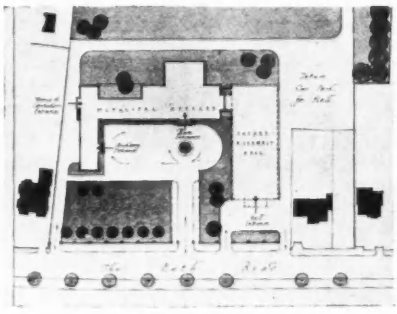
Wall Finishes will generally be of lime plaster—except the lavatories and secondary staircase, which will be tiled. The entrance hall will be lined with stone or marble, and the Committee Rooms and Ante Room will be panelled.

Ceilings will be finished with lime plaster gauged with cement.

Heating and Hot Water Services will be by means of a coke-fired low-pressure hot-water system, with accelerated circulation; the hot-water services being dealt with by means of calorifiers. The whole building will be warmed from the one boiler-house.

Ventilation throughout will be natural.

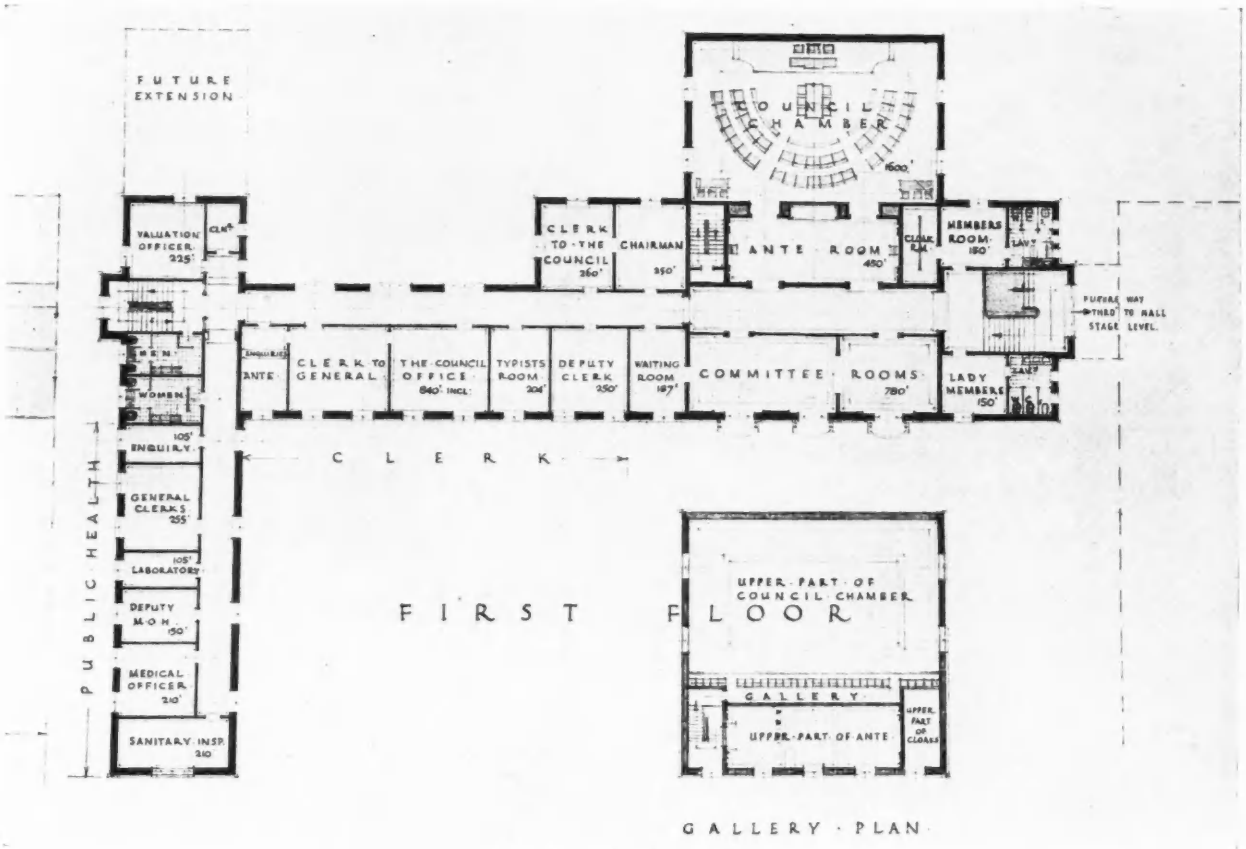
Estimate of Cost: Building, 368,004 c. ft. at 1s. 6d., £27,600.



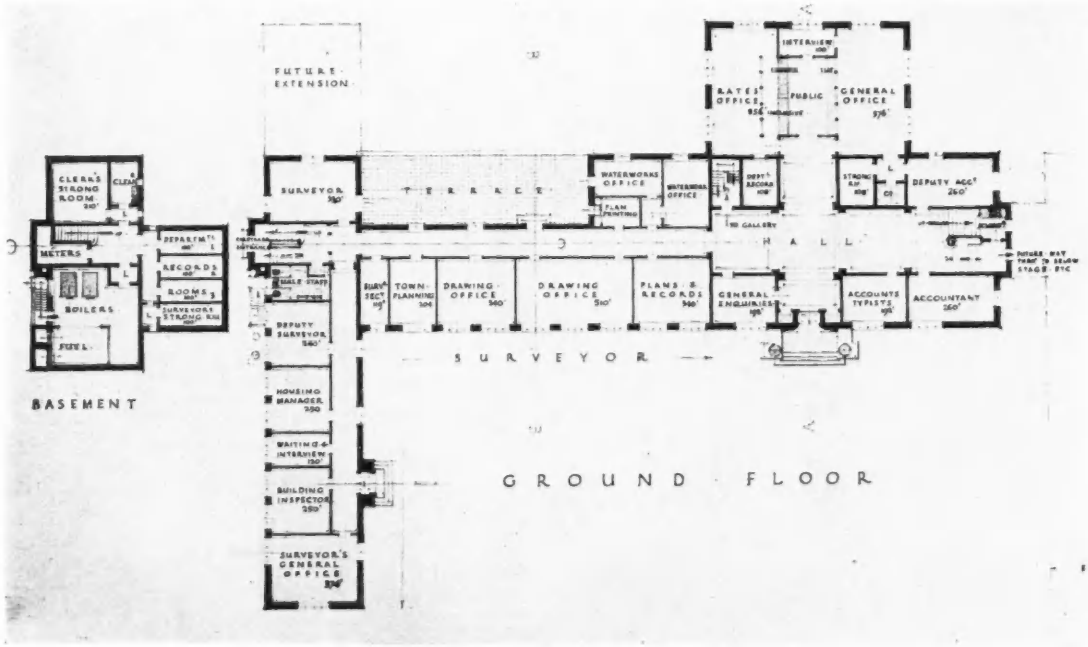
Block plan.

(Note.—This cubic price is sufficient to cover the cost of Council and Committee Room seating, the gates, railings and general lay-out of site.)

OFFICES, SLOUGH: THE WINNING DESIGN



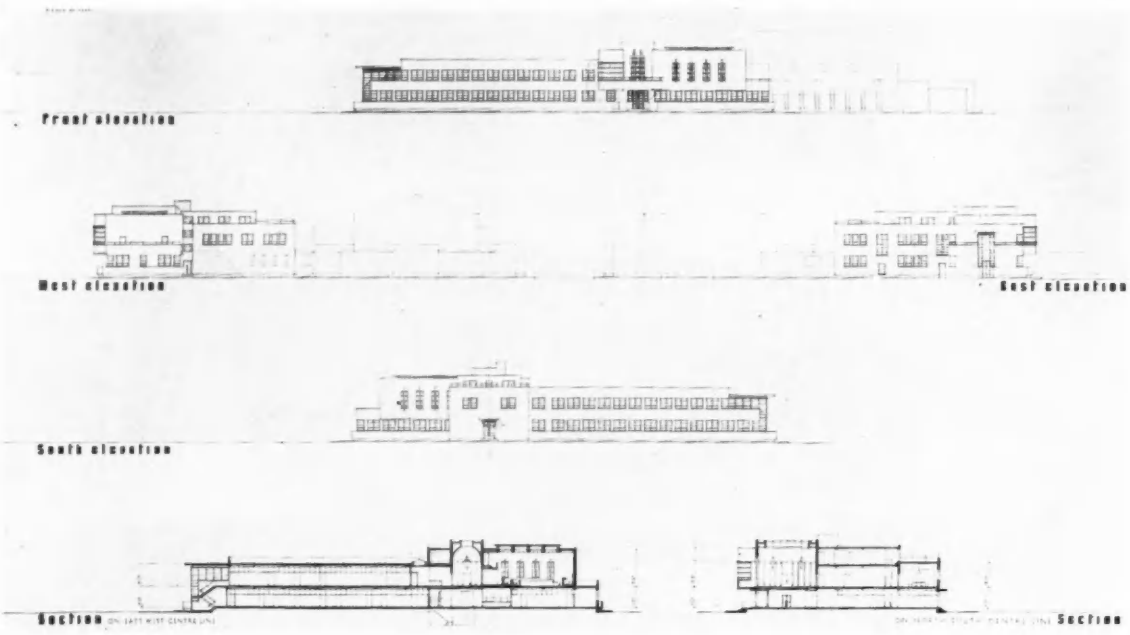
First floor and gallery plans.



Ground floor and basement plans.

BY C. H. JAMES AND S. ROWLAND PIERCE

COMPETITION FOR PROPOSED COUNCIL



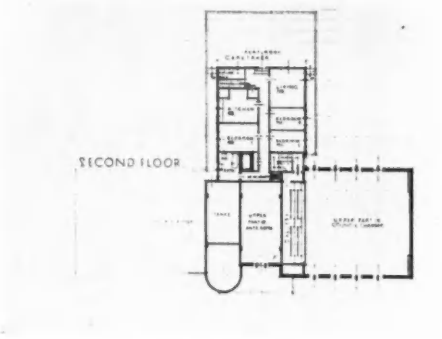
Elevations and sections.

BY

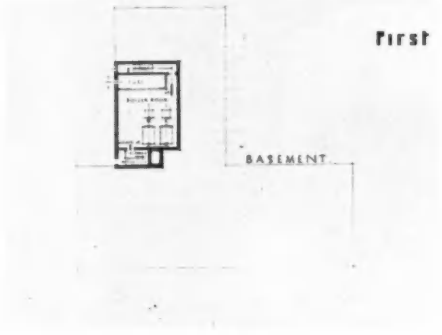
EDWARD ARMSTRONG

AND

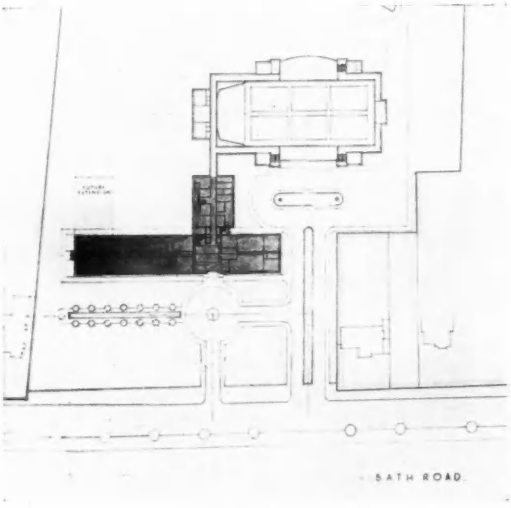
OSCAR A. BAYNE



Second floor plan.

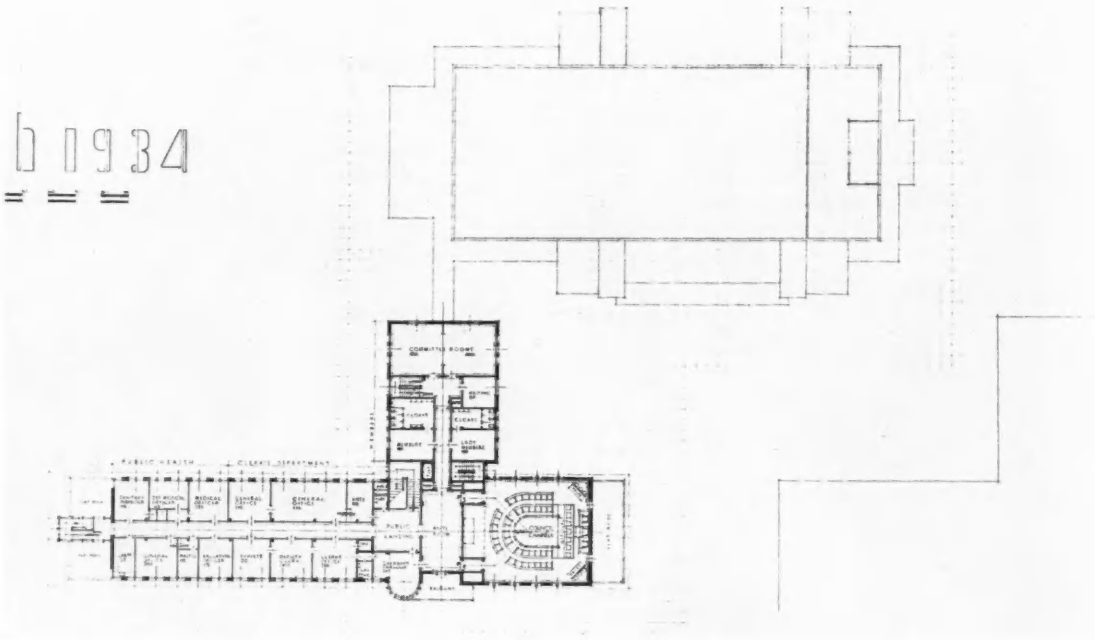


Basement plan.

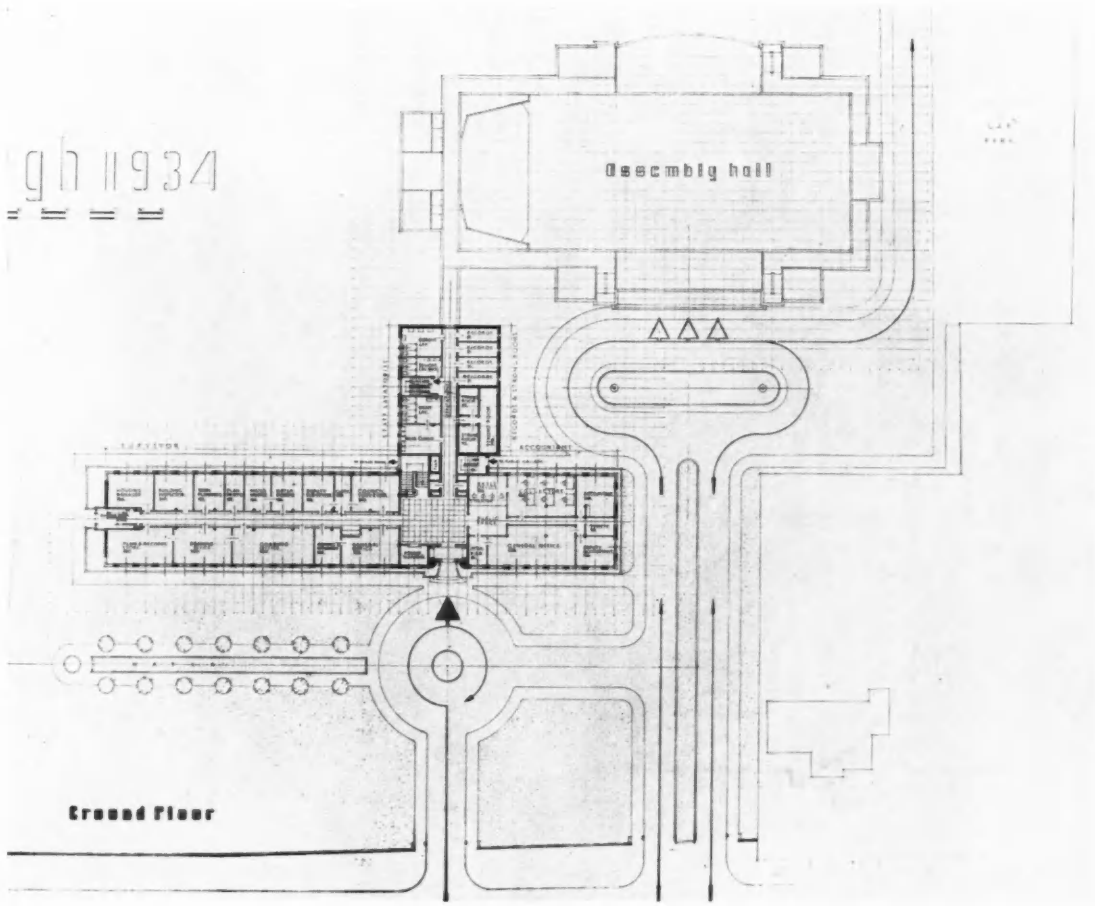


Block plan.

OFFICES, SLOUGH: DESIGN PLACED SECOND

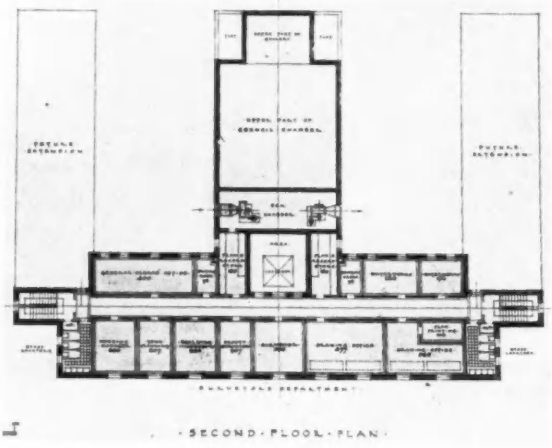


First floor plan.

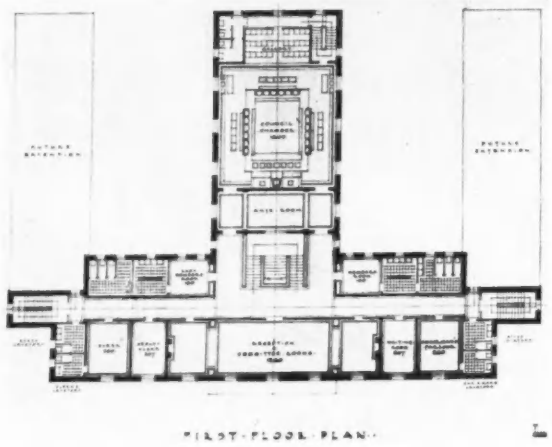


Ground floor plan.

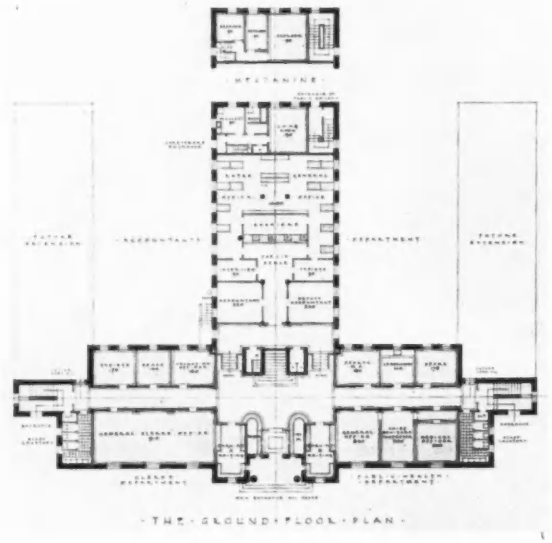
COMPETITION FOR COUNCIL OFFICES, SLOUGH



Second floor plan.



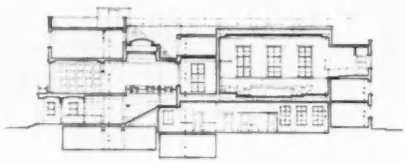
First floor plan.



Ground floor plan.

South elevation to Bath Road.

Cross section looking west.



Cross section looking east.

DESIGN PLACED THIRD:

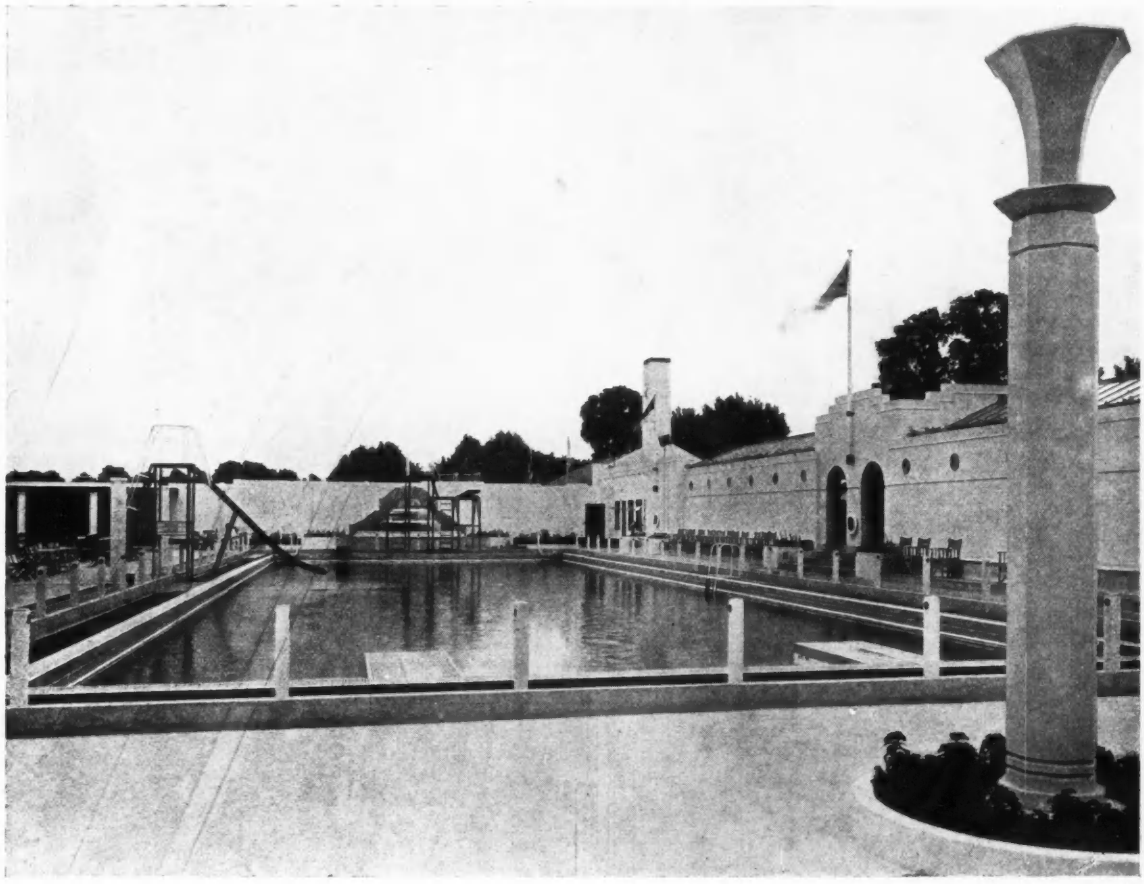
BY

W. H. McNICHOL

AND

W. N. SPENCE

TWO SWIMMING BATHS AT ROEHAMPTON



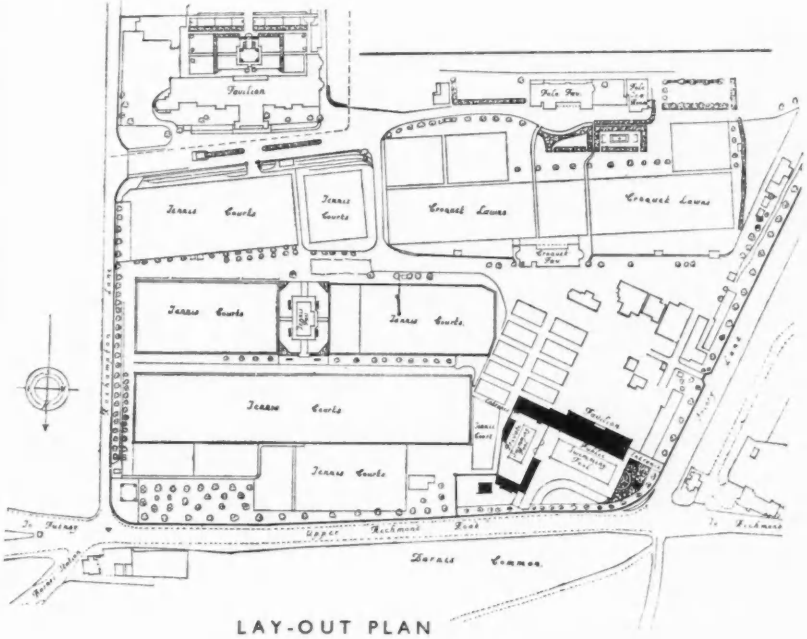
S. W. NEWBERY

Two new swimming pools have recently been built at Roehampton; the larger, illustrated above, being open to members of the general public. The buildings are in fletton bricks, finished with two coats of waterproofer, with final coat containing a percentage of stone dust and giving a pale cream colour. The lighting standard and bath surround posts are in cream-coloured artificial stone. Detail drawings of the cascade fountain and underwater lighting are given on pages 133–136.

DESIGNED

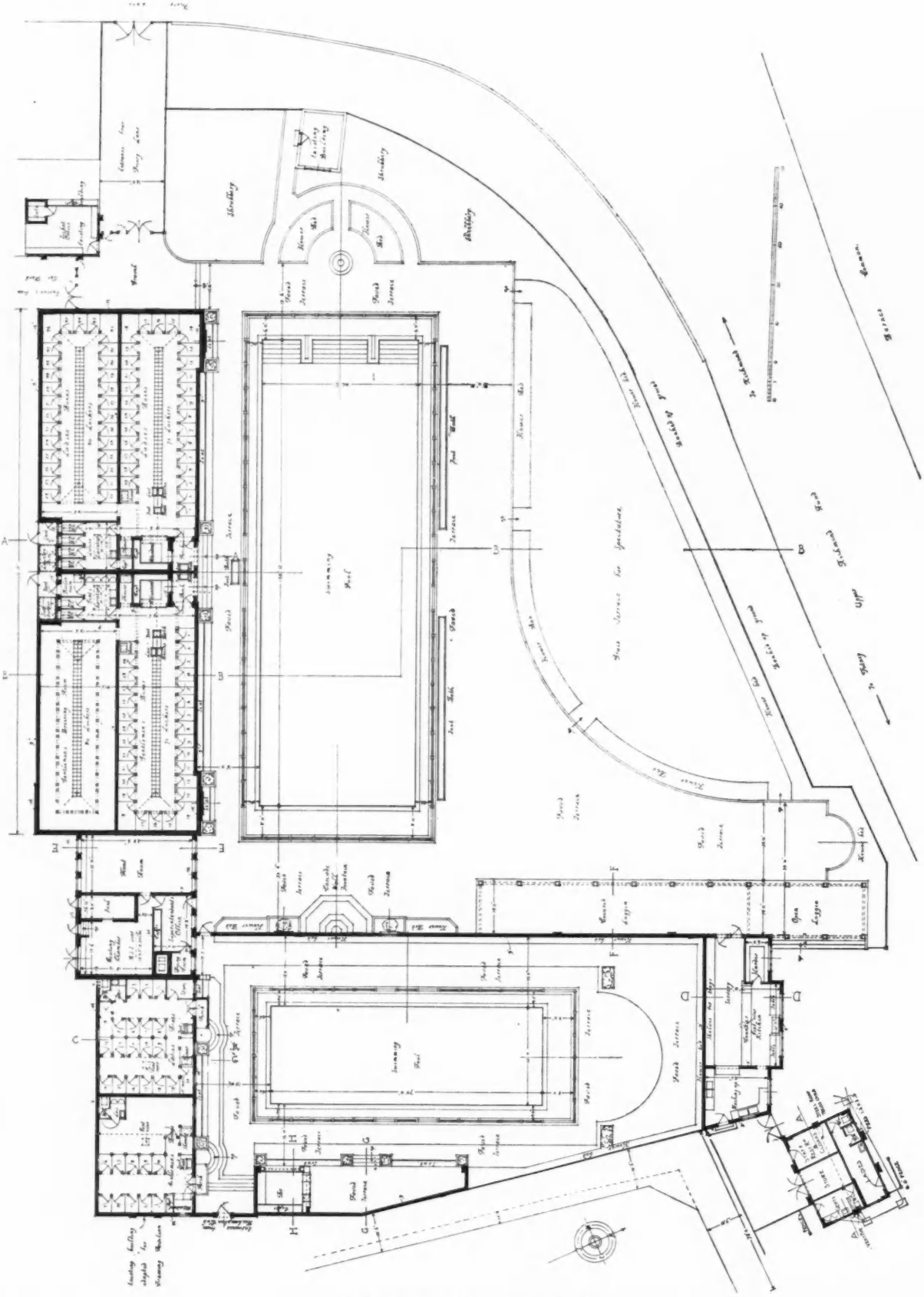
BY

G. W. SMITH



LAY-OUT PLAN

TWO SWIMMING BATHS AT



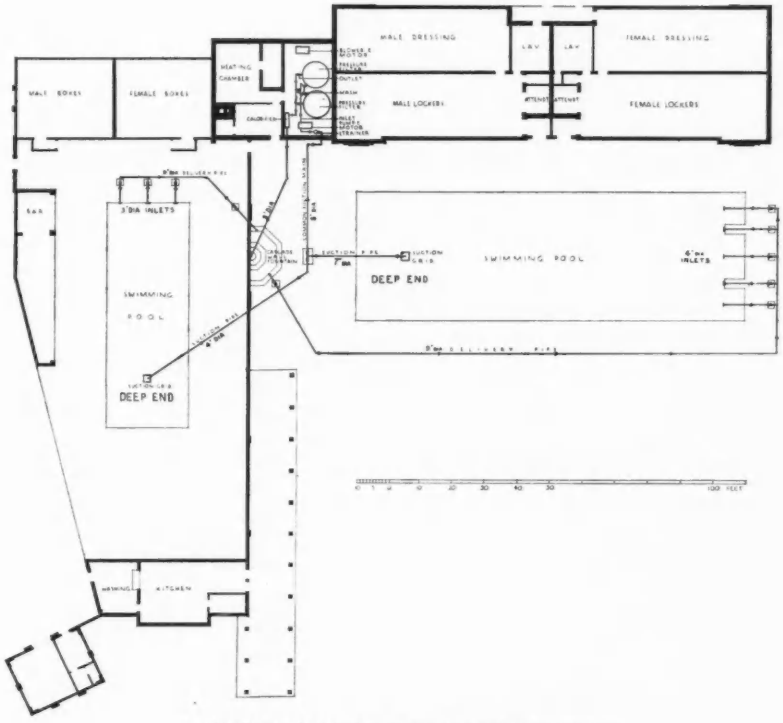
LAY-OUT PLAN

ROEHAMPTON: DESIGNED BY G. W. SMITH

S. W. NEWBERY

The illustrations on this page show: right, a detail of the public bath and, above, a corner of one of the dressing rooms. Dressing cubicles are provided for temporary use only, clothes being placed in lockers down the centre of each changing room and left there until they are needed again by the bather—the number of dressing boxes can therefore be reduced, since they are in constant use instead of being left unoccupied for several hours. There are 304 lockers for each sex in a double tier, each locker 3 ft. 3 in. high. All the woodwork is painted blue, relieved by a touch of orange, and the general effect is one of cheerfulness, in spite of the top lighting.

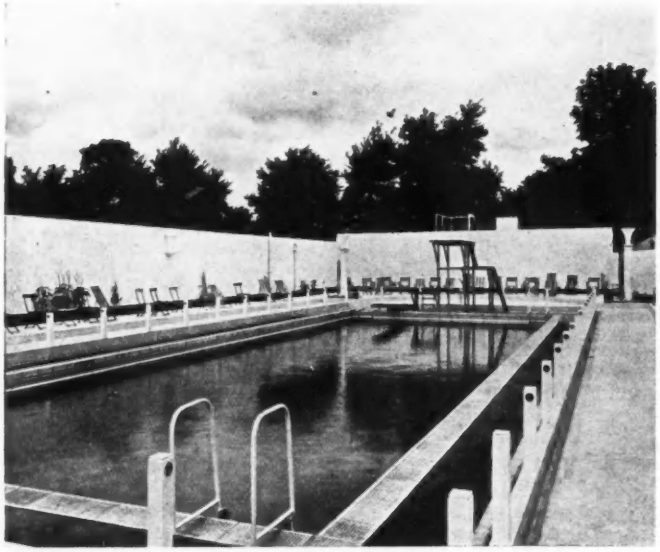
On the right is a pipe lay-out of the filtering system. Water is drawn from each bath and, after passing through the filter, it is aerated in a cascade fountain.



LAY-OUT PLAN OF THE FILTERING SYSTEM

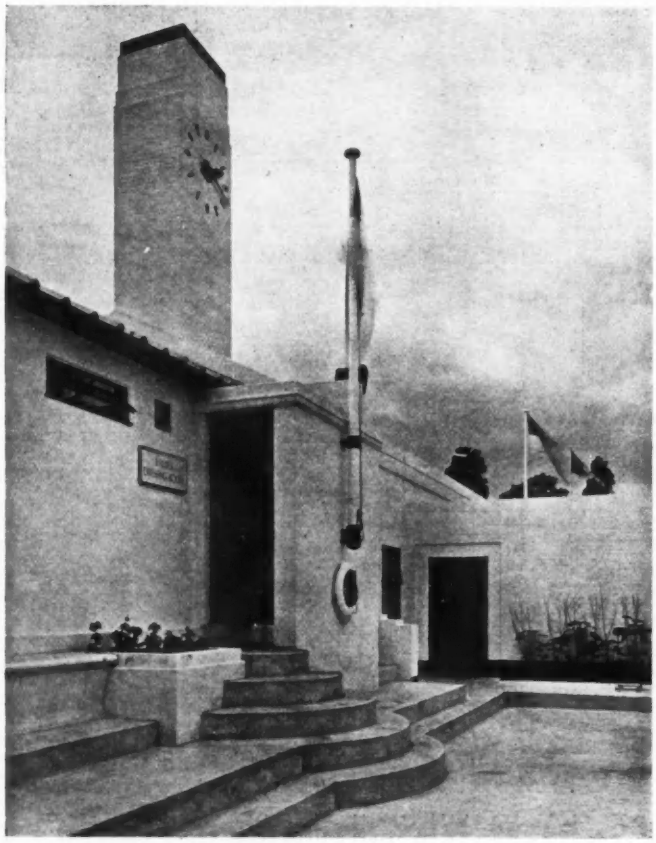
TWO SWIMMING BATHS AT ROEHAMPTON

DESIGNED BY G. W. SMITH



Above is the smaller bath, reserved for members of the Roehampton Club. The non-slip surround is cream and the interior of the bath blue. The ropes between the reconstructed stone standards were not in position when the photograph was taken.

S. W. NEWBERY



Above and left: two details of the members' bath: the clock is on the chimney of the heating system.

L I T E R A T U R E

ENGLISH CATHEDRALS

[By S. E. Dykes Bower]

The Cathedrals of England. By Harry Batsford and Charles Fry. London: B. T. Batsford, Ltd. Price 7s. 6d. net.

THE English cathedrals already form the subject of so extensive a literature that it might be thought there could be nothing more to say. A new book, such as this, must therefore be judged by a fairly severe standard and must be able to offer something that has not been provided before. Intended as it is for the general public, this book makes no claim to originality, but it forms a useful summary of the best research and, now that many of the older standard works are out of print, meets an obvious need—particularly since it includes the modern and parish-church cathedrals of recent sees. On the whole it avoids most of the faults of the guide-book and bears less resemblance than usual to the familiar verger's tour, consisting of a stream of names and dates. While history is not neglected, there is some attempt at analytical study of design, and a wider outlook is reflected in the attention paid to furniture—even eighteenth-century furniture—as well as structure. The book contains a sympathetic foreword by Mr. Hugh Walpole and a concise but sensible historical introduction, while the sections on each cathedral give as much information as can be expected within the space available. It is well and profusely illustrated, though the photographs are unequal and some of them far from up to date. The plans, too, evidently reproduced from Mr. Francis Bond's book, do not, in many details, show the cathedrals as they are today and do not, as is claimed, conform to a uniform scale. Anyone familiar with the relative size of the cathedrals would see at a glance that the plans of, for example, Lincoln and Durham are by no means to the same scale; there is, in fact, between these two a difference of 7 to every 100 ft.

For the most part a fair level of accuracy is maintained, but there are some minor misstatements that ought to be corrected in future editions. Rochester is not the only cathedral with no processional path behind the high altar; this is absent at Ripon, Southwell and Oxford. At Gloucester the triforium in the nave is not a blind arcade; though narrow, it is a passageway. The name of the Italian painter, a fragment of whose work survives on the vault of the lady chapel at Chichester is Bernardi—not Benardi. The pulpitum at Durham erected by Bishop Cosin after the Restoration was not "demolished by Scott." It was taken down by Anthony Salvin between 1840 and 1850, twenty years before Scott was called in, and still exists in a dismembered condition, part still in the cathedral, most of it in Durham Castle. This deserves to be widely known, because its return to its rightful place is a manifest obligation.

A few statements are misleading. It is surely an unfounded generalization to assert that Curvilinear Decorated forms constitute "one of the most individual developments of English Gothic," and that "the east window at Carlisle and the west window at York are without Continental parallel." Again, a description of the great east window at Gloucester as containing "much original glass" is calculated to convey quite a wrong impression. It is true the window was repaired in 1862, but the proportion of glass that is not original is so small as to be negligible.

The writing suffers in places from an excessive use of adjectives. Some are injudicious, others unsuitable. "Vast" for example, might legitimately be applied to the east window of York Minster, but hardly to the west window of Southwell and certainly not to the west window of Exeter. "Intriguing" is at best a feeble word, but when used in a descriptive sense—"an intriguing period," "an intriguing development"—becomes positively irritating. To read of a series of misericords being "brilliant," and a double piscina "adorable" verges on the ludicrous.

And is not the tendency to decry all works of the nineteenth century becoming as unreasonable as it is tedious? That unfortunate age might at least be given credit for its successes. Yet we learn here that Scott's rose window in the east end of Christchurch, Oxford, is "clumsy" and his organ-case at Ely "ungainly" and "bedizened"; Garner's reredos in St. Paul's is "ostentatiously uncomfortable" and Pearson's baldachino in Peterborough "preposterous," "inappropriate" and "illegal"! How, one wonders, will that nineteenth-century masterpiece, Truro, fare? Its plane, which, by the way, does *not* rank in dimensions with Norwich and Wells, being over 100 ft. shorter than both—"bears little relation to the requirements of English Protestantism." "Unyielding literalism" is the chief defect of the design; "it never rises to the dignity of living architecture." May not criticism of this sort itself spring from just that preoccupation with "style" which is condemned in the architect? "Living architecture"—like "English Protestantism"—is hard to define and quite irrelevant. The only vital test of a work of art is—not How is it done? but How well is it done? and by such a test Truro is amply vindicated.

REINFORCED CONCRETE

Practical Designing in Reinforced Concrete. By M. T. Cantell, F.R.I.B.A. Part II. E. and F. N. Spon, Ltd. Price 12s. 6d.

THE sub-title of this book is "A Description of Reinforced Concrete and its Suitability for Various Kinds of Structures, Together with Examples Worked Out in Detail for all Types of Structures," but the author admits that some of the subjects are not dealt with so comprehensively as he would like, "owing to the limited space in a book of this description."

Among the subjects treated are continuous beams, retaining walls, water tanks, silos, combined footings and the effect of wind on tall buildings.

The author refers to considerable teaching experience in Canada and America, but the stresses, etc., adopted in the book are those corresponding with the L.C.C. regulations, and not those commonly used in these countries, which are more in line with our modern ideas.

The treatment throughout follows somewhat academic lines, and many of the illustrations, being of finished structures, are of little use to designers, while in some cases the architecture illustrated is hardly a recommendation of reinforced concrete construction. W. B.

Publications Received

Thy Youth and Cause. By J. Howard Whitehouse. London: Cambridge University Press. Price 2s. 6d. net.

To the Memory of Ruskin. Edited by J. Howard Whitehouse. London: Cambridge University Press. Price 3s. net.

The Old Inns of England. By Professor A. E. Richardson. London: B. T. Batsford, Ltd. Price 7s. 6d. net.

The Monastic Remains of Norfolk and Suffolk. By Claude J. W. Messent. Norwich: H. W. Hunt. Price 7s. 6d. net.

Swimming Bath Water Purification. By Wilkinson and Forty. London: Contractors' Record, Ltd. Price 12s. 6d. net.

Welsh Housing and Development and Year Book, 1934. Welsh Housing and Development Association. Price 2s. net.

Use of Photography in Town. By P. J. and J. M. Waldram. London: P. S. King and Son, Ltd. Price 2s. 6d. net.

Planning and Design: Story of the Mersey Tunnel. Edited by George Thompson. Charles Bichall and Sons, Ltd. Price 5s. net.

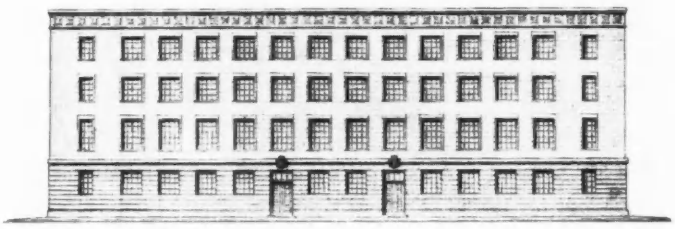
How to Build a Church. By Benedict Williamson. London: Alexander Ouseley, Ltd. Price 10s. 6d. net.

PROPOSED REBUILDING OF THE GUILDHALL,

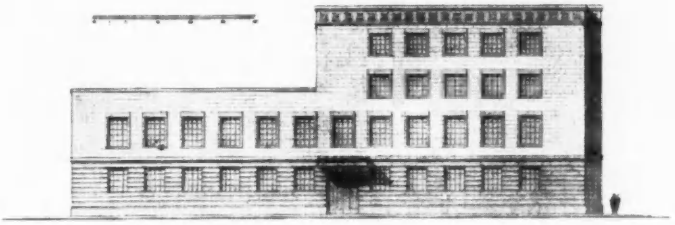
The amended design. The main elevation faces Market Hill.

The original design. The above drawing was exhibited in this year's Royal Academy Exhibition.

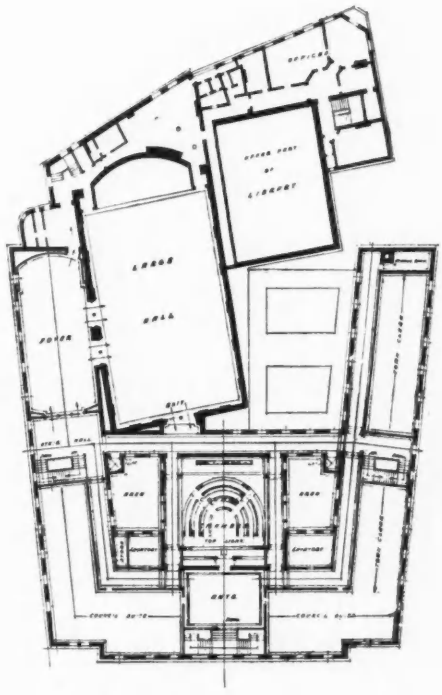
CAMBRIDGE: DESIGNED BY C. COWLES-VOYSEY



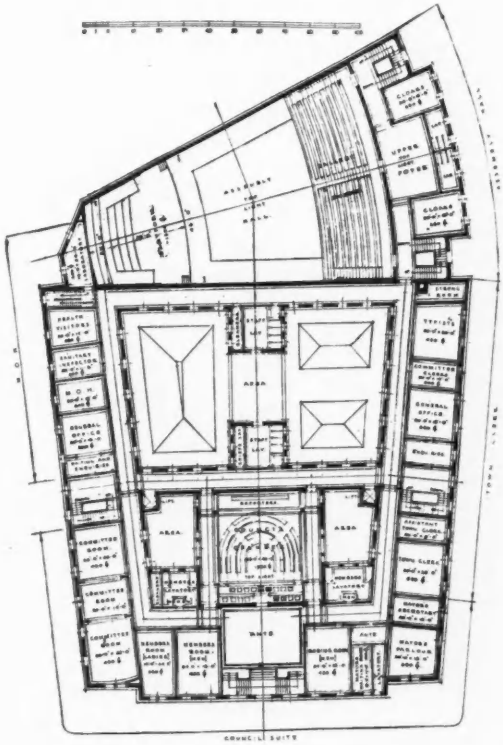
Elevation to Peas Hill.



Elevation to Guildhall Street.



First floor plan (a) showing retention of the existing assembly hall and library.



First floor plan (b) showing proposed future extensions.

The Guildhall at Cambridge occupies an island site, with its main frontage forming the north side of Market Square, which is in the centre of the town and close to King's Parade. Municipal buildings have existed here for several hundred years and the present authority has decided to retain the site largely for this reason. The present scheme provides for the ultimate demolition of all the existing buildings and the erection of a new building to contain municipal offices, with a council suite, police and sessions courts and two assembly halls. It having been decided to retain for the present the existing assembly hall and library it became necessary to devise a plan (a) for the first section that left these rooms undisturbed and would connect up to them, while being capable of later extension into a complete and unified building (b).

There will be four floors of offices above pavement level and a basement for mechanical plant and storage. Provision will be made for an additional fifth storey as a future extension should the need for this arise. It has been found necessary to build up to the pavement on the four sides but the building lines have been adjusted to make certain street improvements.

The structure will be a steel frame with stone facing and reinforced concrete floors, staircases and roof. The finishings and equipment will be consistent with modern practice in office building.

In the elevational design the requirement of large window areas is recognized and expressed and no attempt is made to force the building into an antique or stylistic mould.

It is intended to invite tenders for the work early in the new year. The estimated cost is £152,793.

THE HOUSE OF LORDS

HOUSING

DETAILS of the new Housing Bill which the Government propose to introduce in the autumn were revealed in the House of Lords last week during a debate initiated by Lord Balfour of Burleigh, who moved :

"That in the opinion of this House the provision of 1,000,000 houses to be let at a weekly rental, inclusive of rates, of 10s. and under, in addition to the slum clearance proposals of the Government, is an urgent national need, and to request the Government to consider the desirability of setting up forthwith, under the authority of the Minister of Health, a Housing Commission armed with all necessary powers, and charged with the specific duty of securing the erection of such houses by local authorities and public utility societies on a national plan and with the minimum of delay."

After a long discussion, in which Lord Amulree, Lord Dudley, Lord Crawford, the Archbishop of Canterbury, the Bishop of Winchester, and other peers took part, Viscount Halifax, President of the Board of Education, reviewed the arguments against a Housing Commission. He said that the advocates of such a Commission had failed to prove that the existing machinery was insufficient for any given housing policy. He found it hard to believe that housing would be facilitated by interposing a new body between the Minister of Health and the local authorities, on whose cordial co-operation successful housing administration depended. Direct contact with the responsible Minister was the best stimulus to local authorities, and cessation of that contact would certainly not promote activity.

As to public utility societies, the Minister proposed to introduce legislation to make more use of them. The object of that legislation would be to authorize local authorities to hand over to the public utility societies by agreement blocks of housing work. By that, he meant that the local authority would be enabled to transfer to a public utility society property acquired by the local authority with a view to making it fit, by conversions, adaptations, and so on, for occupation by the class that they had in view.

It was contemplated that the public utility society would carry out the necessary works, and then manage the property. Provision would also be made to enable a society to submit proposals to the local authorities for making such arrangements, either in relation to property already held by the local authority or in relation to property which the society might think was suitable for acquisition by the local authority. When the work was such as would be rightly assisted by subsidy, that subsidy would be passed on to the society. In any case, it was proposed that local authorities should be empowered to make advances to the society and to borrow for that purpose on the security of the local rates.

With regard to proposals for systematizing the supply of building materials and the co-ordination of contracts and orders, the Government felt that the most practical way of securing this purpose was not the establishment of a new corporation, but rather by way of organized co-operation between the different housing authorities. Recently the Minister of Health had addressed a letter to the Association of Municipal Corporations, inviting their views on the subject, and inquiring whether they would be prepared themselves to provide machinery for systematizing purchase of building materials and other activities connected with it. The replies, when received, would have the Minister's most careful consideration. There was connected with that a co-related or supplementary method of procedure, and that was through the instrumentality of an advisory council on housing matters, which it was proposed to establish by the legislation which his right hon. friend would bring forward in the autumn.

The situation would need to be constantly watched particularly with the increase of activity in the building trade which would follow the development of measures against overcrowding. Experience, however, did not always show that a great development of building had the effect of putting up costs.

But while the Government were no less anxious than Lord Balfour of Burleigh to see real progress made with dealing with the housing problem in this country he did not believe that that task would be assisted by the acceptance of the proposition that 1,000,000 houses should be provided at inclusive rents of not more than 10/- a week.

In the first place the solution of the housing problem would not be facilitated by round statements as to size, the evidence for which must inevitably be of doubtful validity. There could be little doubt that the calculation on which the estimate of 1,000,000 was based was very far from being secure. The figure of 1,000,000 houses seemed to be based on the fact that the excess of families over the number of occupied dwellings was 1,110,000 in 1931. However, from that figure several deductions had to be made. When those deductions were taken into account it was seen that the number of houses required to be provided at these rents was very much less than 1,000,000. The problem of providing houses for those who could afford a somewhat higher rent was already in process of solution.

At the same time the Government fully recognized the need that existed for a sufficient pool of houses to let at rents within the means of the poorer-paid wage-earners. Steps were being taken by the Government in accordance with a carefully framed and ordered plan.

The position as it stood today was as follows :—A survey had been made by the local authorities of the number of slum houses that must be replaced. The next step would be a survey of the number of families now living in overcrowded conditions for whom better accommodation was required. Lastly, there was the statutory duty resting on local authorities to meet any housing needs in their areas which might remain when account was taken of the slum clearance and overcrowding schemes and of the large activities of private builders. The Government believe that by this ordered plan the housing needs of the country would be adequately ascertained and met. He hoped that Lord Balfour of Burleigh would not press for a definite number of houses, whether 1,000,000 or any other, for the fundamental reason that the principle of such policy had been tried by successive Governments during the past 15 years and had been discarded as unsound.

The policy which the Government invited their lordships to approve was that of providing, in accordance with an ordered plan on the basis of ascertained need, whatever number of houses might be needed to overcome the evils that rightly moved the country to indignation : beginning first with a direct attack on the conditions that were the most intolerable.

Already local authorities had submitted plans for the demolition of all houses which they had found to be unfit in their areas for habitation, and plans for the provision of accommodation to replace them. During the next five years 280,000 houses unfit for human habitation would be swept away, and 294,000 houses would be built for those who were now forced to live in intolerable conditions. Therefore, at the end of five years there would be, except for a few towns where a longer period was necessary, no more slums.

In the autumn the Government would propose to Parliament legislation for the purpose of defining standards of accommodation and for providing a sufficiency of houses to enable those standards to be observed, and assistance would be proposed to enable local authorities to provide the housing accommodation needed, including accommodation at low rents for those who would no longer be permitted to live in overcrowded conditions. These proposals would involve rehousing and replanning on a scale which it had never yet been possible to contemplate, and of a kind that neither this nor any other country had previously undertaken.

In order to provide means whereby continued assistance might be available to the Minister of Health the Government proposed as an integral part of the next stage of their housing policy to appoint a strong advisory committee which the Minister would be able to refer at all stages for advice on the problems still to be solved.

The motion was withdrawn.

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THE LEEDS SCHOOL OF ARCHITECTURE

The exhibition of work by students of the Leeds School of Architecture was opened in the City Art Gallery on July 17, by Mr. A. C. Bossom, M.P., F.R.I.B.A., Councillor F. Barraclough, M.A., presided.

Mr. Bossom said that students of architecture today were living at a most fortunate time, as there was a greater amount of building waiting to be carried out than at any other period of our history. The great building activities of the earlier years of the Industrial Revolution had left a mass of building which today needed replacing, and he estimated that this constituted from one-quarter to one-third of the buildings in the country. Housing alone presented a great problem whilst up-to-date factories were needed and many other types of buildings, including railway stations and warehouses had to serve new requirements of transport and distribution. The solution of these great problems required above all things personal initiative and invention, and the architect of tomorrow must have these qualities. Mr. Bossom showed that this is an Age of Invention, and asked students to question everything which they saw done and not to copy unquestionably forms or methods. He pointed out that building methods were changing rapidly, and the brickwork, carpentry, and plumbing trades had been revolutionized whilst steel construction was developing very quickly, and the rivet, which caused so much noise and waste of time, was becoming obsolete. There was room for much economy in building methods, and we must use the machine intelligently. The architect must encourage the invention of new materials which would produce economical building, as, for instance, materials which could be fixed dry—thus reducing the heaviest loads on foundations.

The successful men of tomorrow, he thought, would be more than designers, they must note the trend of town development, must be experts in materials and costs, and organizers of building programmes.

Mr. Bossom gave some interesting figures contrasting building costs in England and America, and showed that by organization and forethought it was possible to build as cheaply in America as here, whilst paying from three to five times the wages of the English workman.

WORKING DETAILS : 89

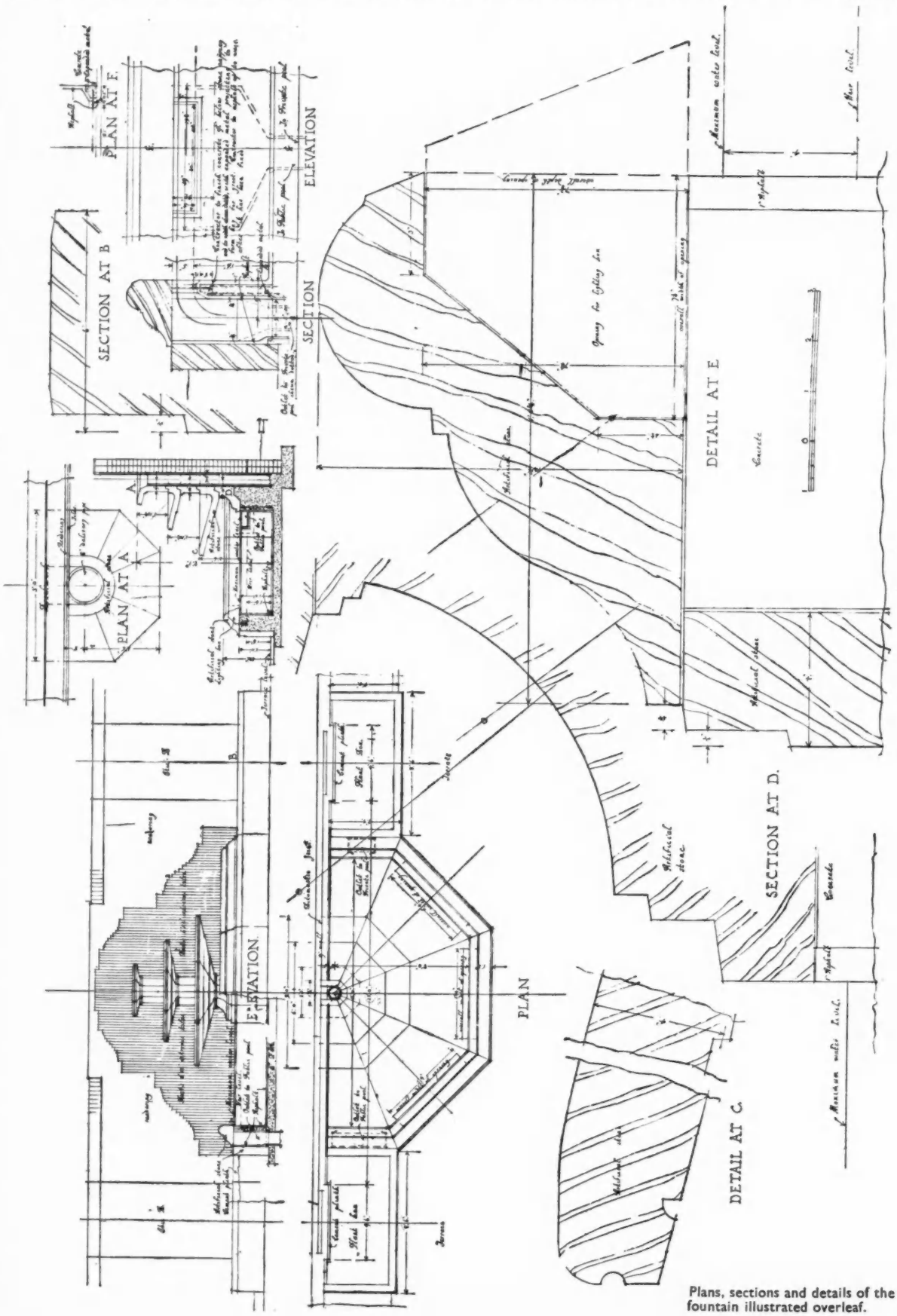
AERATION FOUNTAIN • ROEHAMPTON SWIMMING BATHS • G. W. SMITH

S. W. NEWBERY

The cascade fountain illustrated above is used to aerate the water for two swimming pools. The supply from the filters is let in at the top of the cascade, and there are two weirs in the bottom basin which lead the aerated water to the baths. The size of each weir is proportional to the size of the bath which it serves.

WORKING DETAILS : 90

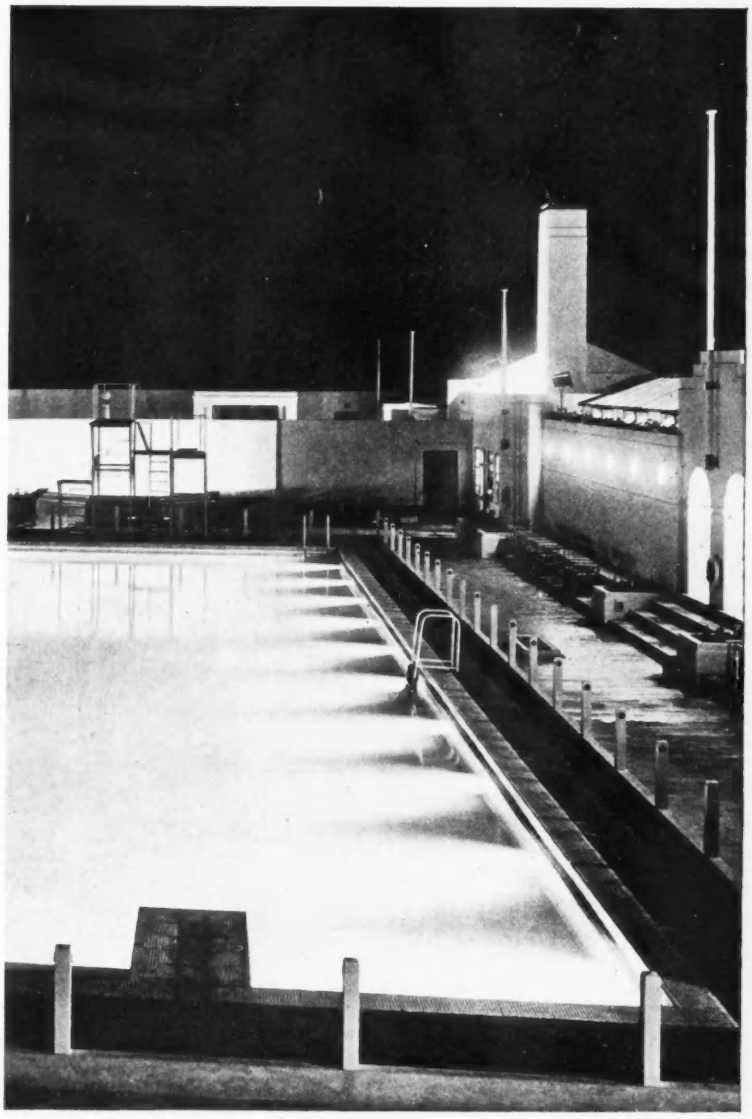
AERATION FOUNTAIN • ROEHAMPTON SWIMMING BATHS • G. W. SMITH



Plans, sections and details of the fountain illustrated overleaf.

WORKING DETAILS : 91

UNDERWATER LIGHTING • ROEHAMPTON SWIMMING BATHS • G. W. SMITH

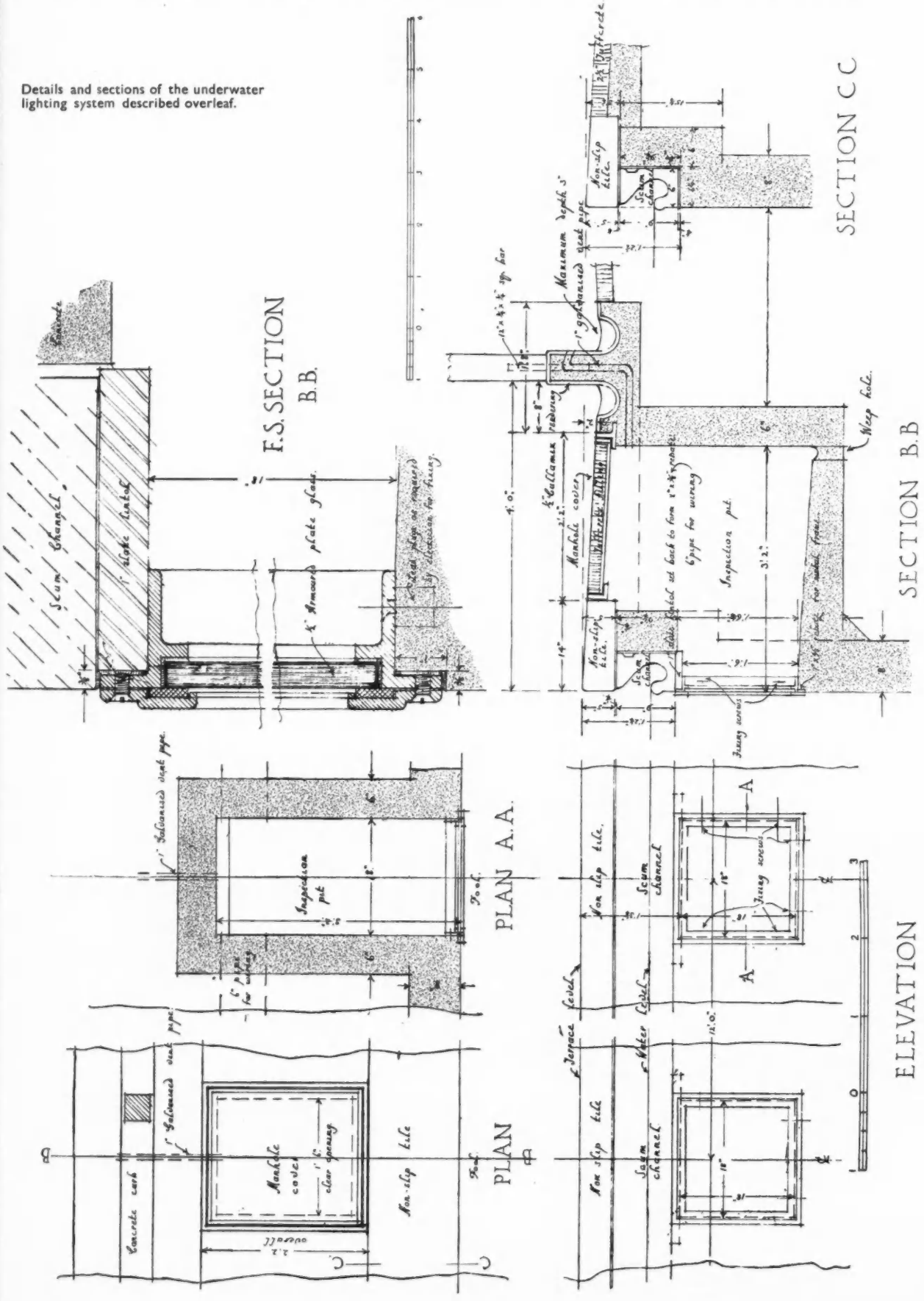


The underwater lighting illustrated above is carried out by means of ten 500 watt projectors placed at 12 ft. centres in a bath length of 120 ft. Each lamp is fitted in a watertight inspection pit with a glass face on the pool side, and access is arranged via a manhole in the bath surround. A weep hole is provided at the back of the box to carry off any water leakage, and there is also a vent to deal with the considerable amount of heat from the lamp.

WORKING DETAILS : 92

UNDERWATER LIGHTING • ROEHAMPTON SWIMMING BATHS • G. W. SMITH

Details and sections of the underwater lighting system described overleaf.



PERIODICALS

JUNE ANTHOLOGY

AMERICA

Architectural Record
(Monthly, 50 c.)

JUNE. Interviews with architects and contractors on the "New Deal"; opinions generally guarded, but, on the whole, favourable. A long and interesting article on fire control in the design of modern buildings, and illustrations of many recent renovation jobs carried out under the "New Deal" drive.

Pencil Points
(Monthly, 35 c.)

June. Notes on a development plan for New York, and further measured drawings of early American architecture. General notes on sketching and rendering, of interest to draughtsmen.

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BELGIUM

La Cité
(Monthly, 5 f.)

May. A number largely devoted to the work of Richard J. Neutra, a brief biography and an elaborate survey of "Rush City Reformed," a rational project based on a close study of existing conditions.

L'Emulation
(Monthly, 10 f.)

May. Results of a competition for a new school at Jette, won by Charles van Neuten. General notes on gas-fired boilers for the heating of large buildings.

L'Ossature Métallique
(Monthly, 6 f.)

May. A publication devoted to the applications of steel to building. A long article by Le Corbusier on the new coherence of the dwelling: competition designs for a new exhibition hall: illustrations of steel-framed buildings.

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FRANCE

L'Architecture
(Monthly. 6 f.)

June. Architecture and interior decortion at the 1934 Salons of the Société des Urbanistes and the Société des Beaux Arts. A Parisian open-air zoo by Charles Letrosac.

L'Architecture d'aujourd'hui
(10 issues yearly, 25 f.)

May. School number, numerous French examples by Expert, Maigrot, Lurçat and others, and Greek examples by Karantinos and Mitsakis. Technical notes and reviews of exhibitions.

La Technique des Travaux
(Monthly, 10 f.)

June. An interesting high school at Amersfoort, by C. B. van der Tak, somewhat reminiscent of Dudok. The Rockefeller Centre, full details of the technical consideration. An article on the use of aluminium decking for bridge-work in America.

GERMANY

Der Baumeister
(Monthly, 3 m.)

June. An interesting public hall at Osnabrück by Theo Burlage; a flat block in Zurich by Walder and Doebli. Interior decoration: working details.

Bauwelt
(Weekly, 2 m. 52 per month)

June 7. Twenty-fifth anniversary number containing reviews of building practice during the past quarter century. Interesting data on many types of contemporary hollow tile floor.

June 14. A school for German scholars at Helsingfors, and an article on gas-proof buildings; advertisements of gas-proof doors.

June 21. Technical notes and examples of the possibilities of concrete pumps.

Baugilde
(Fortnightly, 1 m. 50)

No. 11. A long and well illustrated article by Karl Schmidt on the technique of wrought iron work and its influence on design.

No. 12. Traditional country houses, with some interesting plans.

Deutsche Bauzeitung
(Weekly, 3 m. 40 per month)

June 6. Garden lay-out, house R—at Altona—a large estate with kitchen gardens, glasshouses, a riding track and a small stadium.

June 20. Small houses for workers at Leipzig.

June 27. "The Street," and exhibition in Munich showing the planning of the main German trunk roads and by-passes.

Monatshefte für Baukunst und Städtebau
(Monthly, 1 m. 90)

June. The "Deutsches Volk-Deutsche Arbeit" exhibition buildings. Competition schemes for a National Socialist training school. Small traditional houses.

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HOLLAND

Bouwkundig Werkblad Architectura
(Weekly, 15 florins per annum)

June 2. New buildings in Zutphen.

June 9. Reinforced concrete details of a church at Dordrecht by Cypers and van Bilderbeek.

June 23. A bakery at Haarlem by Sevenhuysen and Howe and Liscazis. Philadelphia Savings Bank building, photographs, plans and some constructional details.

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ITALY

Architettura
(Monthly, 15 lire)

June. A 40-page article on the planning and more important buildings of Sabaudia—a brand new seaside town built to the orders of Mussolini. Current work, including a restaurant with an interesting helical (not spiral) staircase.

Rassegna di Architettura
(Monthly, 12 lire)

June. A covered swimming bath at Milan by Luigi Secchi. Unusual construction, a reinforced concrete frame changing to lattice girders for the centre two-thirds of the 90 ft. span. Results of some of the many competitions now being held in Italy, both for town planning schemes and individual buildings.

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POLAND

Architektura i Budownictwo
(Monthly, 8 zl.)

No. 4. Le Corbusier's Swiss Pavilion at the Cité Universitaire and his Champs Elysées flat. Contemporary private houses in Warsaw. A well-reasoned article on the isolation of buildings as applied to street lay-outs.

The Solarium, School at D'Alfortville. Architect: Georges Gautier.
[ARCHITECTURE D'AUJOURD'HUI.]

SPAIN

A.C.

(Quarterly, 3 pesetas 25)

April-June. Lengthy article on the town-planning problems of Barcelona, with suggestions for a satellite town for holidays. Minimum flats in Barcelona and illustrations of further small houses from Milan.

Viviendas

(Monthly, 2 pesetas)

May. Photographs and plans of a large private house in Madrid by Rafael Bergamin. Ground floor plan apparently well arranged for lavish entertaining, but services less good. Interiors rather lacking in restraint. Illustrations of Viennese jobs by Ernst Plischke, and brief notes on domestic refrigeration.

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SWEDEN

Boet

(Monthly, 1.50 kr.)

June. Finnish interiors, glassware and silver, some not too successful.

Byggmastaren

(Weekly: 10 kr. per annum)

June 6 and 20. Dealing mainly with the cement industry in Sweden, visits to factories and methods of making reinforcement calculations.

June 27. Housing at Helsingfors, and some good silos by Mogensen in the same town. Other jobs of less interest.

Form

(Monthly, 1.25 kr.)

June. A history of cotton spinning from the earliest times, illustrated with examples of contemporary work.

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SWITZERLAND

Schweizerische Bauzeitung

(Weekly, 8 octs.)

June 2. Hospital at Colmar by W. Vetter in conjunction with the Brothers Perret.

June 9. Le Corbusier's Swiss Pavilion at the Cité Universitaire. Small illustrations of the pavilions of other nations.

June 16. A straightforward shop in Basle by Lutz and Brütsch. Fire regulators apparently less strict than under the London Building Act. Unusual steelwork.

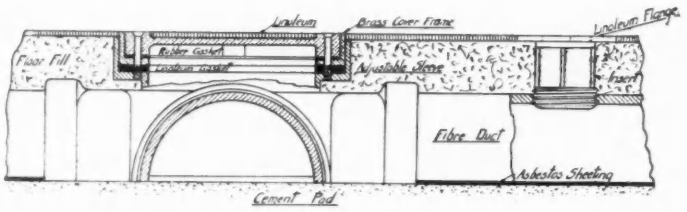
June 23. Drawings of a proposed hospital at Chur by Otto Salvisberg and others.

June 30. Tram and railway information.

Das Werk

(Monthly, 3 fr. 60)

June. Churches with mural paintings and sculpture by various authors. Country houses, cottages and shops.



TRADE NOTES

[*BY F. R. S. YORKE, A.R.I.B.A.*]

Electric Wiring System

A FLEXIBLE system of wiring for telephones and electrical services generally is essential in office buildings, works and similar places where requirements change from year to year, and where it is impossible for the architect to forecast the needs of tenants in the initial stages of lay-out of services. No normal system of steel conducts can provide for unknown factors in an initial installation, and every addition or change in outlet points entails disturbance and damage to floors and walls, and it is often necessary to resort to unsightly expedients in order to make connection from outlets to desks or other points where wiring is required.

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The open office system has been popular on the Continent for some time, and in other countries the use of a network of ducts, laid in the floor-fill, forming a grid throughout the usable floor space, has been embodied in most of the bank and office buildings erected during recent years. With such a grid, having parallels about 5 to 8 ft. apart, every desk has high and low tension ducts under it, and these can be tapped easily for lighting, heating, power and telephone services.

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Double lines of ducts are used: one for lighting, heating, and power; the other for telephones, bells, etc.

•

In the Key under-floor duct system, the ducts are made of fibre, because fibre is immune from corrosion, does not encourage condensation and, size for size, is cheaper than steel. When it is necessary to wire an additional point, a brass outlet can be screwed into the fibre duct, the operation taking about twenty minutes and causing no damage to the floor covering.

•

The ducts, which are half-round, like c.i. eaves gutters, have socket and spigot joints and are laid, open side downwards, on a concrete pad jointed to the floor slabs, the pad being covered by a strip of asbestos bitumen sheeting. The ducts are supplied in three sizes :—

2¼ in. by 4½ in. for 4 in. floor-fill. Cross section 6 sq. in.

1¾ in. by 3½ in. for 3 in. floor-fill. Cross section 3½ sq. in.

1 in. by 4 in. for 2 in. floor-fill. Cross section 2 sq. in.

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The draw-in boxes are cast iron, with brass inspection covers, set to the floor level by means of elevating screws.

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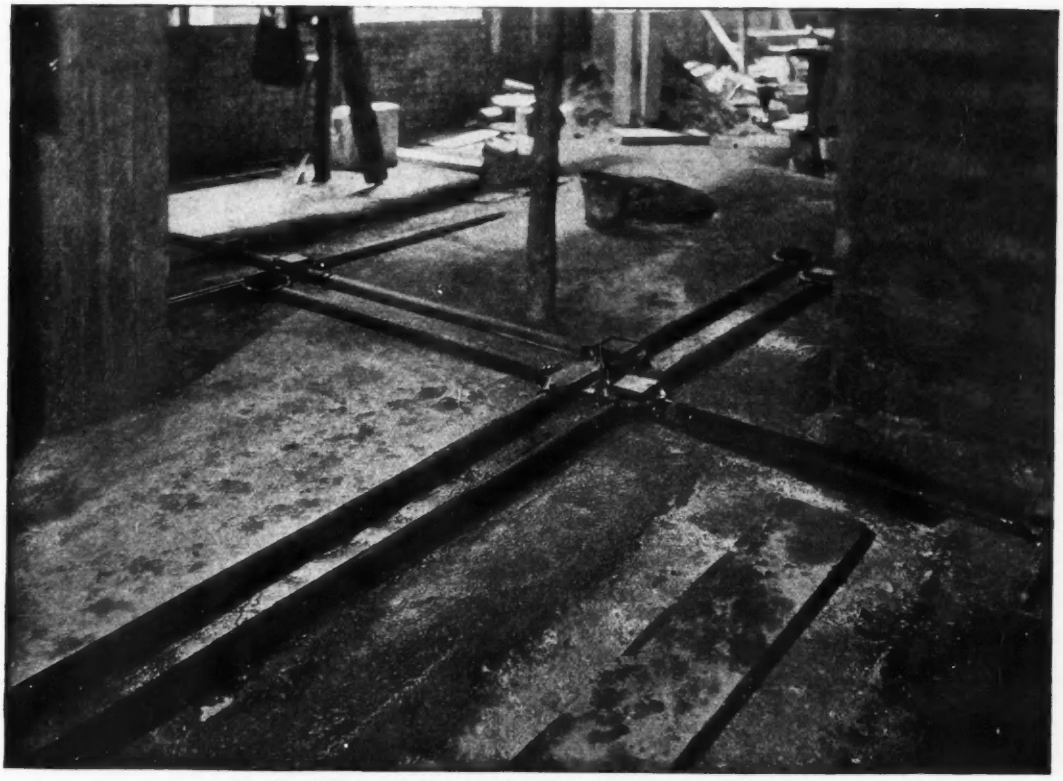
Different types of cover are provided to suit various floor coverings. The 4-way box for single grid lay-out is fitted with a cover recessed to take linoleum, so that only the polished brass ring is visible. Duct end markers are used to block all dead ends of ducts, and to indicate the limit to which the duct may be tapped for outlets.

•

It is not necessary to lay out the office furniture plan until very shortly before the quarters are to be occupied. Only such outlets as are immediately necessary need

Left: 4-way single compartment box for single grid and interlocking comb lay-outs. Boxes can be drilled at the corners to take steel conduits. Above: Spigot and socket ends of fibre ducts. In the diagram at the head of these notes a single line of duct and a 4-way single compartment box are shown in a floor with a linoleum covering. A brass outlet with a floor flange is shown screwed into the duct, ready to take a lighting or telephone outlet fitting.



Interlocking comb lay-out with single compartment draw-in boxes.

be made, and each outlet will be exactly where required.

•

The procedure is simple. Having located the duct by drawing a line between two boxes :—

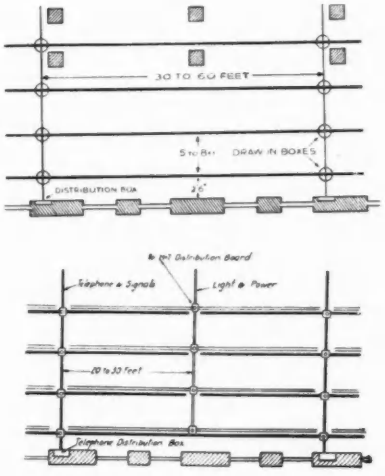
(1) A circular hole is cut in the floor covering with a special tool, then, with a ½ in. flat chisel a circular opening is cut down to the top of the duct.

(2) A circular opening is cut out in the duct top, with a special cutter that fits any common brace ; a stop on the cutter prevents any possibility of abrading wires already in the duct.

(3) The brass outlet is screwed into the top of the duct ; the top of the outlet being flush with floor level.

(4) The brass outlet is grouted in with cement.

(5) The floor flange is screwed in where a floor covering is used.



Duct lay-out diagrams ; above : Single grid lay-out ; below ; Interlocking comb lay-out.

•

Where it is only required to distribute wiring, either for heating, lighting and power or for telephones and signals, the *single grid lay-out* is employed. The first line of duct is generally placed 2 ft. 6 in. to 3 ft. from the outer wall, and the subsequent duct lines at a uniform distance from this line. The distance may vary to meet the requirements of a specific building, but a distance of 5 ft. to 8 ft. will give full coverage, and is the most generally used. Draw-in boxes and headers are generally spaced 30 ft. to 60 ft. apart, depending on the estimated density of the wiring.

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Where both high and low tension service is to be provided, separate ducts and draw-in boxes for each service are installed. The same general plan of making a single grid lay-out again applies, but alternate headers are used for high and low tension systems respectively.

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The ends of high and low tension ducts are blocked with dead-end markers, except where it is necessary to cross a header, when cast-iron cross-overs are used.

Manufacturers' Item

The Court of the University of London have considered the tenders from seven selected firms for the superstructure of the first of the buildings to be erected on the University's site in Bloomsbury. The lowest tender received, namely, that of £362,579 from Messrs. Holland and Hannen and Cubitts, was accepted. A condition of the contract will be the use throughout of materials obtained from sources within the British Empire.

The tenders from the unsuccessful firms were as follows :—

	£
Messrs. Trollope and Colls ..	366,625
Higgs and Hill	373,333
Walter Lawrence and Son	373,731
Mowlem & Co.	378,974
Holloway Bros.	386,799
Dove Bros.	398,804

The contract now to be entered into with Messrs. Holland and Hannen and Cubitts will provide for the building of the Senate House and administrative offices, a portion of the University Library and certain works connected with the University Hall ; but the University will have the option, for a period not exceeding nine months from the date of signing, to extend the contract to cover additional works. The date for completion is March 25, 1936.

*

We regret that in our issue for June 28 we inadvertently omitted to state that Gordon Russell, Ltd., supplied all the furnishings at the road-house at Cheddar Gorge, including china, glass, cutlery, linen, and even the waitresses' uniforms. Gordon Russell were also responsible for the design of the furniture.

IN THAT CONTINGENCY

[The following abstracts of inquiries represent a number of those recently submitted to the Building Research Station. The information given in the replies quoted is based on available knowledge. It has to be borne in mind that further scientific investigations may in the course of time indicate directions in which the replies might be supplemented or modified. Moreover, the replies relate to the specific subject of each inquiry, and are not necessarily suitable for application to all similar problems. (Crown Copyright Reserved.)]

Loosening of Wood-block Flooring

¶ *AN architect reported that expenditure was being incurred at intervals in relaying loosened wood-block flooring. The floors in question had not been washed or oiled, and the worst patches were over heating chambers. The trouble had been attributed to shrinkage of the blocks, access of dust into the joints and to deterioration of the mastic.*

It is agreed that the loosening of the blocks can be attributed to shrinkage of the wood blocks and consequent failure of the adhesion. If the wood blocks are now thoroughly dried out it might be expected that they could be re-used without the risk of trouble from further shrinkage.

For a satisfactory flooring to be obtained it is important that a good adhesive be chosen and certain precautions observed in its use. This has been the subject of an investigation made at the Station, and as a result the following suggestions are made :—

1 : Best adhesion will be obtained if, after the first dipping, the wood blocks be skimmed and re-dipped and placed directly into position without undue sliding.

2 : Black varnishes appear to be preferable to the so-called creosotes often employed as primers for the concrete base, and a portion of the adhesive thinned down to a suitable consistency should prove a good substitute.

3 : In order to avoid dangers due to overheating, the best working temperature for the molten adhesive is about 120° C. for coal-tar pitches, but may be as high as 150° C. for bitumens.

4 : The softening point (ball and ring) of the mastic should preferably be 30°-40° C. for coal-tar pitch, and may be as high as 45° C. for bitumen, in order that the adhesives shall be workable at the heating temperature, and yet not brittle at normal temperatures. Bitumen is preferable to coal-tar pitch from the point of view of danger of overheating and plasticity over the normal temperature range.

Considering the dryness of the wood blocks, it might be advisable to oil or wax the surface after relaying, in order to minimize the risk of moisture absorption and consequent swelling.

It might be added in general terms that satisfactory work in wood-block flooring must necessarily be somewhat in the nature of a compromise. The blocks must be dried before laying to a moderate moisture content, otherwise they will shrink and the joints will open. It must be recognized, however, that a new building is considerably damper in its early history than it would be expected to be after one or two heating seasons. If the blocks are too dry they will take up moisture in the early, damp phase of the building, and will then expand, and under such conditions they often come up from their bed in an arch. Usually some shrinkage of the blocks is to be expected when the building is thoroughly dried and, and if loosening is to be avoided, the mastic must be a suitable one, and care must be taken in laying the blocks to observe the precautions indicated above.

Loosening of Terrazzo Floor in an Operating Theatre

¶ *ARCHITECTS reported that in an operating theatre the terrazzo flooring had been laid in squares with vulcanite dividing slips. Certain of the squares had become loose and water had evidently penetrated between the terrazzo and the vulcanite. There was also pink discoloration at the edges.*

Without a detailed knowledge of the composition and method of laying a particular terrazzo floor and the conditions of the concrete sub-floor, it is not possible to say precisely what is the cause of lifting and loosening. All concrete products undergo a certain shrinkage on drying out from the originally moist condition as mixed and placed. The extent of this shrinkage varies somewhat with the characteristics of the concrete, and tends to be higher with rich mixes or with those of a high water content. It is, therefore, likely that terrazzo, which is generally made with a mix rich in cement and having aggregate not well graded according to ordinary principles of concrete design, will exhibit a tendency to shrinkage in a rather high degree.

The cracking of terrazzo floors laid in large continuous areas seems to be fairly prevalent, and it is for this reason that the floor is often divided into small areas by means of strips of vulcanite or other material. The shrinkage is thereby localized and any cracking rendered inconspicuous. However, even small areas between the dividing strips tend to shrink during the drying-out process. As this drying takes place first at the upper surface, there is a tendency for the corners and edges of the sections to warp and lift, so that it is sometimes found that the slabs are loose around the edges though the centre portion may be still firmly adherent.

In order to overcome the tendency to shrinkage and warping, it is necessary to secure the best possible adhesion between the terrazzo and the concrete sub-floor and so restrain the movement. The laying of the terrazzo is generally preceded by the application of a screed of cement mortar, used to level the irregularities in the sub-floor and secure good adhesion, but the second aim is often defeated by the fact that the surface of the sub-floor is in an unsuitable condition for the application of the screed. The surface of the concrete should be hard and free from dust. Any soft material resulting from laitance must be removed by hacking until good, sound concrete is exposed. The surface to which the terrazzo is applied must then be wetted down ; care must be taken that the suction is not entirely destroyed, but at the same time is not so excessive that the water will be withdrawn from the screed and leave it weak and porous and quite unable to give the strongest possible adhesion between the terrazzo and the sub-floor.

From some work which has been carried out at this Station on the bonding of concrete, it has been found that the application of a cement slurry to the sub-floor immediately before the screed is applied markedly improves the bond with the hardened concrete. After wetting down the concrete, the slurry of neat cement or 1 : 1 cement and sand is applied and followed at once with the screed. The composition of the screed is not a matter of indifference. A mortar of good quality is required, made with clean sand and Portland cement in the proportions of 2½ or 3 parts to one of cement.

A chemical examination would be necessary to discover the nature of the pink discolouration. In view of the great variety of disinfectant and other solutions which might be applied to or dropped on to the floor, we hesitate to make any suggestions as to the cause of the staining. It may be mentioned, however, that in one case of pink discolouration of joints in the floor tiling of an operating theatre, investigation showed it to be due to the absorption of mercuric iodide, and this is a possible cause in the present instance.

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

Following are the names of the general contractors and some of the sub-contractors for the buildings illustrated in this issue :—

Swimming Pools, Roehampton (pages 125-128, 133-136). General contractors, Bolton and Lakin, Ltd. Quantity Surveyor, Mr. William C. Inman, P.A.S.I. Sub-contractors : Cement Marketing Co., Ltd., all cement, including Ferrocrete for reinforced concrete and Cullamix for paving for surrounds, etc. ; Paterson Engineering Co., Ltd., filter plant ; Henry Hope and Sons, Ltd., metal windows, lantern lights, etc. ; John Bolding and Sons, Ltd., sanitary fittings, footbaths, drinking fountains, etc. ; S. W. Francis & Co., Ltd., shutters ; Rust's Vitreous Mosaic and Tile Co., tiling at back of cascade fountain ; Art Metal Construction Co., steel lockers and litter baskets ; Yannedis and Co., ironmongery, door furniture, etc. ; Leeds Fireclay Co., Ltd., glazed scum channels, non-slip coping around pools and Shepwood partitions in lavatories ; Flexo Plywood Industries, Ltd., metal-faced plywood for dressing-boxes, etc. ; Patent Victoria Stone Co., Ltd., reconstructed stone for curbs, lamp standards, columns to loggias, seats, etc. ; Benjamin Edginton (Silver and Edginton), Ltd., lifebuoys, flagstaffs and ropes between posts around pool ; Ham Baker & Co., Ltd., special manhole covers, etc. ; Haywards, Ltd., diving stages, water chute and roof ventilators. Materials supplied by the Cementone Products, Joseph Freeman and Sons, Ltd. Inside of pools coated with Cementone synthetic paint. All exterior brickwork coated with Cementone stonefacing composition. All interior brickwork coated with Cementone synthetic flat paint. G. W. Franklin and Son, electrical installation ; Holophane, Ltd., electrical fittings for under-water lighting and cascade ; Z. D. Berry and Sons, heating apparatus for heating water in pools and hot-water installation ; W. M. Still and Sons, Ltd., kitchen apparatus ; Mander Bros., Ltd., paint ; Kelvinator, Ltd., refrigerator ; P. D. R. Signs, sign-writing ; John Tann, Ltd., safe door ; The British Reinforced Concrete Co., Ltd., Stafford, and Twisteel Reinforcement, Ltd., reinforcement for concrete floors and roof ; The London Brick Co. and Forders, Ltd., bricks.

●

ANNOUNCEMENT

Messrs. William and Edward Hunt have taken into partnership Mr. James Henry Greenwood, A.R.I.B.A., who has been with the firm for fifteen years and has hitherto occupied the position of chief assistant. The style of the firm will remain as William and Edward Hunt.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

COULSDON. *Houses.* Plans passed by the U.D.C. : 36 houses, Woodlands Grove, for Mr. P. Richardson ; five houses, Woodplace Lane, for Mr. T. M. C. de Koning ; two houses, Melrose Road, for Mr. H. Salter ; 36 houses, Nutfield Road, for Messrs. C. F. Smith and Co. ; two houses, Brigstock Road, for Mr. H. S. Griffiths ; six houses, Meadway, for Mr. W. H. Hoadley.

ENFIELD. *Houses and Roads.* Plans passed by the U.D.C. : Seven houses, Rotherfield Road, for Mr. J. T. Sharpe ; two factory buildings, Stockingswater Lane, for The Ruberoid Co. ; six houses, Rincote Road, for Messrs. G. H. Chappell, Sons & Co. ; new street and houses, Buckingham Close, for Messrs. W. Goodchild & Co. ; 34 houses, Bullsmoor Lane, for Mr. C. E. O. Ward ; new street, Old Park estate, for Mr. C. W. D. Walden. Plans submitted : Factory, Lea Valley Road, Ponders End, for Messrs. Dunsmore Bros. ; new streets and 68 houses, off Suffolk Road, Ponders End, for Edmonton Estates, Ltd.

LEWISHAM. *Clinic.* At a joint meeting of the Maternity and Child Welfare and Health Committees of the B.C., the question of the erection of a maternity and child welfare clinic and tuberculosis dispensary on the Priory site, High Street, was further considered, and it was decided to recommend that the plans now submitted be approved, and that, subject to the approval of the Ministry of Health, tenders be invited for carrying out the work, at an estimated cost of £14,427.

NORTHOLT. *Houses.* Messrs. Taylor, Woodrow, Ltd., are to erect 233 houses in Lady Margaret Road, Northolt End, Middlesex.

SANDERSTEAD. *Houses.* Plans passed : Two houses, North Down, for Mr. H. P. Hawkes ; five houses, Mitchley View, for Mr. T. F. G. Matthews ; branch bank, Cranleigh Parade, for Mr. H. J. Axten ; two houses, Onslow Gardens, for Messrs. Brice & Co. ; two houses, Farm Fields, for Mr. W. Foreman ; four houses, Farm Fields, for Messrs. Sinden and Tompkins ; 26 houses, Limpsfield Road, for Messrs. Markin, Archer & Co. ; two houses, Gordon Avenue, for Mr. J. P. Warren ; two houses, Riddlesdown Avenue, for Mr. G. Peskett ; 10 houses, Sundridge Road, for Industrial Builders, Ltd.

SOUTHALL-NORWOOD. *Houses, Factories, etc.* Plans passed by the U.D.C. : 18 houses, Windermere Road, 23 in Ascot Gardens and 22 in Somerset Road, for Messrs. G. Wimpey & Co., Ltd. ; three houses, Sherbourne Avenue, for Messrs. Warren and Woods ; factory extensions, Western Road, for Cramic Engineering Co. ; 80 houses, Southall Park Estate, for Messrs. R. Fielding and Son ; 16 houses, Delamere Road, for Hayes Brodge Estate, Ltd. ; 43 houses, Fairfield Road, for Property Development and Construction Co. ; factory extensions, Brent Road, for International Tea Stores, Ltd. ; four flats, North Road, for Mr. W. Rubenstein.

WANDSWORTH. *Alterations.* The L.C.C. is to enlarge the technical institute at a cost of £56,280.

WATFORD. *Showrooms.* The corporation has approved plans for the erection of showrooms for the electricity department at an estimated cost of £23,000.

WOOLWICH. *Alterations.* The governors of the Polytechnic are to enlarge the premises at a cost of £60,000.

SOUTHERN COUNTIES

SWINDON. *Bungalows.* Plans passed by the Corporation : Six houses, Moredon Road, for Messrs. E. H. Bradley and Sons ; two bungalows, Ferndale Road, for Mr. A. J. Colborne ; 57 houses, Croft Road, for Mr. A. J. Colborne ; additions, Farringdon Road, bungalow, Broadway, and lay-out for 36 houses, Cricklade Road, for Messrs. R. J. Beswick and Son.

SOUTH-WESTERN COUNTIES

BRISTOL. *Re-housing.* The Corporation has arranged for a rehousing scheme at a cost of £113,375 for tenants to be displaced from the Great Ann Street area.

TORQUAY. *Houses.* Plans passed by the Corporation : Two houses, Trumlands Road, for Mr. E. Faulkner; nine houses, Wrights Lane, for Mr. P. D. Cavanna ; six houses, Ash Hill, for Mr. J. H. Chapple : two houses, Burridge Road, for Chelston Building Co.

MIDLAND COUNTIES

HANLEY. *Houses.* Plans passed : Six houses, Rothesay Avenue, for Messrs. G. and R. Whymark ; four houses, Argyle Road, for Mr. J. Thomson ; 26 houses, Ivyhouse Road, for Mr. G. T. Smith ; two houses, Abbey Lane, for Mr. W. Withington ; five houses, Clifton Street, for Messrs. Bradley and Bailey ; 14 houses, Rothesay Avenue, for Mr. J. Grice ; four houses, Oak Street, for Mr. E. Lawton ; 14 houses, Raymond Street, for Mr. R. W. Beswick.

SUTTON COLDFIELD. *Houses.* Plans passed by the Corporation : Two houses, Burnett Road, for Mr. E. Gill ; two houses, Chester Road, for Mr. L. E. Hewitt ; two houses, Chester Road, for Messrs. F. and H. Judd ; 10 houses, Cremorne Road, for Mrs. Harrison ; two houses, Queslett Road, for Mr. H. Clegg ; three shops and houses, Thornhill Road, for Mr. Hughes ; four shops and dwellings, Walsall Road, for Messrs. T. Morgan and Sons. Plans submitted : Shops, Bakers Lane and Kingstanding Road, for Mr. W. S. Brockington ; 40 houses, Clarence Gardens, for Mr. A. Robinson ; three houses, Green Lanes, for Mr. L. W. James ; three houses, Jockey Road, for Mr. J. J. W. Aston.

WOLVERHAMPTON. *Houses, etc.* Plans passed by the Corporation : Three houses, Bilston Road, for Mr. W. H. Bourton ; two houses, Three Tuns estate, for Mr. W. Sharratt ; four houses, Jones Avenue extension, for Mr. T. Jones ; Fives Court, Compton Road, for Wolverhampton Grammar School Governors ; eight houses, Grosvenor Street, for Mr. G. H. Guest ; seven houses, Wells Road, for Messrs. E. Leach and Co. ; two houses, Woodland Road, for Mr. J. J. Towers ; two houses, Middle Vauxhall, for Mr. A. H. Taylor ; two houses, Alexandra Road, for Mr. S. E. Hodgetts; two shops and showrooms, Market Street, for Sterling Estates, Ltd. ; two houses, Newbolds Farm estate, for Mr. F. Turner ; 12 houses, Green Lane, for Messrs. Blackburn and Crossland ; two houses, Finchfield Lane, for Messrs. Davies and Gwilliam ; two bungalows, Finchfield estate, for Mr. R. F. G. Lockley ; 68 houses, Fallings Park, for Mr. A. M. Griffiths ; four houses, Pendford Lane, for Mr. M. H. Taylor ; seven houses, Warstones Road, for Mr. Jones ; 52 houses, Nine Elms Lane, for Mr. F. Walker ; four houses, Woodland Road, for Mr. W. Hughes ; two houses, Wolverhampton Road, for Mr. I. Brown.

NORTHERN COUNTIES

LEEDS. *Crematorium, etc.* The Corporation has authorized the expenditure of £11,600 for the erection of a crematorium, chapel, and office at Cottingley Hall cemetery.

RAWTENSTALL. *Houses.* The Corporation is to obtain tenders for the erection of 80 houses on the Prospect Hill and North Road sites.

SCARBOROUGH. *Houses, etc.* At the Housing Committee of the Corporation the borough engineer submitted plans and estimate for the construction of roads and sewers, and the erection of 208 houses and 32 flats on the Northstead estate in connection with the rehousing of persons displaced from clearance areas, etc. The Committee approved the plans for the construction of roads and sewers and instructed the engineer to vary the plans for the erection of houses to provide for the erection of 164 "A" type three-bedroomed houses, 24 "A" type two-bedroomed houses, and 20 "A" type four-bedroomed houses, and to obtain tenders for the erection of such houses. It was also decided to take no further action at present with regard to the proposed erection of 32 flats.

SCARBOROUGH. *Houses.* Plans passed by the Corporation : Two houses, Northstead Road, for Mr. A. E. Wright ; two houses, Devonshire Drive, for Mr. A. C. Wells ; two houses, Cromwell Parade, for Mr. E. C. Tasker ; six houses, Spring Hill Road, for Messrs. A. Moore and Son ; four houses, Filey Road, for Messrs. Watson and Ritson ; 14 houses, Scholes Park Road, for Mr. J. H. Harris.

SHEFFIELD. *Flats.* The Corporation is to erect 64 flats in the Lambert Street district, at an estimated cost of £28,110.

SHEFFIELD. *Houses, etc.* Plans passed by the Corporation : Six houses, Stradbroke Road, for Mr. A. Owen ; 36 houses, Rippon Road, for Messrs. T. V. and W. L. Simpson ; six houses, Granville Road, for Messrs. A. and E. Tate ; 40 houses, Hereward Road, for Messrs. Oxspring Bros. ; two houses, Stradbroke Road, for Mr. S. Sanderson ; two houses, Abbeyfield Road, for Mr. E. Gardham ; 14 houses, off Park Lane, Totley, for Mr. R. E. Sheard ; six houses, Spurr Street, for Messrs. T. Wilkinson and Son, Ltd. ; 24 houses, Tee Road, for Mr. C. H. Beardow ; six houses, Downing Road, for Mr. F. Talbot ; four houses, Crawshaw Avenue, for Messrs. Wright and Walton ; four houses, Falkland Road, for Mr. D. Richerby ; two houses, Bents Drive, for Mr. H. E. Mottram ; six shops and houses, Ridgeway Road, for Mr. J. F. Bullen ; 42 houses, Duncan Road, for Mr. D. Topliss ; 38 houses, off Tree Root Walk, for Messrs. J. H. S. Randall, Ltd. ; two bungalows, Blackmoor Road, for Mr. W. Marshall ; three houses, Alison Road, for Mr. W. Westlake ; 23 houses, Bolehill Lane ; for Mr. J. Silman ; 18 houses, Hungingdon Crescent, for Messrs. Allsop and Marshall ; six houses, Louth Road, for Mr. R. Watson ; two houses, Carterknowle Road, for Mr. W. Croft ; seven houses, Earl Marshal Road, for Mr. J. W. Broadhead ; five houses, Norton Lees Lane, for Mr. H. Hammett ; six houses, Downing Road, for Mr. F. Talbot ; six houses, Vickers Road, for Messrs. J. Copley and Sons ; 30 houses, St. Laurence Lane, and Bawtry Road, for Mr. T. H. Bailey ; four houses, Shiregreen Lane, for Mr. F. Clifton ; two houses, Shirecliffe Lane, for Messrs. Winton Hayes, Ltd. ; eight flats, Abbeydale Road, for Mr. T. Bookless ; four houses, Causeway Head Road, for Mr. G. T. Glossop ; eight shops and houses, Foxwood estate, for Hallewell Estates, Ltd. ; two houses, Hallam Grange Rise, for Mr. H. Newton ; four houses, Old Park Road, for Mr. F. H. Undrell ; three houses, Selborne Road, for Mr. E. Andrews ; 28 houses, Hastilar Road, for Mr. J. C. Mason ; 21 houses, Laird Drive, for Messrs. W. Marlow and Sons, Ltd. ; 12 houses, Hasting Road, for Mr. J. T. Redmile ; four houses, Springfield Road, for Mr. W. Green ; six houses, Crimicar Lane, for Mr. C. Simpson ; two houses, School Lane, for Messrs. M. J. Gleeson, Ltd. ; four houses, Bell Hagg Lane, for Mr. J. Jubb ; workshops, Arundel Lane, for Sheffield Smelting Co.

SOUTH SHIELDS. *Houses, flats, etc.* Plans passed by the Corporation : Two bungalows, Clyvedon Rise, for Mr. C. Rogers ; six houses, West Avenue, for Messrs. R. Thornton and Sons ; five shops and 50 houses, Mortimer Road, Cauldwell Avenue, Page Avenue, and Warwick Road, for Messrs. Henderson Bros. ; flats, John Clay Street, 28 houses, Greathead Street and Corney Street, and shop, Westcott Road, for Mr. F. W. Newby ; flats, West Holborn, flats, Savile Street, and showroom, Sunderland Road, for Mr. H. Hill ; flats, Imeary Street, for Mr. W. J. Robertson ; shop and flat, Reading Street, for Messrs. Walter Hanson and Son ; two flats, Vine Street, for Mr. R. W. Weir.

WALLASEY. *Houses.* The Corporation has approved plans for the erection of 72 houses in the Mersey Street area. Plans are to be prepared for the erection of 50 houses at the Pasture Road estate.

YORK. *Aerodrome.* The Corporation is to purchase compulsorily 162 acres in the parishes of Clifton Without and Rawcliffe for the provision of an aerodrome.

TENDER ACCEPTED

The Sheffield Corporation has accepted the tender £28,457 8s. 4d., of Messrs. W. Malthouse, Ltd., for the erection of 86 houses on the Shiregreen estate.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A_1	Abergavenny ..	S Wales & M.	1 5	1 0½
A	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A_2	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie ..	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B_2	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
A_2	Atherstone ..	Mid. Counties	1 4	1 0
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry ..	S. Wales & M.	1 5½	1 1½
B_2	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_2	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham	Mid. Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth ..	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton ..	N.W. Counties	1 5½	1 1½
A_2	Boston ..	Mid. Counties	1 4	1 0
A_2	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A	Brighton ..	S. Counties	1 4	1 0
A	Bristol ..	S.W. Counties	1 5½	1 1½
B_2	Brixham ..	S.W. Counties	1 2½	11
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B_2	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
	Burslem ..	Mid. Counties	1 5½	1 1½
	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury ..	N.W. Counties	1 5½	1 1½
A_1	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff ..	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A_2	Chelmsford ..	E. Counties	1 4	1 0
A_2	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester ..	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B	Chichester ..	S. Counties	1 3	11½
A	Chorley ..	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A_2	Colchester ..	E. Counties	1 4	1 0
A	Colne ..	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe ..	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby ..	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorchester ..	S.W. Counties	1 2½	11
A	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N.E. Coast	1 5½	1 1½
A_2	EASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE	E. Counties	1 4	1 0
A_2	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S.W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	Gosport	S. Counties	1 4½	1 0½
A_2	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull ..	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B_2	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln ..	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A_2	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_2	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid. Counties	1 5½	1 1½
A_2	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford ..	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth ..	Scotland	*1 5½	1 1½
A_2	Peterborough ..	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A_2	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A_2	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby ..	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_2	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	Slough ..	S. Counties	1 4½	1 0½
A_1	Solihull ..	Mid. Counties	1 5	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_2	Stafford ..	Mid. Counties	1 5	1 0½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud ..	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swadlincote ..	Mid. Counties	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A_2	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist. ..	N.E. Counties	1 5½	1 1½
A_2	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay ..	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall ..	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick ..	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid. Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby ..	Yorkshire	1 4½	1 0½
A	Widnes ..	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor ..	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A_2	Wycombe ..	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 7
Mason (Banker) . . . . . ,,	1 8
,, (Fixer) . . . . . ,,	1 7
Plumber . . . . . ,,	1 8
Painter . . . . . ,,	1 7
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 6
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 7
Timberman . . . . . ,,	1 3
Navvy . . . . . ,,	1 3
General Labourer . . . . . ,,	1 2½
Lorryman . . . . . ,,	1 2½
Crane Driver . . . . . ,,	1 5
Watchman . . . . . ,,	1 6
. . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . . per ton	2 2 0
Blue Lias Lime . . . . . ,,	1 16 6
Hydrated Lime . . . . . ,,	3 0 9
Portland Cement, in 4 ton lots (d/d site, including Paper Bags) . . ,,	1 18 0
Rapid Hardening Cement, in 4 ton lots (d/d site, including Paper Bags) ,,	2 5 6
White Portland Cement, in 1 ton lots ,,	8 15 0
Thames Ballast . . . . . per Y.C.	6 3
¾" Crushed Ballast . . . . . ,,	6 9
Building Sand . . . . . ,,	7 3
Washed Sand . . . . . ,,	8 3
2" Broken Brick . . . . . ,,	8 0
¾" ,, ,, ... ,,	10 3
Pan Breeze . . . . . ,,	6 6
Coke Breeze . . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . . per F.R	0 9	1 1
Bends . . . each	1 9	2 6
Taper Bends . . ,,	3 6	5 3
Rest Bends . . ,,	4 3	6 3
Single junctions . . ,,	3 6	5 3
Double ,, . . ,,	4 9	6 6
Straight channels . per F.R.	1 6	2 6
¾" Channel bends . each	2 9	4 0
Channel junctions . ,,	4 6	6 6
Channel tapers . ,,	2 9	4 0
Yard gullies . ,,	6 9	8 9
Interceptors . ,,	16 0	19 6
IRON DRAINS:		
Iron drain pipe . per F.R.	1 6	2 6
Bends . . . each	5 0	10 6
Inspection bends . ,,	9 0	15 0
Single junctions . ,,	8 9	18 0
Double junctions . ,,	13 6	30 0
Lead wool . . lb.	6	—
Gaskin . . . ,,	5	—

BRICKLAYER

	£ s. d.
Plettons . . . . . per M.	2 18 0
Grooved do. . . . . ,,	3 0 0
Phorpres bricks . . . . . ,,	2 17 3
Phorpres Cellular bricks . . . ,,	2 17 3
Stocks, 1st quality . . . . . ,,	4 11 0
,, 2nd ,, ... ,,	4 2 6
Blue Bricks, Pressed . . . . . ,,	8 17 6
,, Wirecuts . . . . . ,,	7 17 6
,, Brindles . . . . . ,,	7 0 0
,, Bullnose . . . . . ,,	9 0 0
Red Sand-faced Facings . . . . ,,	6 18 6
Red Rubbers for Arches . . . ,,	12 0 0
Multicoloured Facings . . . . ,,	7 10 0
Luton Facings	7 10 0
Phorpres White Facings . . . ,,	3 17 3
Phorpres Rustic Facings . . . ,,	3 12 3
Midhurst White Facings . . . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . . ,,	21 0 0
Headers . . . . . ,,	20 10 0
Bullnose . . . . . ,,	27 10 0
Double Stretchers . . . . . ,,	29 10 0
Double Headers . . . . . ,,	26 10 0
Glazed Second Quality, *Less* . ,,	1 0 0
,, Buffs and Creams, *Add* . ,,	2 0 0
,, Other Colours . . . ,,	5 10 0
2" Breeze Partition Blocks . . ,,	
2½" . . . . . per Y.S.	1 7
3" ,, ,, ,, . . . ,,	1 10
4" ,, ,, ,, . . . ,,	2 1
6" ,, ,, ,, . . . ,,	2 6

MASON

The following d/d F.O.R. at Nine Elms:

	s. d.
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . . ,,	2 11
York stone . . . . . ,,	6 6
,, ,, Sawn templates . . ,,	7 6
,, ,, Paving, 2" . . . F.S.	1 8
,, ,, ,, 3" . . . ,,	2 0

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . . per M.	28 17 6
22" × 12" Marchionesses . . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . . ,,	15 10 0
18" × 9" Ladies . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, green ,, ,,	24 7 4
Best machine roofing tiles . . ,,	4 10 0
Best hand-made do. . . . ,,	5 0 0
Hips and valleys . . . . ,,	9½
,, hand-made . . . . each	10
Nails, compo . . . . . ,,	1 4
,, copper . . . . . lb.	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . . as 1" F.S.	9
Deal, Joiner's . . . . . ,, ,,	5
,, ,, 2nds . . . . ,, ,,	4
Mahogany, Honduras . . . ,, ,,	1 3
,, African . . . . ,, ,,	1 1
,, Cuban . . . . ,, ,,	2 6
Oak, plain American . . . ,, ,,	1 0
,, Figured ,, . . . ,, ,,	1 3
,, Plain Japanese . . . ,, ,,	1 2
,, Figured ,, . . . ,, ,,	1 5
,, Austrian wainscot . . ,, ,,	1 6
,, English . . . . ,, ,,	1 11
Pine, Yellow . . . . ,, ,,	1 0
,, Oregon . . . . ,, ,,	4
,, British Columbian . . ,, ,,	4
Teak, Moulmein . . . ,, ,,	1 3
,, Burma . . . . ,, ,,	1 2
Walnut, American . . . ,, ,,	2 3
,, French . . . ,, ,,	2 3
Whitewood, American . . ,, ,,	1 1
Deal floorings, ¾" . . . Sq.	18 6
,, 1" . . . ,,	1 1 6
,, 1¼" . . . ,,	1 2 0
,, 1½" . . . ,,	1 5 0
,, 2" . . . ,,	1 10 0
Deal matchings ¾" . . . ,,	14 0
,, 1" . . . ,,	15 6
Rough boarding ¾" . . . ,,	1 4 0
,, 1" . . . ,,	16 0
,, 1¼" . . . ,,	18 0
Plywood, per ft. sup. . . ,,	1 6 0

Thickness	¼"	½"	¾"	1"
Qualities	AA. A. B.	AA. A. B.	AA. A. B.	AA. A. B.
	d. d. d.	d. d. d.	d. d. d.	d. d. d.
Birch	4 3 2	5 4 3	7½ 6 4½	8½ 7 6
Alder	3½ 3 2	5 4 3	6½ 5½ 4½	8 7 6
Gaboon Mahogany	4 3 3	6½ 5½ 4½	9½ 7½ –	1/0½ 10 –
Figured Oak 1 side	8½ 7 –	10 8 –	11½ – –	1/6 – –
Plain Oak 1 side	6½ 6 –	7½ 7 –	9½ – –	1/– – –
Oregon Pine	5 4 –	5½ 5 –	6 – –	– – –

	d.
Scotch glue . . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:

(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	¼"	½"	1"	1½"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
,, 3"-11½" long ,,	7	9	1/3	1/8	3/–
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3
,, ,, 3"M-1½" long ,,	8	10	1/5	1/11	3/6
Bends . . . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/11½	1/11½	3/11
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . . ,,	1/–	1/3	1/10	2/6	5/1
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets ,,	4	6	9	1/–	2/–
Flanges . . . . ,,	9	1/–	1/4	1/9	2/9
Caps . . . . . ,,	3½	5	8	1/–	2/–
Backnuts . . . . ,,	2	3	5	6	1/1
Iron main cocks . . ,,	1/6	2/3	4/2	5/4	11/6
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–

Discounts:

TUBES.	Per cent.		Per cent.
Gas . . .	65	Galvanized gas .	52½
Water . . .	61½	,, water	47½
Steam . . .	57½	,, steam	42½
FITTINGS.			
Gas . . .	57½	Galvanized gas .	47½
Water . . .	52½	,, water	42½
Steam . . .	47½	,, steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 0
Mild steel reinforcing rods, ¾" . . . ,,	8 6
,, ,, ½" . . . ,,	8 3
,, ,, ⅝" . . . ,,	8 0
,, ,, ¾" . . . ,,	7 6
,, ,, ⅞" . . . ,,	7 6
,, ,, 1" . . . ,,	7 6
,, ,, 1¼" . . . ,,	7 6
,, ,, 1½" . . . ,,	7 6

Cast-iron rain-water pipes of ordinary thickness metal	3" s. d.	4" s. d.
	F.R	8	10
Shoes	each	2 0	3 0
Anti-splash shoes . .	,,	4 6	8 0
Boots	,,	3 0	4 0
Bends	,,	2 7	3 9
,, with access door . .	,,	—	6 3
Heads	,,	4 0	5 0
Swan-necks up to 9" offsets .	,,	3 9	6 0
Plinth bends, 4½" to 6" .	,,	3 9	5 3
Half-round rain-water gutters of ordinary thickness metal .	F.R.	5	6
Stop ends	each	6	6
Angles	,,	1 7	1 11
Obtuse angles . . .	,,	2 0	2 6
Outlets	,,	1 9	2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	18 6
,, drawn pipes . . . ,,	17 0
,, soil pipe . . . ,,	18 6
,, scrap . . . ,,	10 6
Solder, plumbers' . . . lb.	9½
,, fine do. . . . ,,	1 0
Copper, sheet . . . ,,	8½
,, tubes . . . ,,	11

L.C.C soil and waste pipes:	3"	4"	6"
Plain cast . . F.R.	1 0	1 2	2 6
Coated . . ,,	1 1	1 3	2 8
Galvanized . . ,,	2 0	2 6	4 6
Holderbats . . each	3 10	4 0	4 9
Bends . . . ,,	3 9	5 3	10 3
Shoes . . . ,,	2 10	4 4	9 6
Heads . . . ,,	4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . . per ton	2 5 0
Plaster, coarse . . . ,,	2 10 0
,, fine . . . ,,	4 15 0
Hydrated lime . . . ,,	3 0 9
Sirapite . . . . ,,	3 6 0
Keene's cement . . . ,,	5 0 0
Sand, washed . . . . ,,	11 6
Hair . . . . . lb.	6
Laths, sawn . . . . bundle	2 4
,, rent . . . ,,	3 9
Lath nails . . . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft.	s. F.S.	2½
,, ,, 26 oz. ,, ,, ,, ,,		3½
Flemish, Arctic, Figured (white)* ,,		7
Blazoned glasses . . . ,,		2 6
Reeded; Cross Reeded ,,		11
Cathedrals: eleven varieties (white)* ,,		6½
Crown sheet glass (n/e 12 in. x 10 in) ,,		2 0
Flashed opals (white and coloured) ,,	1 0 and 2	0
¾" rough cast; rolled plate . . ,,		7
¾" wired cast; wired rolled . . ,,		10
¾" Georgian wired cast . . ,,		11
¾" Polished plate, n/e 1 ft. . ,,	†10 to ‡1	1
,, ,, 2 . . ,,	†1 2 ,, ‡1	4
,, ,, 4 . . ,,	†2 3 ,, ‡2	6
,, ,, 8 . . ,,	†2 9 ,, ‡3	2
,, ,, 20 . . ,,	†3 7 ,, ‡4	2
,, ,, 45 . . ,,	†3 11 ,, ‡4	7
,, ,, 100 . . ,,	†5 0 ,, ‡5	7
Vita glass, sheet, n/e 2 ft. . ,,		1 3
,, ,, over 2 . . ,,		1 9
,, ,, plate, n/e 2 ft. . ,,		3 0
,, ,, ,, 7 . . ,,		5 0
,, ,, ,, 15 . . ,,		6 0
,, ,, ,, over 15 . . ,,		7 6
"Calorex" sheet 21 oz., and 32 oz. ,,	2 6 and 3	6
,, rough cast ¾" and ½" ,,	8½ ,, 1	0
Putty, linseed oil . . . lb.		3

*Colours 1d. F.S. extra.

†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s. d.
White lead in 1 cwt. casks . . cwt.	2 6 0
Linseed oil . . . . gall.	2 2½
Boiled oil . . . . ,,	2 4½
Turpentine . . . . ,,	4 1½
Patent knotting . . . ,,	14 0
Distemper, washable . . . cwt.	2 6 0
,, ordinary . . ,,	2 0 0
Whitening . . . . ,,	4 0
Size, double . . . . firkin	3 0
Copal varnish . . . . gall.	13 0
Flat varnish . . . . ,,	14 0
Outside varnish . . . ,,	16 0
White enamel . . . . ,,	1 15 0
Ready-mixed paint . . . ,,	13 6
Brunswick black . . . ,,	7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR		£	s.	d.
Digging over surface n/e 12" deep and cart away	Y.S.		2	9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.		8	6
" to form basement n/e 5' 0" deep and cart away	"		9	0
" " 10' 0" deep and cart away	"		9	6
" " 15' 0" deep and cart away	"		10	0
If in stiff clay	add		2	6
If in underpinning	"		4	0
Planking and strutting to sides of excavation	F.S.		1	0
" " to pier holes	"			5
" " to trenches	"			5
" " extra, only if left in	"			3
Hardcore, filled in and rammed	Y.C.		10	0
Portland cement concrete in foundations (6-1)	"	1	6	0
(4-2-1)	"	1	12	6
" " underpinning	"	1	16	0
" " Finishing surface of concrete, spade face	Y.S.			7

DRAINLAYER		4" s. d.	6" s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
" junctions		3 9	4 6
Gullies and gratings	"	16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER		£	s.	d.
Brickwork, Flettons in lime mortar	Per Rod	27	10	0
" " in cement	"	28	15	0
" Stocks in cement	"	35	0	0
" Blues in cement	"	52	0	0
Extra only for circular on plan	"	2	0	0
" backing to masonry	"	1	10	0
" raising on old walls	"	2	0	0
" underpinning	"	5	10	0
Fair Face and pointing internally	F.S.			1½
Extra over fletton brickwork for picked stock facings and pointing	"			8½
" " " red brick facings and pointing	"			11
" " " blue brick facings and pointing	"		1	4
" " " glazed brick facings and pointing	"		3	6
Tuck pointing	"			7
Weather pointing in cement	"			3½
Slate dampcourse	"			10
Vertical dampcourse	"		1	1

ASPHALTER		s.	d.
½" Horizontal dampcourse	Y.S.	4	6
½" Vertical dampcourse	"	6	9
½" paving or flat	"	4	0
1" paving or flat	"	5	6
1" × 6" skirting	F.R.	1	0
Angle fillet	"		2
Rounded angle	"		2
Cesspools	Each	5	0

MASON		s.	d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17	9
Bath stone and do., all as last	"	13	6
Artificial stone and do.	"	13	0
York stone templates, fixed complete	"	10	6
" thresholds	"	13	6
" sills	"	1	0	6

SLATER AND TILER		£	s.	d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr.	3	10	0
Do., 18" × 9"	"	3	7	0
Do., 24" × 12"	"	3	17	0
Westmorland slating, laid with diminished courses	"	6	0	0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3	0	0
Do., all as last, but of machine-made tiles	"	2	16	0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	"	4	6	0
" " " " " (green)	"	4	15	0

CARPENTER AND JOINER		£	s.	d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2	5	0
Shuttering to sides and soffits of beams	F.S.			8
" to stanchions	"			8
" to staircases	"		1	8
Fir and fixing in wall plates, lintols, etc.	F.C.		3	9
Fir framed in floors	"		4	6
" " roofs	"		6	6
" " trusses	"		7	6
" " partitions	"			8
¾" deal sawn boarding and fixing to joists	Sqr.	1	14	6
1" " " " "	"	1	17	6
1¼" " " " "	"	2	3	0
2" × 2" fir battening for Countess slating	"		9	6
Do. for 4" gauge tiling	"		12	0
Stout feather-edged tilting fillet	F.R.			4½
Patent inodorous felt, 1 ply	Y.S.		2	3
" " " 2 "	"		2	9
" " " 3 "	"		3	3
Stout herringbone strutting to 9" joists	F.R.			10½
1" deal gutter boards and bearers	F.S.		1	2
1¼" " " "	"		1	6
¾" deal wrought rounded roll	F.R.			8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2	1	0
1¼" do.	"	2	10	0
1½" do.	"	2	17	0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S.		1	6
1¼" do.	"		1	9

CARPENTER AND JOINER—*continued*		s.	d.
1¼" deal moulded sashes of average size	F.S.	1	9½
2" " " " "	"	1	11½
1¼" deal cased frames double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ¾" parting beads, and with brass faced axle pulleys, etc., fixed complete	"	3	7
2" " " " "	"	3	10
Extra only for moulded horns	Each		6
1¼" deal four-panel square, both sides, door	F.S.	2	0
2" " " " "	"	2	8
1¼" " but moulded both sides	"	2	4
2" " " " "	"	3	0
4" × 3" deal, rebated and moulded frames	F.R.	1	0
4½" × 3½" " " "	"	1	4
1½" deal tongued and moulded window board, on and including deal bearers	F.S.	1	9
1½" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2	6
1¼" deal moulded wall strings	"	2	1
1½" " outer strings	"	2	4
Ends of treads and risers housed to string	Each	1	9
3" × 2" deal moulded handrail	F.R.	1	3
1" × 1" deal balusters and housing each end	Each	2	0
1½" × 1½" " " "	"	2	9
3" × 3" deal wrought framed newels	F.R.	1	3
Extra only for newel caps	Each	6	0
Do., pendants	"	6	0

SMITH AND FOUNDER		£	s.	d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.		15	6
Riveted plate or compound girders, and hoisting and fixing in position	"		19	6
Do. stanchions with riveted caps and bases and do.	"		19	0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	"		17	6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.			11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1	10	0

PLUMBER		£	s.
Milled lead and labour in flats	cwt.	1	12
Do. in flashings	"	1	15	6
Do. in covering to turrets	"	2	3	0
Do. in soakers	"	1	7	6
Labour to welted edge	F.R.			3½
Open copper nailing	"			3
Close " "	"			4

Lead service pipe and fixing with pipe hooks	½" s. d.	¾" s. d.	1" s. d.	1¼" s. d.	2" s. d.	4" s. d.
	F.R. 10	1 0	1 3	2 0	2 10	—
Do. soil pipe and fixing with cast lead tacks	—	—	—	—	—	5 6
Extra, only to bends	Each —	—	—	—	2 0	6 9
Do. to stop ends	" 6½	8	9	11	1 0	—
Boiler screws and unions	" 3 3	3 9	5 0	8 0	—	—
Lead traps	" —	—	—	6 3	8 9	—
Screw down bib valves	" 6 9	9 6	11 0	—	—	—
Do. stop cocks	" 7 0	9 6	12 6	—	—	—

		s.	d.
4" cast-iron ½-rd. gutter and fixing	F.R.	1	0
Extra, only stop ends	Each	1	0
Do. angles	"	1	6
Do. outlets	"	2	9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.	1	2
Extra, only for shoes	Each	1	3
Do. for plain heads	"	5	6

PLASTERER AND TILING		s.	d.
Expanded metal lathing, small mesh	Y.S.	2	0
Do. in n/w to beams, stanchions, etc.	"	2	9
Lathing with sawn laths to ceilings	"	1	3
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	"	1	5
Do. vertical	"	1	7
Rough render on walls	"	1	2½
Render, float and set in lime and hair	"	1	9
Render and set in Sirapite	"	1	11
Render, backing in cement and sand, and set in Keene's cement	"	2	9
Extra, only if on lathing	"		4
Keene's cement, angle and arris	F.R.		6
Arris	"		1½
Rounded angle, small	"		3
Plain cornices in plaster, including dubbing out, per 1" girth	"		1½
1" granolithic pavings	Y.S.	3	6
1½" " "	"	4	6
6" × 6" white glazed wall tiling and fixing on prepared screed	"	17	6
9" × 3" " " " "	"	1	2	6
Extra, only for small quadrant angle	F.R.			8

GLAZIER		s.	d.
21 oz. sheet glass and glazing with putty	F.S.		7½
26 oz. do. and do.	"		8½
Flemish, Arctic, Figured (white) and glazing with putty	"	1	1
Cathedral glass and do.	"	1	2
Glazing only, British polished plate	"		7
Extra, only if in beads	"		2
Washleather	F.R.		4

PAINTER		s.	d.
Clearcolle and whiten ceilings	Y.S.		6
Do. and distemper walls	"		9
Do. with washable distemper	"	1	1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	"	3	3
Do. on woodwork	"	3	6
Do. on steelwork	"	3	0
Do. and brush grain and twice varnish	"	5	6
Stain and twice varnish woodwork	"	1	11
Stain and wax-polish woodwork	"	4	6
French polishing	F.S.	1	2
Stripping off old paper	Piece	2	0
Hanging ordinary paper from	"		9

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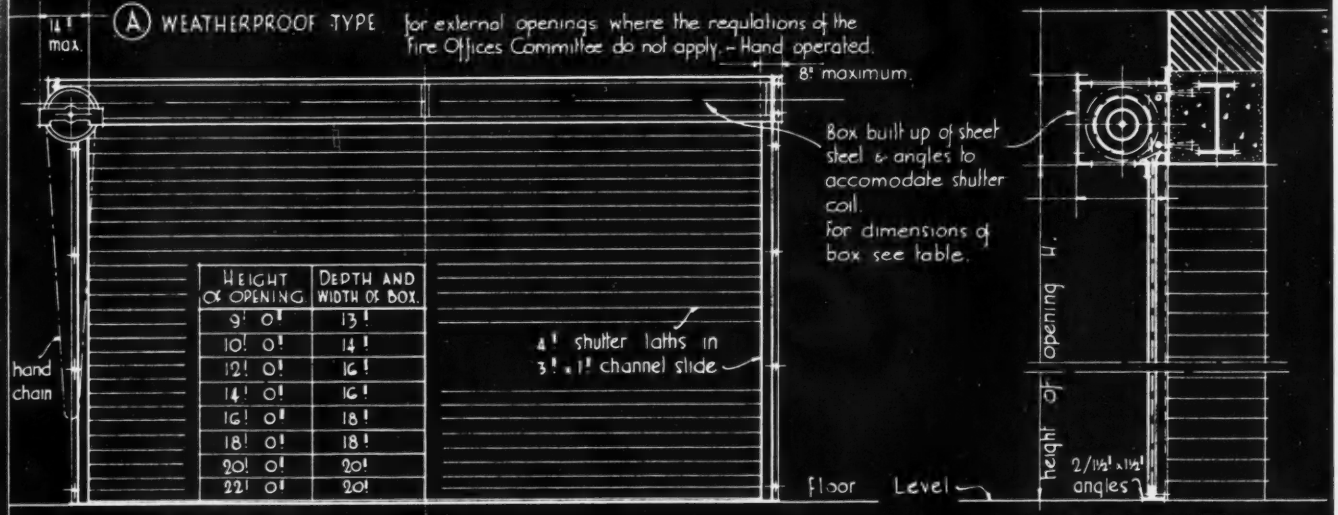
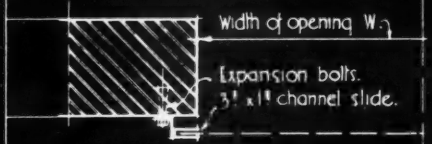
(A) WEATHERPROOF TYPE for external openings where the regulations of the Fire Offices Committee do not apply. – Hand operated.



Height of Opening	Depth and Width of Box.
9' 0'	13'
10' 0'	14'
12' 0'	16'
14' 0'	16'
16' 0'	18'
18' 0'	18'
20' 0'	20'
22' 0'	20'

¼' Scale Inside elevation.

½' Scale Section

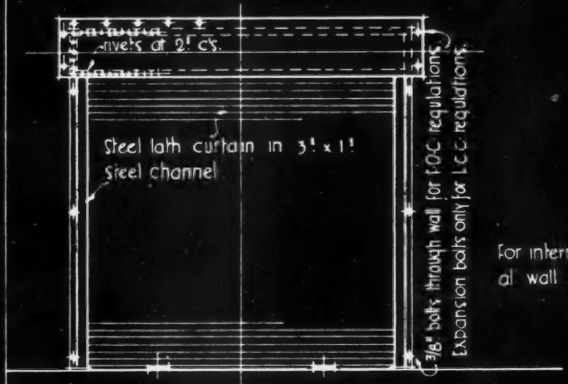


½' Scale plan of jamb.

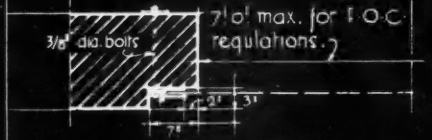
Operating : optional methods :
1. Hand chain and worm reduction gearing as shown, suitable for openings over 10' 0' wide or 8' 0' high. Standard method.
2. Detachable handles on side walls with vertical shaft and worm gearing.
3. Electrical gearing operated by side wall buttons.
4. Up to 7' 0' high x 60 sq. ft., lifting handles on bottom rail of curtain.

Steel lath wicket doors or steel louvred ventilating laths are incorporated where required.

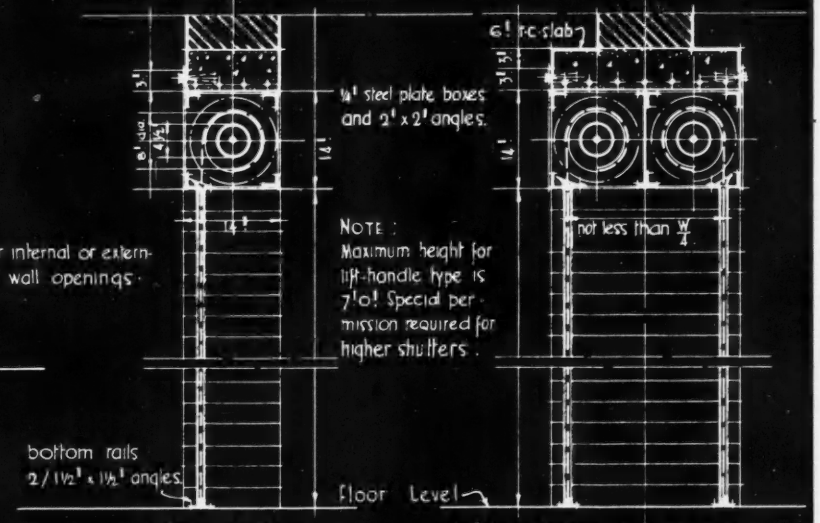
(B) FIREPROOF TYPES HAND OPERATED to requirements of the Fire Offices Committee.



¼' Scale Inside elevation.



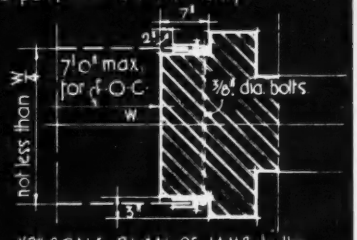
½" SCALE PLAN OF JAMB to regulations of the Fire Offices Committee.



½' Scale Section of single door type.

½' Scale Section of double shutters to party wall to F.O.C. only.

Operating : optional methods :
1. Lift-handles only : as shown.
2. Hand chain with worm gearing as shown in weatherproof shutter "A" above
3. Hand wheel, vertical shaft, and worm gearing.
4. Detachable drop-grip handles mounted on wall with vertical shaft and worm gearing.



½" SCALE PLAN OF JAMB to the Fire Offices Committee only.

Information from John Booth & Sons (Bolton) Ltd.

INFORMATION SHEET : STEEL LATH ROLLING SHUTTERS.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1

Supplement to THE ARCHITECTS' JOURNAL for July 26, 1934

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

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ROLLING SHUTTERS

Type of Product: Weatherproof Shutters and Fireproof Shutters

WEATHERPROOF TYPE:

Weatherproof Shutters are for external openings such as loading docks, warehouses, works entrances, garages, etc., and all cases where Fire Insurance Regulations do not apply. This type of shutter may be supplied over 40′ 0″ in width.

Weatherproof Shutters are composed of interlocking lath curtains, channel guides, tubular barrel with helical balancing springs, end brackets, worm reduction gearing with hand chain operation. The smaller shutters are fitted with handles to the bottom rail for lifting purposes. Hoods can be provided if required. Shutters to large openings may be electrically operated.

FIREPROOF TYPE:

Fireproof Shutters are fitted to openings subject to Fire Regulations and are generally to division walls, hoist wells and staircases.

Fireproof Shutters are constructed in accordance with the F.O.C. Regulations. Alternative methods of raising the curtain may be employed.

1: Lifting handle for smaller openings, say 7′ 0″ in height.

2: Worm reduction gearing with hand chain operation.

3: Gear, vertical shaft and handle operation.

The Fire Offices Committee specify that the openings to which shutters are fitted shall not exceed 56 super ft. nor be more than 7′ 0″ in width or 9′ 0″ in height. The guides must be set on the wall at least 2″ and the fastenings must go clean through the jamb. Hoods also must be accommodated within the thickness of the wall.

OTHER TYPES:

For details of L.C.C. and Fire Brigade Regulation Shutters, see future Information Sheet.

Name of Manufacturers: John Booth & Sons (Bolton) Ltd.
Address: Hulton Steel Works, Bolton
Telephone: Bolton 1195
London Office: 36 Victoria St., S.W.1
Telephone: Victoria 7162

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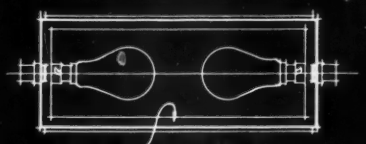
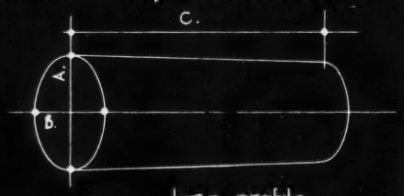
1. HORIZONTAL SURFACES : ceilings, showcases, etc.



Detachable, curved glazed cover.



Line profile.

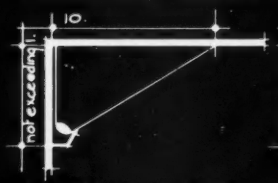
Dimensions of Trough only:
A : 5 1/2 Ins.
B : 3 1/2 Ins.
C : 13 1/4 Ins.

Elevation of Cornice Trough mounted on 3/4" conduit for Tubular or General Service Lamps. Trough is rotatable around lampholders for adjustment of beam. Closest possible spacing of troughs, 17" centres.

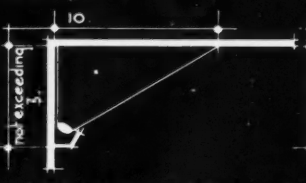
TABLE OF SIZES ETC : Note : mirror reflector has parabolic contour in all models.

CAT. Nº	LAMPS.	HOLDERS.	REFLECTORS.	COVER GLASS.	BEAM WIDTH.	CUT-OFF.	SPACING.	MOUNTING. SEE DIAGS.	LENGTH OVER LAMPHOLDERS.
3151	Tubular Line filament. 30, 60 or 100 watt.	Centre contact.	Mirror.	Clear.	65° 71½°	60°	20 Ins.	Not exceeding 1 : 10	15 1/4 Ins. 16 1/4 Ins.
3152	Do.	Do.	Do.	Stippled	61° 30°	90°	20 Ins.	Not exceeding 3 : 10	15 1/4 Ins. 16 1/4 Ins.
3160	Ordinary Lamps. 15, 25, 40 & 60 watt.	B.C.	Do.	Clear.	75° 90°	90°	30 Ins.	Exceeding 3 : 10	14 3/4 Ins.
3161	Hairpin or Pearl.	B.C.	White Cellulose	Do.	80° 76°	76°	30 Ins.	Exceeding 3 : 10	14 3/4 Ins.

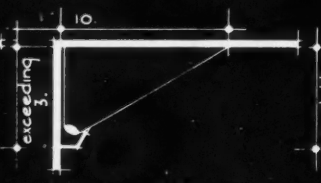
MOUNTING DIAGRAMS :



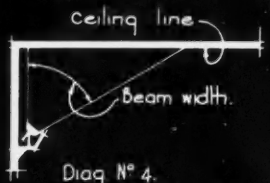
Diag. Nº 1 : for Cat Nº 3151: Providing uniform illumination over ceiling when cornice is exceedingly close thereto. A streak on the end wall will occur with Nº 3151, if this is objectionable, Nº 3152 should be used.



Diag. Nº 2 : for Cat Nº 3152: By the use of stippled cover glass, beam is softened & the effect is more pleasing. This also spreads beam in cross section to give uniform illumination on ceiling when cornice is at more normal distance.



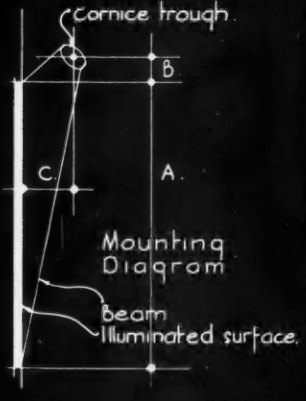
Diag. 3 Cat Nºs 3160 or 3161: Where the distance from ceiling to cornice is large use of ordinary lamps gives desired effect. The beam is spread still further in cross section to maintain uniformity of ceiling lighting under these conditions.



Diag Nº 4. Projectolux or Intensolux fittings : for use where cornice not available, but effect of cornice lighting desired. House these Industrial Section fittings in console brackets as shown in diag. Beam spread, 15° to 80°

Note :
Where first cost is considered of more importance than high efficiency or effect, Cornice Trough with white cellulose sprayed interior is used. Under conditions of diags Nºs 1 & 2, illumination will fall off to centre, but if cornice is low as diag 3, the uniformity of ceiling lighting will be reasonably good.

2. VERTICAL SURFACES : signs, pictures, fascias, etc. with troughs either above or below.



MOUNTING DATA : for spacing of troughs at not more than 20" c'rs.

A = HEIGHT OF SURFACE.	B = DISTANCE ABOVE TOP.	C = DISTANCE OUT.
Up to 5 Ft.	1 Ft. 0 Ins.	0 Ft. 6 Ins.
Up to 10 Ft.	1 Ft. 6 Ins.	1 Ft. 0 Ins.
Up to 15 Ft.	1 Ft. 6 Ins.	1 Ft. 6 Ins.

CALCULATING WATTAGE & SPACING OF TROUGHS :
A : Horizontal surfaces : With light walls and ceiling allow three watts per square foot of floor area, divide twice length of longest lighting cornice by spacing of chosen fitting = number of troughs for room lit from 2 long sides at five foot candles.
B : Vertical surfaces : Allow four & a half watts per square foot of area to be illuminated = illumination of ten foot candles. Maximum depth A, at this luminosity is 15 feet, with closest possible trough spacing, i.e. 17" c/s.

Information from The Benjamin Electric Ltd.

INFORMATION SHEET. ELECTRIC LIGHTING : TOTALLY INDIRECT CORNICE SYSTEM.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1.

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CORNICE LIGHTING

Name of Product : Cornice Lighting Trough, Totally Indirect

In cornice lighting the illumination is entirely indirect, and the source of light, as represented by the lamps and fittings, is concealed from view.

The increasing favour with which this type of lighting has been regarded of recent years is not difficult to explain.

In the first place it affords a large expanse of low-brightness diffused illumination, so that the effect is both pleasing and restful from a lighting point of view.

Secondly, it lends an air of spaciousness and dignity to the room or hall in which it is employed, since the eye is not disturbed nor the head-room broken up by the pendant fittings.

And finally, it is an eminently practical form of lighting from an installation point of view, requiring no specific provisions of a structural nature. Since the cornice which carries the reflector units also conceals the wiring, the "making good" charges are reduced to a minimum.

The possible objections to this type of lighting in the past have been that a cornice of somewhat obtrusive design was necessary to accommodate the units available, and also that the dust which collected in the cornice required frequent removal from the reflectors if efficiency was to be maintained.

It will be seen that the Benjamin Cornice Trough Reflectors overcome entirely both these disabilities.

The disposition and type of the cornice troughs employed is, of course, a matter which is determined by the distance of the cornice below the ceiling.

The table, explanatory notes and diagrams given in this Sheet show how the design of the Benjamin Cornice Trough is modified in the various types, so as to make provision for various architectural lay-outs. In each case the design allows the attainment of an even degree of brightness over the entire ceiling. This is, of course, an axiomatic requirement where cornice lighting is concerned.

Calculating the Installation :

The factors determining the wattage to use per trough, and also the spacing of the troughs are :

A.—Area of room to be lighted.

B.—Value of illumination required on working plane.

C.—Height of room.

D.—Type of walls and ceiling. (This includes both the colour and finish.)

The last of these factors controls to a very large extent the success of the installation. For this reason as much attention should be directed to the colour and finish of the walls and ceiling as to the position and type of trough used.

The best results are obtained with a matt finish ceiling of an ivory or white colour. While the colours of the walls should be light, it sometimes happens that it is impossible to achieve this, and walls of dark colour must be used. In that case the wattage used must be increased depending upon the depth of colours prevailing.

The Lighting Unit :

The Benjamin Cornice Trough Unit is of very high efficiency, and compact design (the maximum cross-sectional dimension is $5\frac{1}{2}$ in.,) and is fitted with a rounded glass cover which effectually excludes dust and is simple to clean.

The removal of the cover for relamping is a simple matter involving the undoing of two snap-clasps.

Owing to the special optical construction, the utilisation efficiency of this reflector is very high, and the uniformity is such that the sheet of light maintains its candle-power to the point on the surface furthest away from the reflector. For these reasons the Benjamin Cornice Reflector is adapted to the lighting of vertical surfaces, such as pictures, tapestries, mural decorations, and for small floodlighting installations, the mounting details for these locations are given on this Sheet.

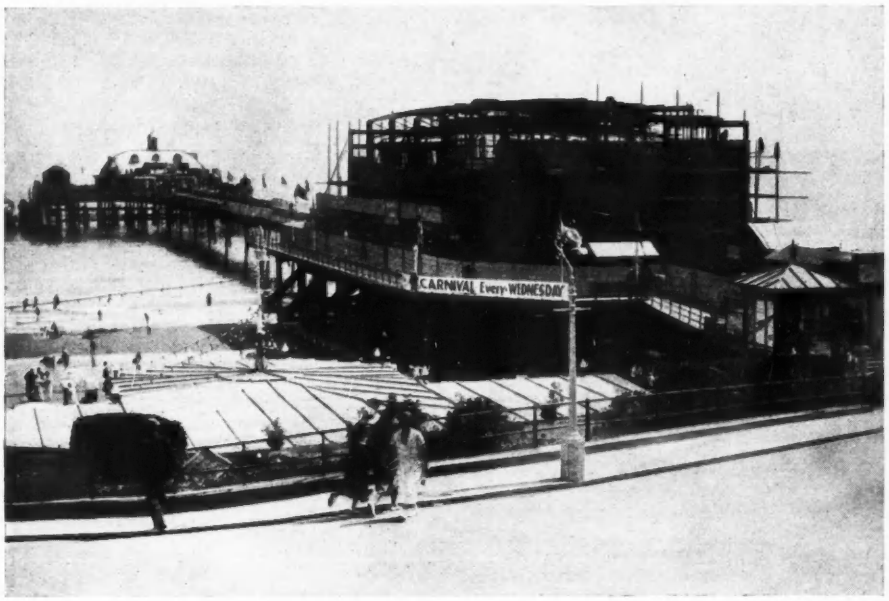
Name of Manufacturers : Benjamin Electric, Ltd.

Address : Tariff Road, Tottenham, London, N.17

Telephone : Tottenham 1500

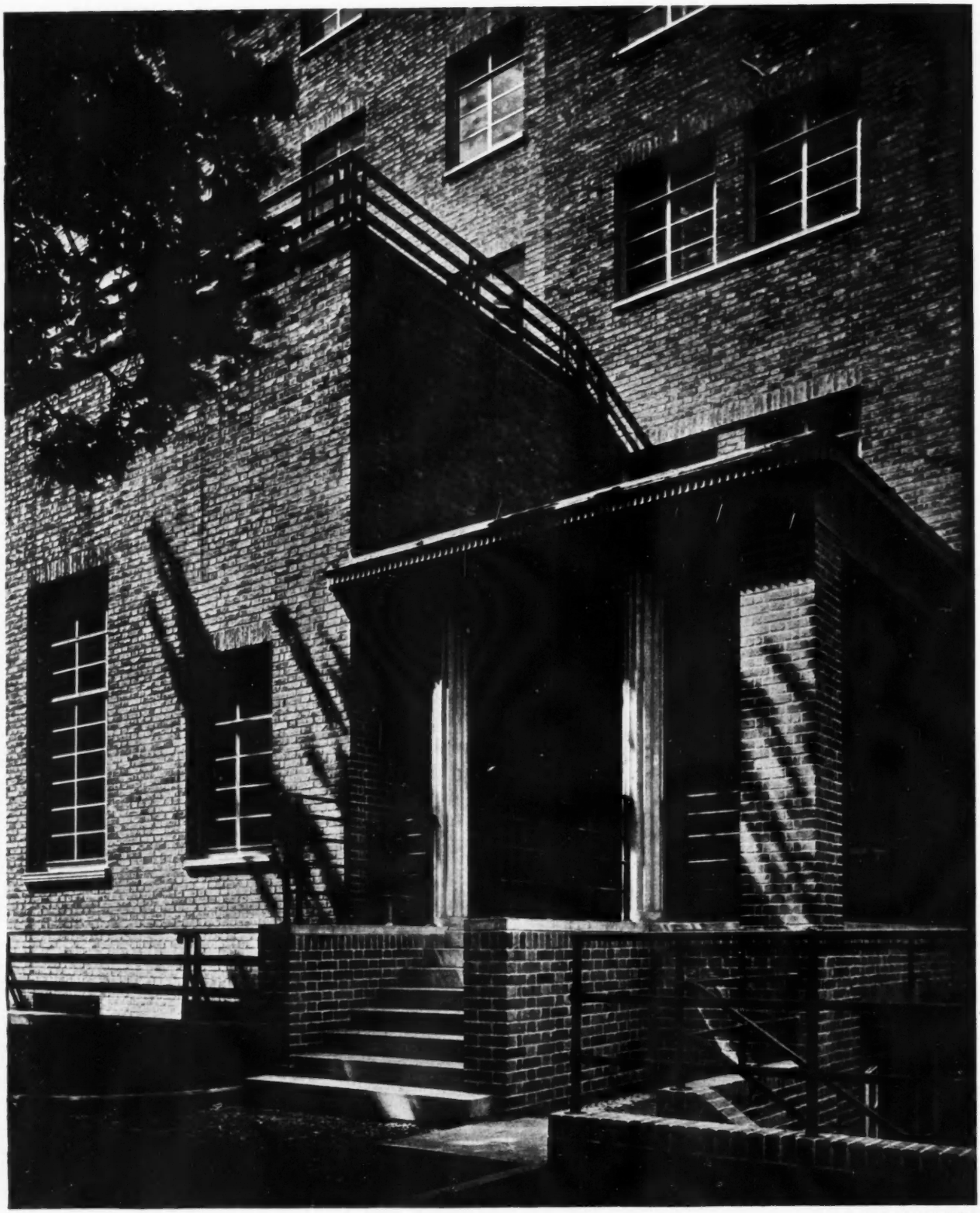
Telegrams : Benjalect, Tottlane, London

NEW PIER PAVILION
AT SANDOWN, ISLE OF WIGHT



DAILYPRESS

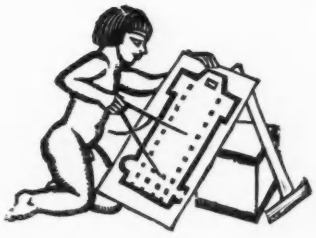
ABOVE is a photograph of the new theatre and concert hall, now in course of construction, on the Pier at Sandown, Isle of Wight. Designed by Mr. A. Douglas Clare, A.R.I.B.A., the building is estimated to cost £26,000 and will be completed early in October.



DELL AND WAINWRIGHT

NURSES' HOUSE AT THE HOSPITAL FOR SICK CHILDREN, LONDON

The new Nurses' House at the Hospital for Sick Children in Guilford Street, W.C., has recently been completed from the designs of Messrs. Stanley Hall and Easton and Robertson, and is the first block to be built in a scheme involving the entire replanning of the hospital. Above is a photograph of the south porch. Further illustrations of the building are given on pages 158-162 of this issue.



PETROL FILLING STATIONS

IT used to be considered a mark of provincialism to talk about " the parish pump," but when the pump in question is a *petrol* pump, it is quite another matter. Today it behoves us to regard a petrol pump with a peculiar and concentrated attention with a view to finding out whether " something can be done about it." The newspapers have long inveighed against it and various cultural agencies such as the C.P.R.E. have made suggestions for curbing its extravagances and for making it appear a little more civilized. Yet the towns require to be protected from this menace just as much as does the countryside. The word " menace" is, of course, here used strictly in its " artistic " sense, for to a motorist there may be occasions when a petrol pump of even the most outrageous design appears almost as an angel of light. The trouble about the petrol pump is that it seems to be trying to be too bright and too engaging. Some kind of colour restraint is obviously the first desideratum. And, secondly, provision should be made for determining the exact localities, whether in town or country, where the petrol stations should be allowed, and, where they should *not* be allowed.

As far as the metropolitan area is concerned, the matter has at last been taken in hand, most energetically, and we may congratulate the London County Council upon the admirable enactment which it accepted on July 24. The new bye-laws are " pursuant to the provisions of the section II of the Petroleum (Consolidation) Act, 1928, for regulating the appearance or prohibiting the establishment of petroleum filling stations in certain streets and places in the County of London." The first section deals with the preservation of amenities and declares that " No person shall establish or occupy any visible petroleum filling station in any street to which these bye-laws apply unless the appearance of such filling station is such as not to affect injuriously the enjoyment by the public of any place of beauty or public interest or any street or place which is of interest by reason of its picturesque character or any public park or pleasure promenade or any view of or from any rural scenery." It may be assumed that the term " picturesque " is here employed not in its corrupt and latter-day connotation but meaning capable of forming a *picture* in the true sense of this word. It is noteworthy that the list of streets and places where petrol filling stations have been prohibited is very well chosen. We note with especial satisfaction that the neighbourhood of Carlton House Terrace is now rendered for ever immune from this particular kind of desecration and rejoice that this noble piece of architecture is treated with so much greater respect by the L.C.C. than by the officials of Crown Lands. Among other streets and places which have the benefit of a similar protection (to mention at random a few names of special interest) are Dulwich Village, Chiswick Mall, Church Row, Hampstead, Bedford Square, Staple Inn, Park Crescent, Dean's Yard, and, of course, Whitehall.

The bye-law also contains a list of " controlled " streets in which all petrol stations must comply with definite regulations as to materials and conduct, and the following points are insisted upon. The name of the filling station and its occupier may be displayed only once, and in a position not higher than the level of the lowest part of the roof, by means of letters not exceeding twelve inches in height. For the purpose of indicating the brand of fuel or oil supplied from any pump or container lettering and trade marks may be displayed on the pump itself or lantern attached to it. The provisions as to colour schemes are also clearly defined. " There may also be displayed on the pump a horizontal band not more than nine inches wide; on the container a horizontal band not more than six inches wide ; and neither of such bands shall be painted in more than one colour so, however, that upon any pump or container of such colour as not to be readily distinguishable from the band the margins of any such band may be painted in one other colour to a width not exceeding one quarter of an inch." This seems an admirable regulation inasmuch as it prevents the clash of discordant colours so commonly to be found in the row of pumps, while at the same time it provides for the necessary distinguishing marks. Other regulations determine the materials to be used in the structure of the filling station. A wide choice is allowed in this respect, except that corrugated iron is expressly forbidden.

The L.C.C. has also laid down that a standard sign must be used to indicate the presence of a petrol filling station. This comprises a panel (an illustration of which appears on page 151) surmounted by a symbol of an arrow and wings. The design, although simple, is elegant, and the only criticism which could reasonably be directed against it is that wings arranged in this particular manner are now more generally associated with wireless telegraphy ; but this is a small point. The main thing is that the names of the various brands of fuel will for the first time be displayed decorously. In its recommendations for lettering the L.C.C. has " played for safety " and prescribes the famous Trajan column type which hitherto has been so appropriately used on tomb-stones designed in the classic manner. But there is no great harm done and it may well be that from the bewildering array of modern types of lettering no generally acceptable choice could have been made.

It may be hoped that other municipalities will take note of these bye-laws for regulating the appearance of petrol filling stations, so that the example of the L.C.C. will have a beneficent effect far outside the area under its jurisdiction.

The Architects' Journal
Westminster, S.W.1
Telephones: Victoria
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Telegrams:
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London

NOTES & TOPICS

CARLTON GARDENS

I MADE no definite promise not to refer to this again and I cannot refrain from a quiet, gentlemanly, rather Regency cheer at the statement of the First Commissioner of Works in the House of Commons last week. What I mean is that we have won—(" we " signifying the vast body of people who would not wish to see demolished a gem of architecturally ordered thought, until, at any rate, we can be certain of replacing it).

*

The advisory committee has been thanked, and still remains as unofficial guardian of—dare I say?—Regency London. Carlton House Terrace is to remain architecturally intact, and no more commercial enterprises will be allowed to find their way into it. Hotels are explicitly banned. The roof of Pinchin Johnson's building must be allowed to go on sky-scraping—and we must be thankful for other small mercies.

*

Everything in the Gardens is lovely—to a degree. But I'm sorry about that roof.

SLUM

Although Parliamentarians are scattering this week for the summer recess, there will be considerable activity during the next two months behind the scenes in Whitehall. Sir Hilton Young is so determined to press ahead with his slum clearance programme that he is giving up part of his vacation to make personal visits to various cities, chiefly in the north of England.

*

For the time being the idea of a National Housing Commission has been knocked on the head by the Government's firm rejection of the proposals, but the scheme is by no means dead. The idea of a Commission has, of course, been approved by the Labour Party to find a place in their programme for the next election. Before then I think it will be found that Lord Amulree, Mr. Alfred Bossom, Sir Raymond Unwin, Lord Balfour of Burleigh, and others, will use all their influence to try and persuade the Government to extend the powers of the promised Advisory Housing Committee to be set up by the Ministry of Health in the autumn.

*

They would like this Committee to be given executive powers, and declare that such a body should be able to persuade local authorities to insist upon the Time and Progress Schedule being adopted on all housing schemes. But the Association of Municipal Corporations and similar bodies will certainly resist any attempt to set up any fresh executive organization.

SLOUGH

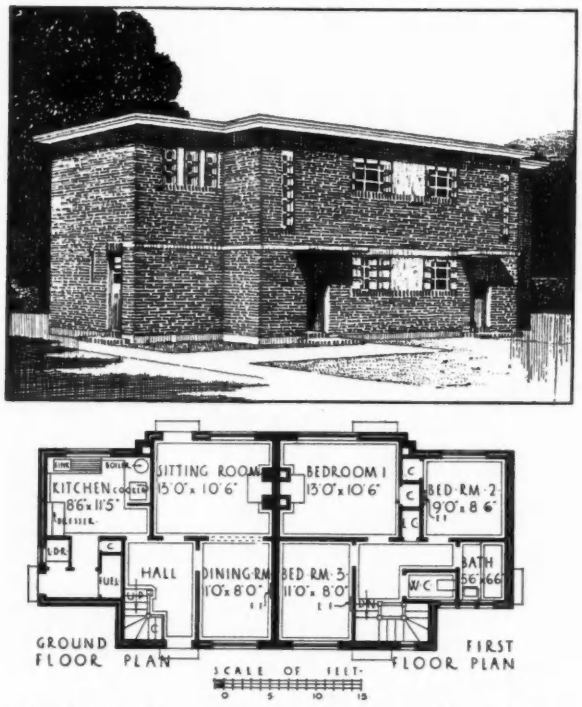
I see that a mild flutter has been caused in the local press because the Slough municipal offices drawings can only be seen by payment of an entrance fee. " Even if admission had been free, we doubt if there would have been any queueing up " (to see the designs). So writes *The Windsor Express*.

*

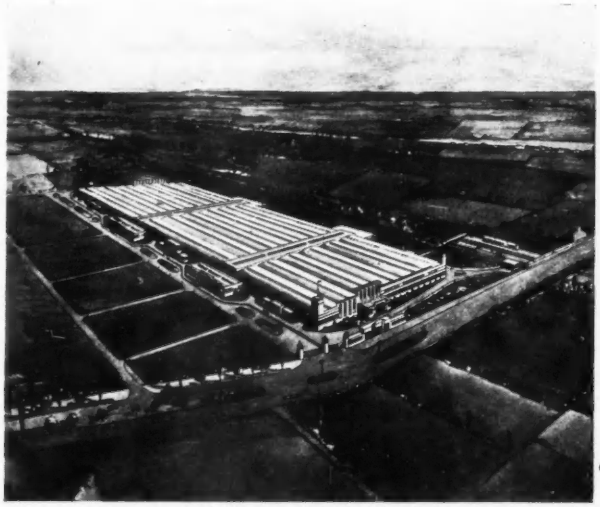
I suppose such an idea is rare. And yet I wonder whether the Slough Council is not quite right and subtly clever. It is an old trick to make people pay in order that they shall appreciate over-common blessings. Personally, I should never *give* away a puppy; I should make my best friend *pay* something, however little, as a surety that the dog would be regarded as *bought*, and therefore the more carefully to be looked after.

*

On the same principle I think there is much wisdom



At the Modern Homes Exhibition, Gidea Park: Class B (Cost, £800). By J. Moore Simpson, A.R.I.B.A.



To meet the demands for space at the British Industries Fair, Birmingham, which is to be held in May, 1935, the exhibition area is being increased by 150,000 sq. ft. Above is a drawing showing the complete scheme.

in this payment at Slough. It will not surprise me to hear that the public has flocked to see the competition drawings—drawn by that determination of mankind to do what is difficult or discouraged, and further stimulated by the idea that " If they are charging for a view it's good —let's go."

THE CASE METHOD OF TRAINING

Rather over a year ago I drew attention to the excellent training organized by the Department of Business Administration at the London School of Economics, which is under the direction of Mr. Jules Menken. The use of what is called the Case Method enables students to study actual problems of marketing, production and business administration.

*

This experiment in training has now proved successful, and its extension is contemplated. I discussed the application of the Case Method to problems of design in industry with several people who ought to have been interested, and some of them were ; but I have yet to discover its use in the training of designers.

*

Perhaps the Academy Exhibition next January will give an impetus to ideas like this ; although perhaps we are expecting too much from that Exhibition. But if only industrial concerns would give students of design actual problems to solve ; if our schools of design could adopt the Case Method, every other shop in England would in time be an exhibition of good design.

CROSSING THE ROAD BY ESCALATOR

It is suggested that subways under London streets should coax people away from the traffic by means of escalators. *Save Your Legs* is a slogan more likely than *Safety First* to appeal to the Londoner who can't be bothered with subway steps.

*

The next development (Wellsian, of course) may be moving ways along the pavement. This would simplify the traffic problem, as an architect, who did not pretend to be an expert in such matters, pointed out to me. Moving ways would relieve London of the necessity of having public vehicles, and with the disappearance of 'buses and taxis, the traffic problem would be solved.

*

I may be wrong, but I feel that the abolition of traffic would secure the support of Mr. A. P. Herbert, and I should like to hear a public debate between him and Mr. Frank Pick on the subject of the potential blessings of the escalator.

GRITH FYRD CAMPS

As a profession we do a good deal of talking about " preserving the countryside," whatever that means. Really the phrase is an abbreviation, the true sense being that we preserve it from encroachment of things we don't approve of.

*

Now and again we get a chance to do something constructive, and the Grith Fyrd movement is one such opportunity. These labour camps (if I may use the term without being misunderstood) are likely to spread, because the movement is a sound one ; the camps will spring up all over the country. Premises are wanted, and, whether they be permanent or temporary buildings, the keen desire is to see that they do not desecrate the landscape nor foul the cultivated sensibility.

*

Young architects are wanted to join the camps, study the requirements at first hand, and direct the unskilled labour which carries out the work.

*

Here is experience not easily gained. The practically minded may jump at such an opportunity. I hope they will. Meanwhile, a correspondent assures me, the camps are good fun, apart altogether from their intrinsic or inherent value. Those who are interested, either directly or indirectly, should write to the organizing secretary : Guy Keeling, Toynbee Hall, E.1.

GAS WARFARE AND HOUSE DESIGN

" It would be expensive, but quite practicable, to insist on gas-proof shelters in all new houses," wrote Professor J. B. S. Haldane in *The Evening Standard* recently. As the Air Force manœuvres have again revealed the helplessness of London and any other great city against air attack, the prospect of Londoners being gassed out is not impossible.

*

Professor Haldane advocates the formation of an anti-gas organization. If the funk that is re-starting the armaments race in Europe spreads, then the house of the near future may have concrete caves underneath it, and blocks of new flats may have basement after basement of anti-gas chambers.

*

" Out of the ground into the light " meant new freedom in architecture, and a new, clean civilization ; *under the ground into the dark* well expresses the despair of a civilization that is rotting down into a black age of militarism under the influence of the oldest fool in the world—the professional soldier.

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

Carlton House Terrace is to remain architecturally intact 148

If the armaments race in Europe spreads, then the house of the near future may have concrete caves underneath it, and blocks of new flats may have basement after basement of anti-gas chambers 149

"*The panels desire to work most cordially with the authorities and their officials, and not in any way to interfere with their powers or functions*" 150

"*The Tudor style of architecture is one of the most popular styles in use at the present time, and much in favour with architects and builders*" 172

R.C. CATHEDRAL, LIVERPOOL

Dr. Downey, the Archbishop of Liverpool, announced last week that work was about to begin on the east front of the new Cathedral—a section which would cost nearly £1,000,000 to complete. Sir Edwin Lutyens is the architect.

THE RUISLIP CASE

A letter appeared in *The New Statesman and Nation* for June 30, under the heading of "Architectural Censorship," from Mr. K. McFarlane, Chairman of the Ruislip-Northwood Urban Council, giving his Council's point of view about the Ruislip Case. This letter was replied to in the next issue by Messrs. Connell and Ward, the architects from whose design the case arose. Both letters were reprinted in our issue for July 12. Below we print another letter from Messrs. Connell and Ward, published in the current issue of *The New Statesman and Nation* :—

Sir,—As the Ruislip Arbitration case was the first of its kind and the question of co-operation between the building public and local authorities was the subject of comment in Mr. McFarlane's letter in your issue for June 30, we must ask you to allow us still further to clarify our position in relation to the Ruislip Council.

The Chairman suggests that we were negligent in failing to supply information relevant to an issue, which has only been raised since the arbitration, namely, the question of "details" of the proposed future development. It is "extraordinary" that, despite the offer of any further information, we received from the Council no request for these details.

If the Council felt that they had "no *definite* information" or that they were only "vague and general hopes" expressed in our Plea, would it not have been reasonable and proper, on the Council's part, to ask for a proposed lay-out scheme which, as was clearly stated in that Plea, had been not only prepared but approved by the owners of the land?

CONNELL AND WARD

THE ARCHITECTS' DIARY

Thursday, August 2

R.I.B.A. *Architects' Unemployment Committee. At 7 Bedford Square, W.C.1. Exhibition of work done under the Architects' Emergency Scheme. Open until further notice.*

MODERN HOMES EXHIBITION. *Gidea Park. Until August 20.*

HANTS. AND ISLE OF WIGHT ARCHITECTURAL ASSOCIATION. *At Cumberland House, Portsmouth. Annual Exhibition of members' works and the Prize Drawings of the R.I.B.A. (1934). Until August 25.*

Monday, August 6

BANK HOLIDAY.

THE PANEL SYSTEM

Sir Hilton Young, the Minister of Health, received a deputation last week from the Central Panels Committee of the C.P.R.E., R.I.B.A., and the Institute of Builders.

The deputation was introduced by Sir Percy Hurd, M.P., and there were present Mr. S. C. Ramsey, F.R.I.B.A., Mr. A. L. Roberts, F.R.I.B.A., E. Guy Dawber, F.R.I.B.A. (representing the R.I.B.A.); Sir Leslie Scott, K.C., Mr. G. H. Jack and Mr. H. C. Griffin (representing the C.P.R.E.); and Mr. L. A. Peyman (representing the Institute of Builders).

The deputation expressed the anxiety with which they viewed the "uglification" of the countryside due to the low standard still observed in many of the houses that were being erected. The matter was of growing importance, in view of the rapid increase in building that was now taking place, and was likely to continue. They desired in particular to draw the attention of the Minister to a report prepared by the Central Panels Committee containing recommendations for the improvement, and extended use, of the system of local advisory panels which had been made available to local authorities to assist them in dealing with the building plans submitted to them.

The deputation emphasized that the panels desired to work most cordially with the authorities and their officials, and not in any way to interfere with their powers or functions.

The Minister said in reply, that he shared to the full the desire of the Central Panels Committee that everything practicable should be done to secure a high standard of building and preserve the beauty of the countryside. The deputation were, indeed, preaching to the converted. He was, however, glad to believe that there were already some signs of improvement as compared, for example, with building in Victorian times. He welcomed the assurances of the deputation that they were seeking to work in cordial co-operation with builders, and he thought that means of progress were to be found in this direction.

The deputation were aware that a circular had been issued to local authorities in commendation of the panel system, and he would continue to take all practical measures to bring to the attention of local authorities the useful assistance which they could obtain from the Panels.

ANNOUNCEMENT

The firm of Wells Coates and Pleydell-Bouverie, practising as architects at 15 Elizabeth Street, London, S.W.1, has been dissolved by mutual consent. Mr. Wells Coates will carry on practising under his own name at the same address. (Tel. : Sloane 9266.) Mr. Pleydell-Bouverie will practice under his own name at 26 Sutherland Terrace, S.W.1 (Tel. : Vic. 3412.)

STANDARD SIGNS FOR PETROL FILLING STATIONS

On page 151 we reproduce one of the two standard signs for petrol filling stations in the London area, which are discussed in this week's leading article. The other sign is 3 ft. 9 in. wide by 7 ft. 6 in. high. The following description of the signs is reprinted from the report presented at last week's meeting of the L.C.C. :—

1. The symbol at the top of the sign is indicated by the letter A. The arrow and wings shall be gilt; the curved stay supports and the bolts securing them shall be black. The small circles on the shaft of the arrow indicate reflecting studs which should be dispensed with unless particularly required.

2. The part indicated by the letter B is a fixed panel. Only the name of the filling station or of the occupier thereof shall be inscribed on this panel.

3. The parts indicated by the letter C are movable panels. Only the names of the commodities sold at the filling station shall be inscribed on these panels.

4. The part indicated by the letter D is a fixed panel. There may be displayed on this panel any other inscription which is required.

5. The letters E indicate open spaces.

6. All the panels aforesaid, except so far as they are occupied by lettering or numerals, shall be black.

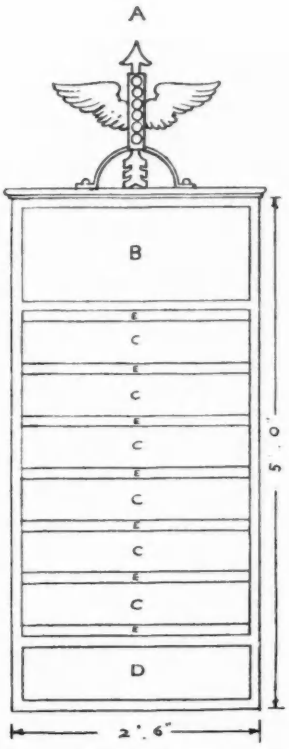
7. All lettering and numerals appearing on the sign shall be of the type shown and of a size not exceeding the scales indicated in Part 3 of this Schedule and shall be silver or white.

8. Subject to the foregoing requirements as to the character and colour of the said panels and of the lettering thereon, the said panels may be so made as to provide for their illumination at night.

9. All those visible parts of the sign with respect to which no provision as to colour has hereinbefore been made shall be scarlet.

10. The frame shall be provided with slotted sides for the insertion of the movable panels and provision shall be made for holding the panels in position.

11. The dimensions of the sign shall be as shown in one or other of the dia-



The smaller of the two standard signs for petrol filling stations in the London area. See note on the facing page.

grams and in accordance with the scales thereof;

Provided that the number of movable panels may be reduced to not less than three and the height of the sign reduced accordingly, so, however, that the width of the sign shall always be as shown in the said respective diagrams.

COMPETITION NEWS

COUNCIL SCHOOL, DUDLEY

The result of the competition for a proposed council school, Dudley, was announced last week as follows: Design placed first (£150): Messrs. S. N. Cooke and W. N. Twist, FF.R.I.B.A.; design placed second (£100): Messrs. Cherrington and Stainton, FF.R.I.B.A.; design placed third (£50): Messrs. Nicol and Nicol and Thomas, AA.R.I.B.A. The winning design is illustrated on pages 168-169 of this issue.

COMPETITION FOR POLICE STATION AND POLICE HOSPITAL, BISHOPSGATE

The City of London Corporation propose to hold an open competition for the rebuilding of Bishopsgate Police Station and Police Hospital. Premiums of £250, £100 and £50 are to be awarded for the designs placed first, second and third in competition. The estimated cost of the work is £100,000.

[*For Competitions Open, see last week's issue.*]

LETTERS FROM READERS

Dwellings for Aged Persons

MAJOR H. L. NATHAN, M.P.

SIR,—Housing reformers are anxiously awaiting the text of the new Housing Bill which is to be introduced into Parliament in November. May I express the earnest hope that the Bill will enable reasonable financial assistance to be given to local authorities for the provision of small dwellings of a type suitable for aged persons? In reply to a question which I put in the House of Commons on July 26, 1934, the Minister of Health stated that he was aware that there is an increasing demand for these dwellings in many parts of the country.

Section 46 of the Housing Act, 1930, empowered the Minister to pay an Exchequer subsidy of £5 per house annually for 40 years to local authorities who provided small dwellings (cottages, bungalows or flats) that would be definitely reserved for occupation by aged persons, whether married or single. Upwards of 4,000 of these houses have now been completed in England and Wales at an average cost of about £200 per house, exclusive of land and street works. The accommodation generally consists of a living room, scullery, bedroom and bath, with a total floor area of about 400 square feet. Rents, including rates, range from 5s. to 6s. 6d. a week.

Most unfortunately, this useful scheme was terminated by Sir Hilton Young at the end of 1932. Nevertheless, in view of the fact that there are tens of thousands of aged persons who only require small dwellings and who cannot possibly afford high rentals, it is essential that their housing needs should be regarded as a national responsibility and a public service.

H. L. NATHAN
House of Commons

Should Architects be Builders?

E. A. M.

SIR,—Are architects too artistic to be practical? They may not be so, but there is a prejudice in financial circles that implies a certain lack of confidence in the temperamental architect. I once tried to raise sufficient capital to launch a scheme of house building that would have been a handy precedent for more competent draughtsmen than myself. I intended to satisfy the small artisan with a house that would satisfy his pride without stinting his pocket. Free, above all, from the stigma of Corporation houses and their attendant restrictions.

So little did one firm of company promoters trust me that they brought in a bluff, hearty sort of speculative builder who never did anything that he hadn't done before. Result—fiasco.

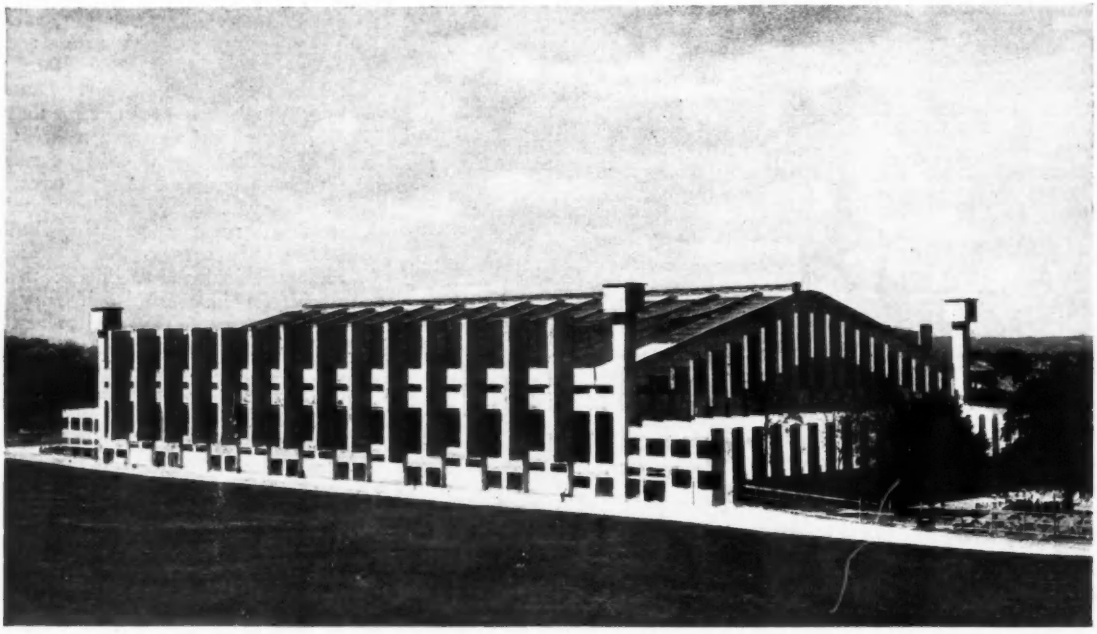
I am a retiring sort of fellow and contradiction pains me. And, as the builder really meant to show these moneyed men what was what, he upset all my arguments with absolute denials of their practical significance. Before the interview was over I was silently watching this blunt son of stone and lime wheedling the promoters into a service flat speculation that would return heaven alone knows how many hundred per cents! Possibly, the fault was mine in not asserting my arguments with more force than I had used. But it takes a great man to throw off the habit of years. My job had never called for "rough riding" of any description, and I was therefore sadly handicapped on this occasion.

And yet, although this experience chastened me quite a bit, I still believe that architects should enter the lists as promoters of building schemes. They ought to create building societies that will build every kind of fabric that there is any demand for. Beauty of line, sweetness of curves, and the symmetry of design are a habit with the architect that should be reflected on the façade of every street. We must have beauty, and we won't get it from most speculative builders, whose only care is the material use and practical value of the product. Architects have souls, if they have nothing else. They cannot rest content with four walls and a roof. They must have balance, they must have colour, they must have form; and, above all, they must mirror a little part of mysterious heaven in their decoration. Most speculative builders are the fiends of false economy. But architects follow the instructive course of their scholastic studies and cannot sacrifice a part of themselves for any material issue.

The restrictions on architects ought to be lifted. Let them advertise, provided they have a product worth selling. Our cities will become better, our housing schemes will no longer be blots upon the landscape, and lastly, our building artists will no longer have to go hat in hand to the local authorities or become public servants.

E. A. M.
Greenock

THE EMPIRE SWIMMING POOL,



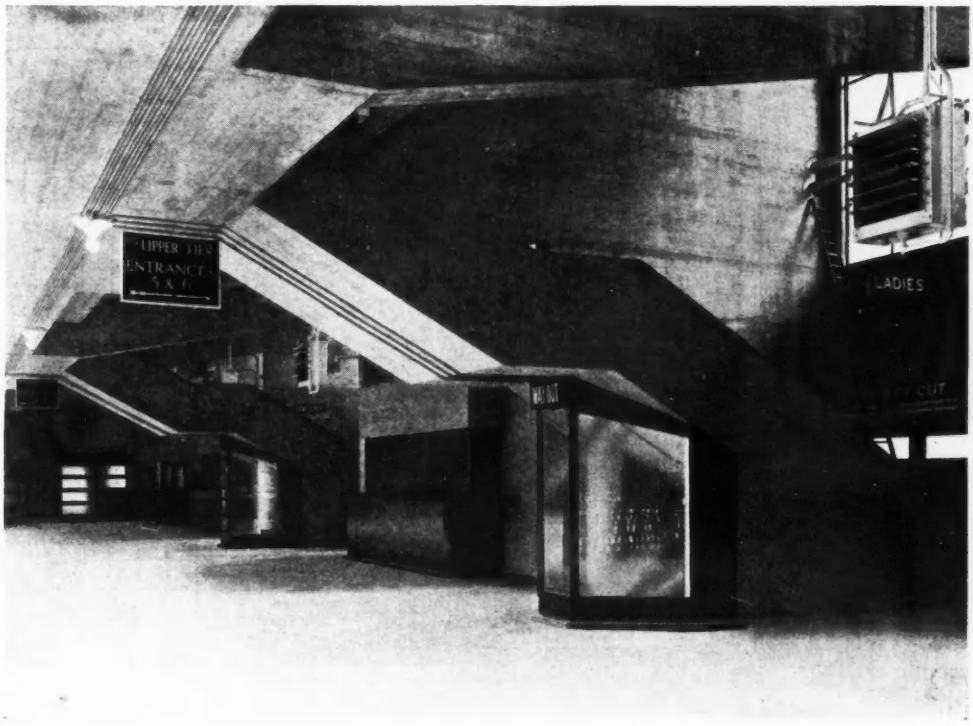
S. W. NEWBERY

In our last issue we published five photographs of the Empire Swimming Pool, Wembley, which was officially opened by the Duke of Gloucester on July 25. In this issue we reproduce a further selection of photographs, together with plans, sections and detail drawings.

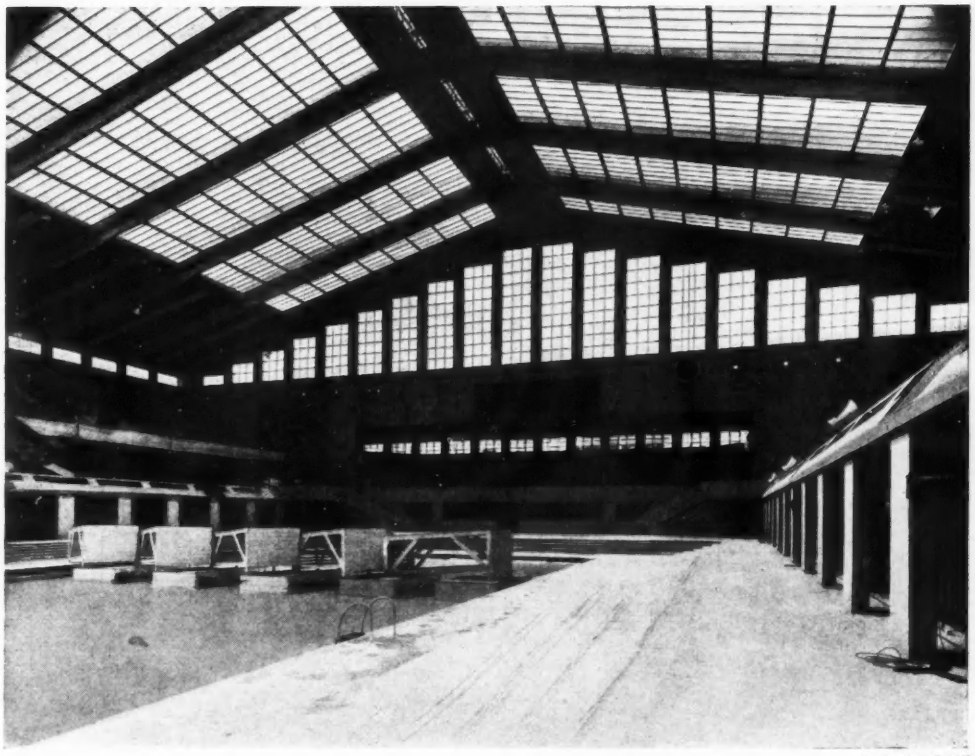
The new building, situated adjacent to the Empire Stadium, Wembley, is constructed entirely of reinforced concrete and was erected at a cost of £150,000. It is to be used for a variety of purposes, principally swimming, ice skating and tournaments.

The photographs show: above, the main entrance front (facing west); and, below, the south elevation.

WEMBLEY: BY SIR E. OWEN WILLIAMS, K.B.E.



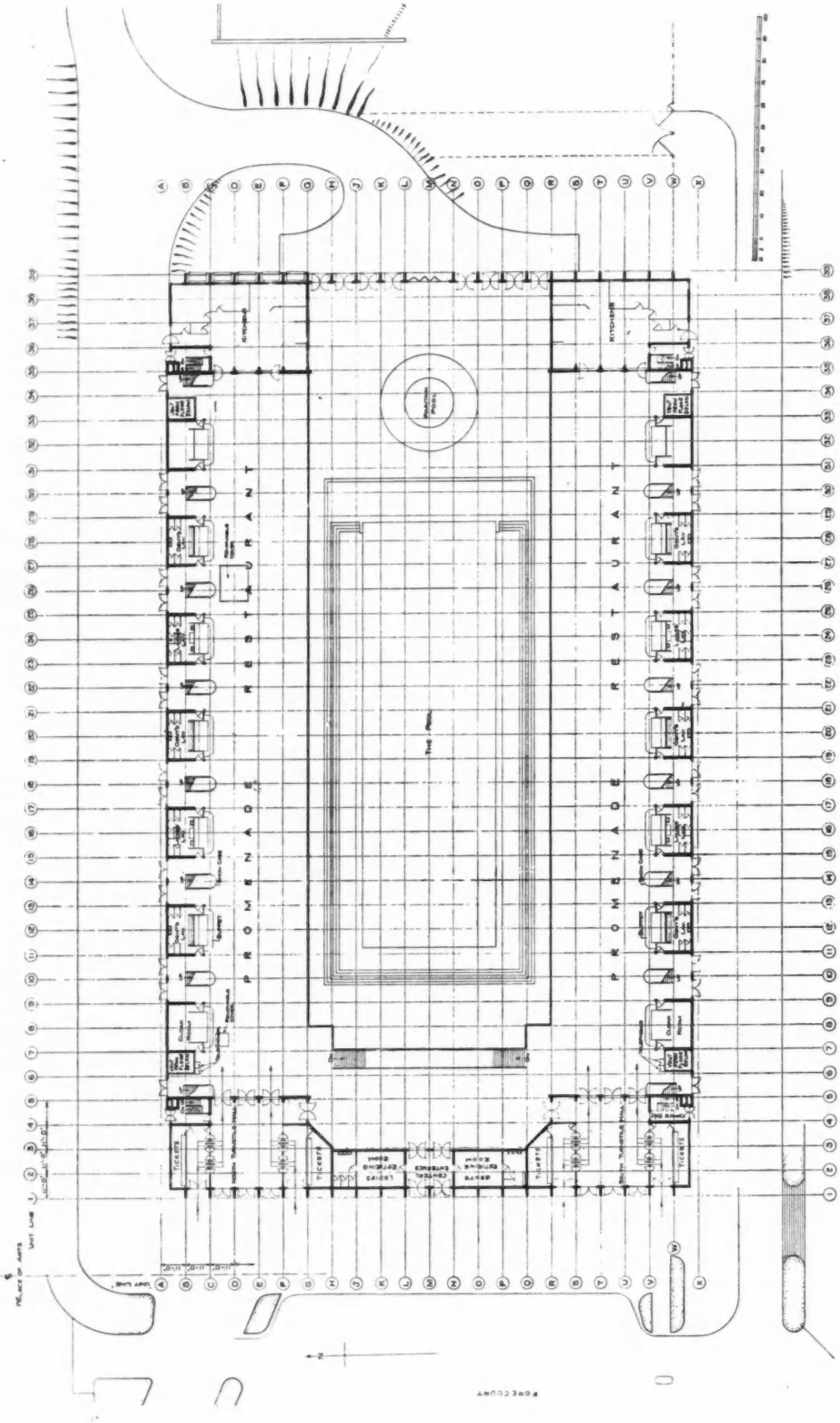
A view looking along the promenade restaurant, showing the buffet bars, show cases, etc. A unit heater is shown on the extreme right.

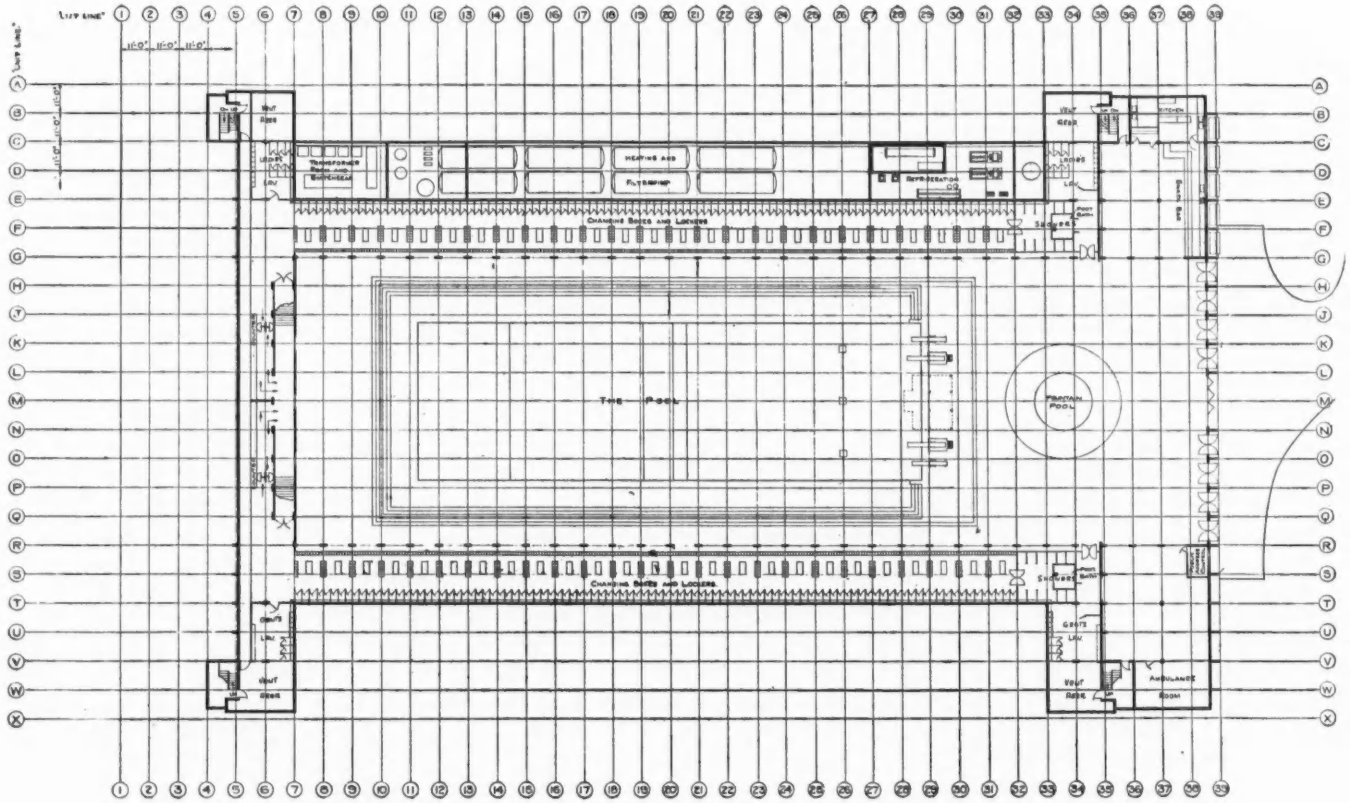


Looking towards the shallow end and the main entrance hall.

S. W. NEWBERY

THE EMPIRE SWIMMING POOL, WEMBLEY


PROMENADE RESTAURANT
PROMENADE RESTAURANT
KITCHENS
KITCHENS
The Pool
Diving Pool
TICKETS
TICKETS
TICKETS
LADIES CHANGING ROOM
GENTLEMEN CHANGING ROOM
Ladies Turnstile Hall
Gents Turnstile Hall
Ladies Cloak Room
Gents Cloak Room
Ladies Dressing Cubicles
Gents Dressing Cubicles
Ladies Slipper Baths
Gents Slipper Baths
Ladies Showers
Gents Showers
Ladies Toilets
Gents Toilets
Ladies Lavatory
Gents Lavatory
Attendants
Manager
Cashier
Store
Boiler House
Engine Room
Pump Room
Filter Room
Chemical Room
Disinfecting Chamber
Ladies Entrance
Gents Entrance
Ladies Exit
Gents Exit
Ladies Spectators
Gents Spectators
Ladies Competitors
Gents Competitors
Ladies Attendants
Gents Attendants
Ladies Dressing Room
Gents Dressing Room
Ladies Lavatory
Gents Lavatory
Ladies Toilets
Gents Toilets
Ladies Showers
Gents Showers
Ladies Slipper Baths
Gents Slipper Baths
Ladies Dressing Cubicles
Gents Dressing Cubicles
Ladies Cloak Room
Gents Cloak Room
Ladies Turnstile Hall
Gents Turnstile Hall
Ladies Competitors
Gents Competitors
Ladies Spectators
Gents Spectators
Ladies Entrance
Gents Entrance
Ladies Exit
Gents Exit
Chemical Room
Filter Room
Pump Room
Engine Room
Boiler House
Store
Manager
Cashier
Attendants



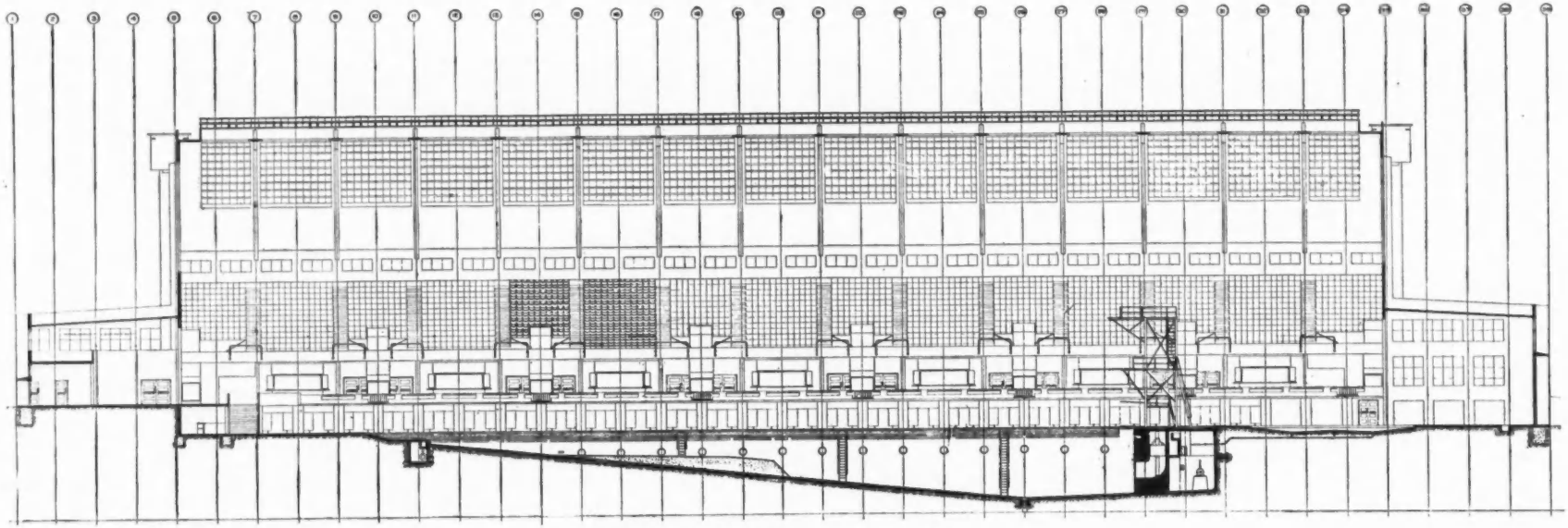
PLAN AT BASEMENT LEVEL

The building is 420 ft. long (including the annexes, back and front) and 240 ft. wide. Every 44 ft. in length of the main hall is a complete entity as far as the accommodation of the public is concerned, having within that length the appropriate exits, buffet bars, lavatories, staircases and gangways to meet the requirements of the licensing authorities. The swimming bath can be decked over to take an ice skating rink, 200 ft. by 85 ft., or a tournament area, 300 ft. by 85 ft. The annexes were necessary constructional bases to give stability to the end gable walls. The whole building is planned and built to a unit of 2 ft. 9 in.; this being the width of the spectators' terraces. This unit, and multiples of it, is carried throughout for widths of lavatories, dressing boxes, doors and windows. Vertically, the unit of construction is 3 ft. A subdivision of these dimensions, into 11 in. and 6 in. respectively, gives the limiting tread and rise of stairs allowed by the licensing authorities and produces the pitch of the spectators' terracing.

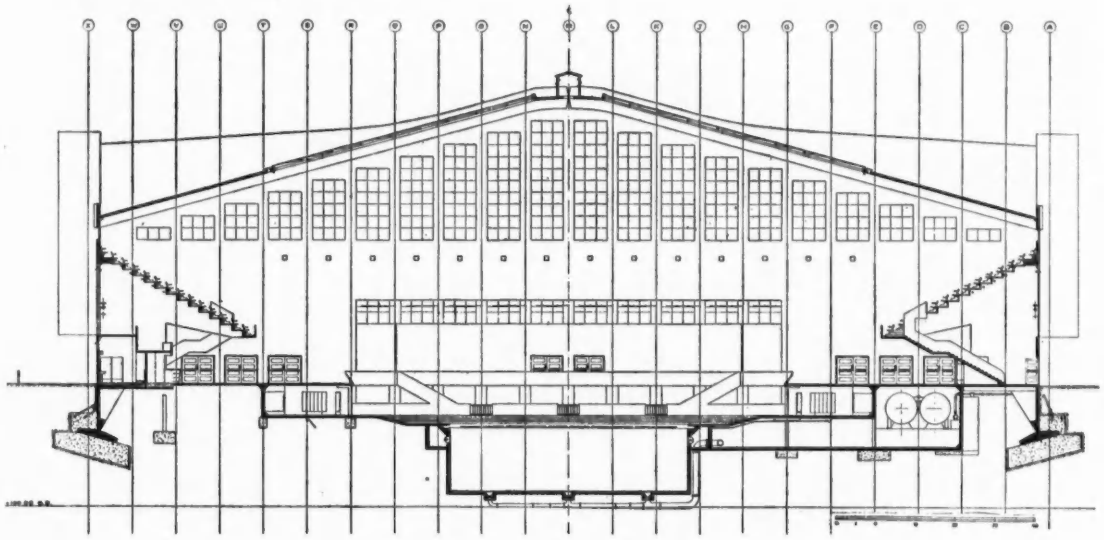
Ventilation is natural, since the height of the building is great enough to provide the necessary air changes. Heating generally is by unit heaters under the main galleries, and it is also possible to pass refrigerated water through these heaters to cool the building in summer. Dressing accommodation is in two colonnades running down each side of the bath, and the now usual system of dressing boxes and clothes lockers is employed, the proportions being 1 to 8. Bathers pass through warm shower baths and over a section of water-submerged floor before going on to the terraces. An area as great as the building itself is being laid out as sunbathing terraces, lawns, gardens and an artificial lake. The whole of the bathers' and non-bathers' terraces can be covered with removable staging, giving a total seating capacity of 12,500. The fixed seating capacity is 4,500, the seats being cantilevered off the terrace risers to facilitate cleaning, since this method does not involve any free-standing supports.

DESIGNED BY SIR E. OWEN WILLIAMS, K.B.E.

THE EMPIRE SWIMMING POOL, WEMBLEY



LONGITUDINAL SECTION



CROSS SECTION

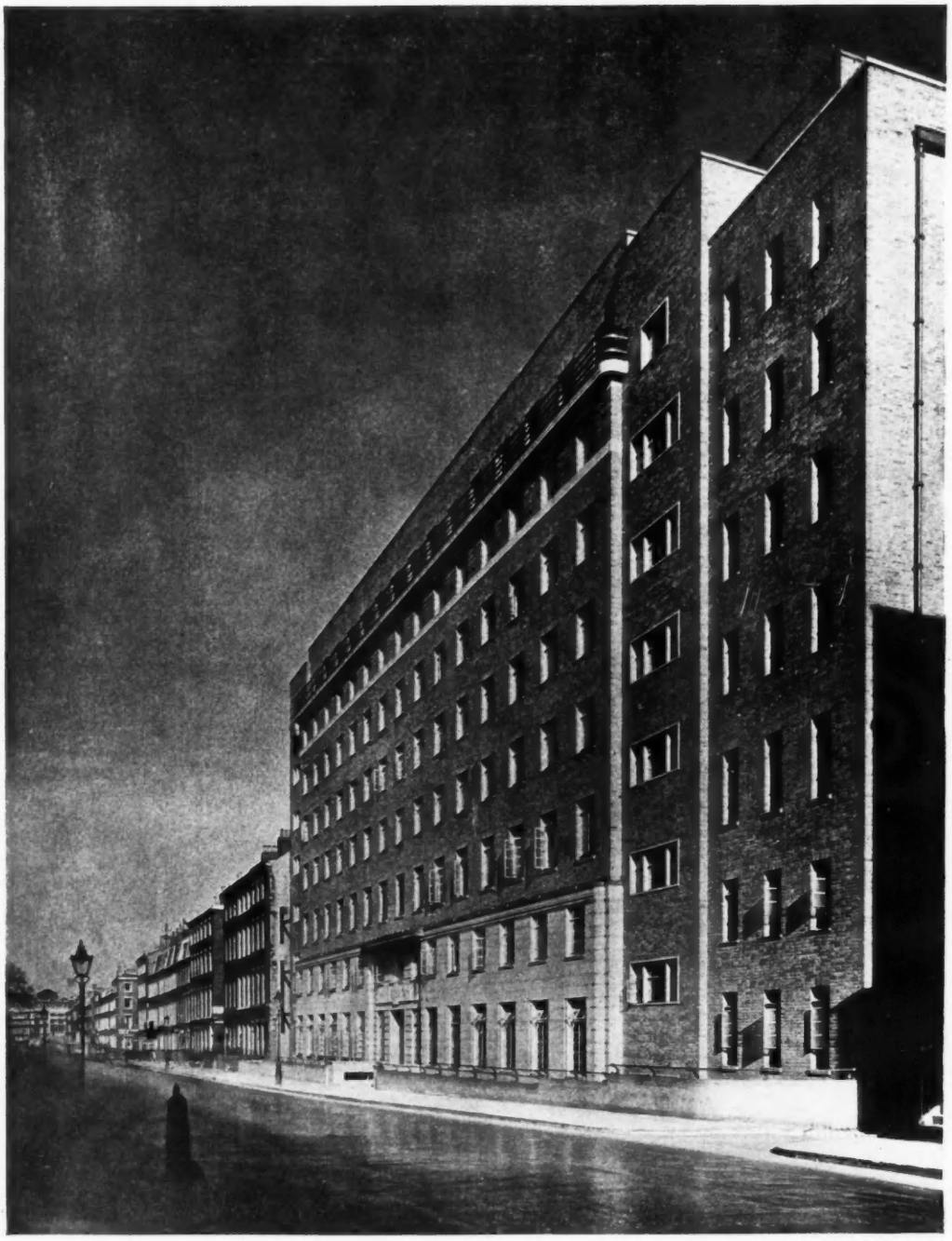
The whole of the refrigerating, thermal storage and water purification plant runs the entire length of the basement. Purification is by the chloramine process, with a four-hour turnover. The swimming pool and equipment is to Olympic Specification, with a maximum water depth of 16 ft. It is surrounded by a subway in which are accommodated lighting units projecting below water level through 20 in. diameter of armourplate glass portholes. Behind the deep end of the pool is a chamber accommodating the wave-making machinery, consisting of four hydraulic plungers in reinforced concrete boxes. The main bath surround is sunk about 2 ft. below the general bathers' terrace so as to accommodate the waves when they come over the sides of the pool. Scum troughs are provided all round the bath and are unusually wide to break eddies and currents caused by swimming competitors. The roof structure is a three-hinged arch, reinforcement details of which are given on pages 163-166 of this issue.

A general view of the arena, looking towards the east end.

S. W. NEWBERY

DESIGNED BY SIR E. OWEN WILLIAMS, K.B.E.

NURSES' HOUSE, HOSPITAL FOR



DELL AND WAINWRIGHT

The north (Guilford Street) elevation of the new Nurses' House at the Hospital for Sick Children, London. The bricks are grey-buff Stamfords with parapet walls, facings and staircase window surrounds in Portland stone. Above the main entrance is a marquise in stone and lead, sparsely gilded and painted. Below the marquise is a carved relief panel representing Hygiea, surrounded by the nine Muses; it is the work of Eric Aumonier. The windows are steel, painted lemon-cream, and the railings and stack pipes are deep beige.

DESIGNED BY STANLEY HALL AND EASTON AND ROBERTSON

SICK CHILDREN, LONDON

DELL AND WAINWRIGHT

The Nurses' House will be connected with the Hospital Block by two two-storeyed covered ways at basement and ground floor levels. When the scheme for the replanning of the hospital is completed the maids' entrance will be at the extreme east end of the new wing, where there is a separate staircase leading to their quarters; and the only communication with the nurses' part of the building will be through fire escape doors on each floor at the eastern end of the present building—it being the wish of the hospital authorities that maids and nurses should be housed separately.

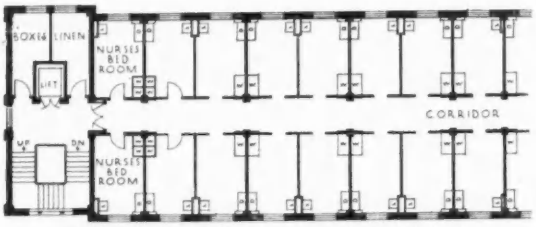
A mezzanine floor on the north side of the corridor contains 15 rooms for sick nurses. The first and second floors contain sisters' rooms. In the centre of the first floor on the south side is their common room; and on either side of it are two suites for assistant matron and three senior sisters. Each suite contains a bedroom and sitting room, and each pair shares a bathroom.

The other sisters have a bed-sitting room with a small dressing room, 4 ft. wide, containing wardrobe, chest of drawers, fitted basin, heated towel rail and mirror. These narrow dressing rooms are in pairs and back to back, so that two sisters' bedrooms occupy the same space as three nurses' bedrooms above. All the upper floors contain nurses' bedrooms, each having fitted basin, heated towel rail, mirror, wardrobe, chest of drawers, soiled linen cupboard and a small bookcase. Woodwork in the bedrooms is carried out in Indian white mahogany stained a warm grey and wax polished. The floors are of Jarrah, and the walls are papered with a washable paper.

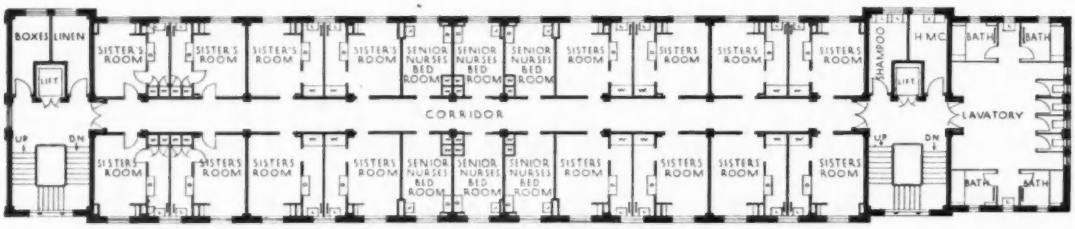
Above is a view of the south front.

NURSES' HOUSE, HOSPITAL

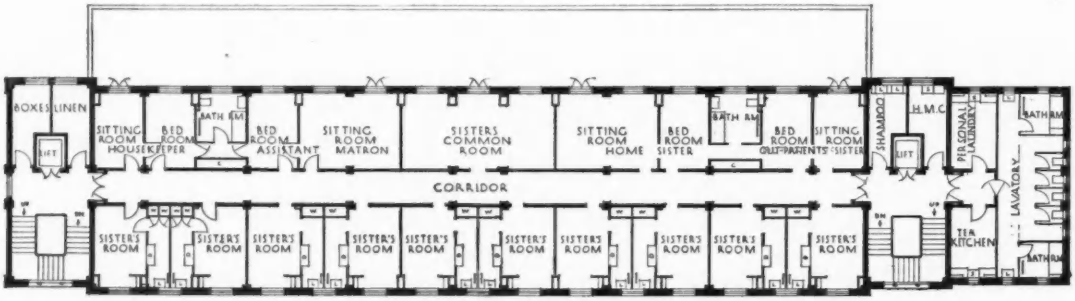
DESIGNED BY
STANLEY HALL
AND EASTON
AND ROBERTSON



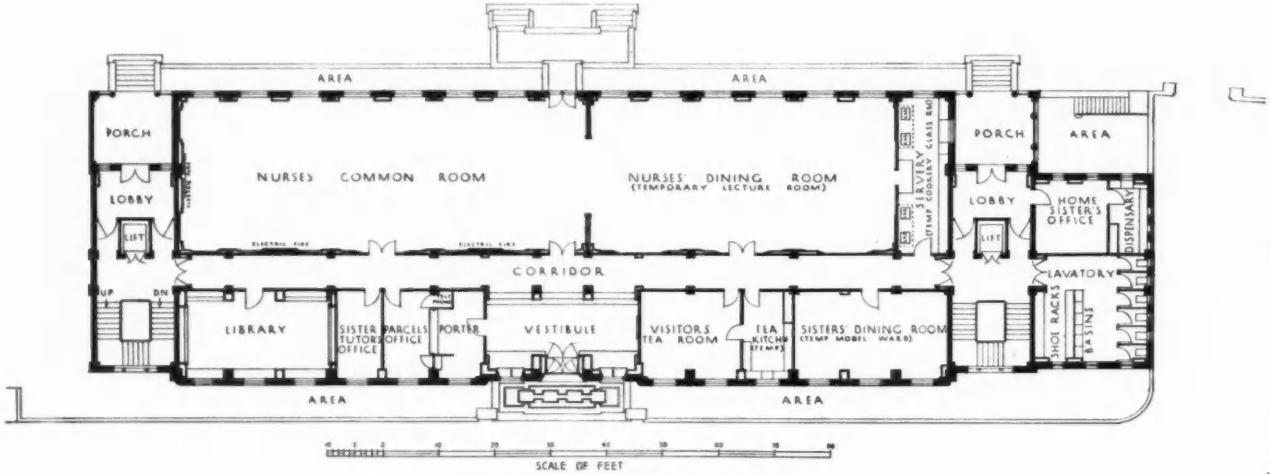
TYPICAL UPPER FLOOR PLAN



SECOND FLOOR PLAN



FIRST FLOOR PLAN

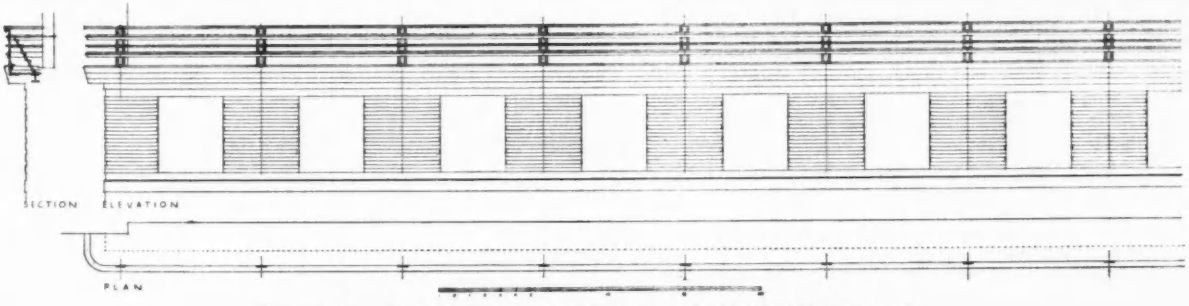


SCALE OF FEET

GROUND FLOOR PLAN

FOR SICK CHILDREN, LONDON

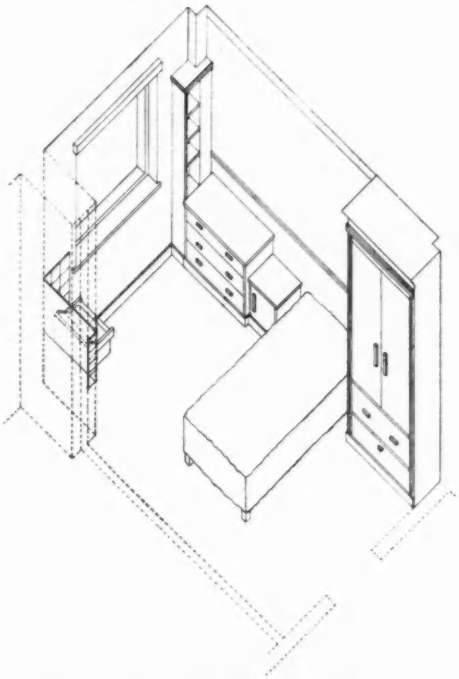
DELL AND WAINWRIGHT



Photograph and detail drawing of the balcony on the Guilford Street elevation.

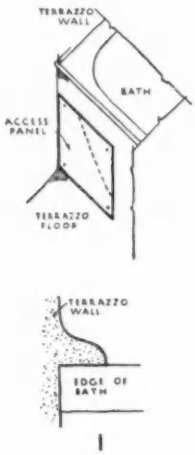
NURSES' HOUSE, GUILFORD STREET, W.C.

A nurse's bed-sitting room.

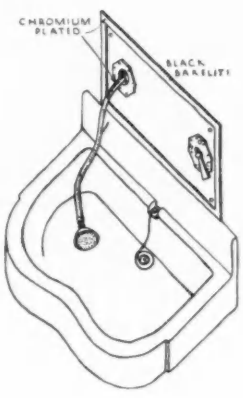


Axonometric of a nurse's bed-sitting room.

DELL AND WAINWRIGHT.



1



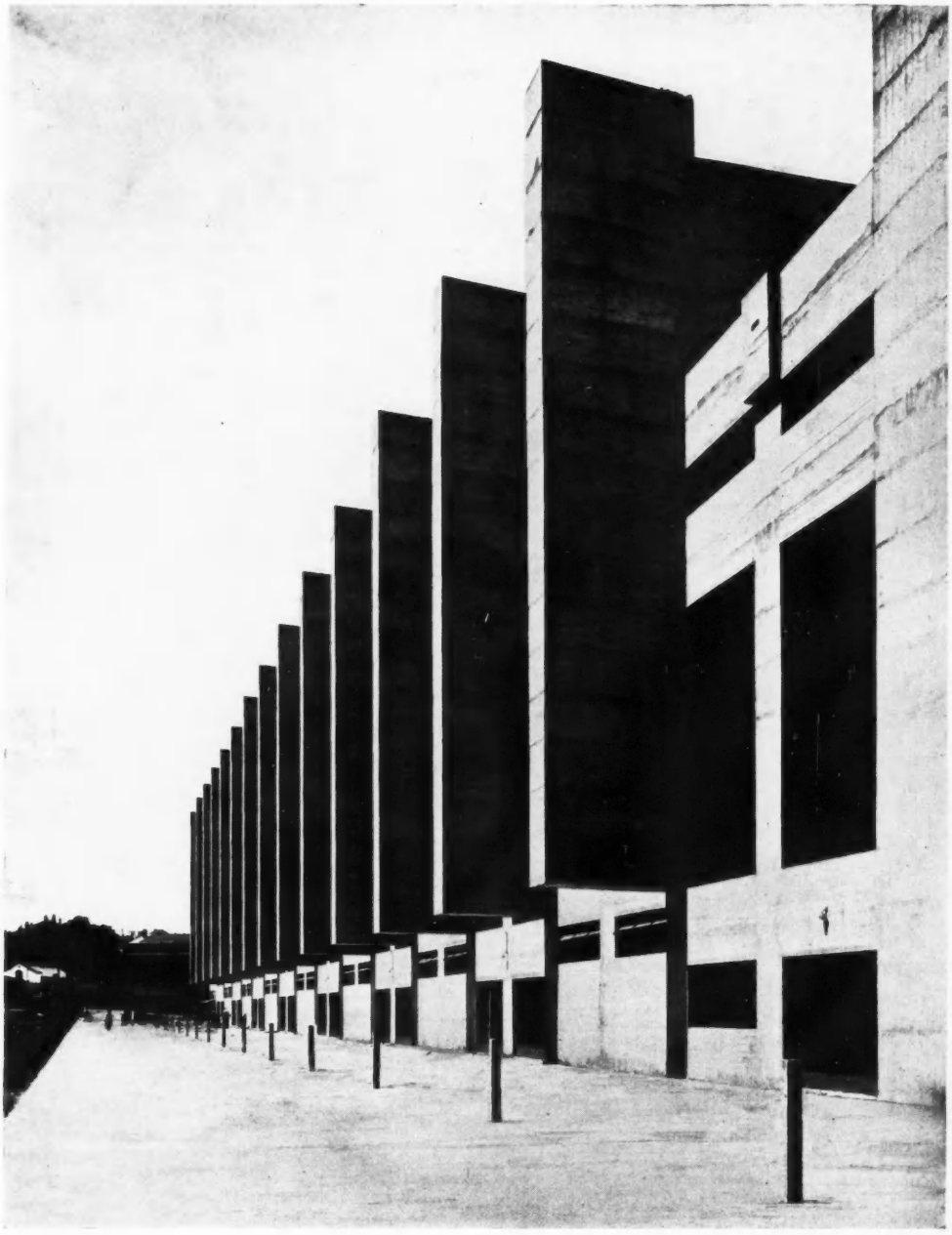
2

Left 1: a bathroom detail showing the terrazzo wall finish turned over the lip of the bath, and a detachable panel for access to the plumbing. 2: a shampoo basin is provided in a special room on each floor; the flexible shower pipe is spring loaded, so that the spray is flush with its panel when not in use. Above is a view of one of the corridors.

BY STANLEY HALL AND EASTON AND ROBERTSON

WORKING DETAILS : 93

ROOF REINFORCEMENT • WEMBLEY BATHS • SIR E. OWEN WILLIAMS, K.B.E.

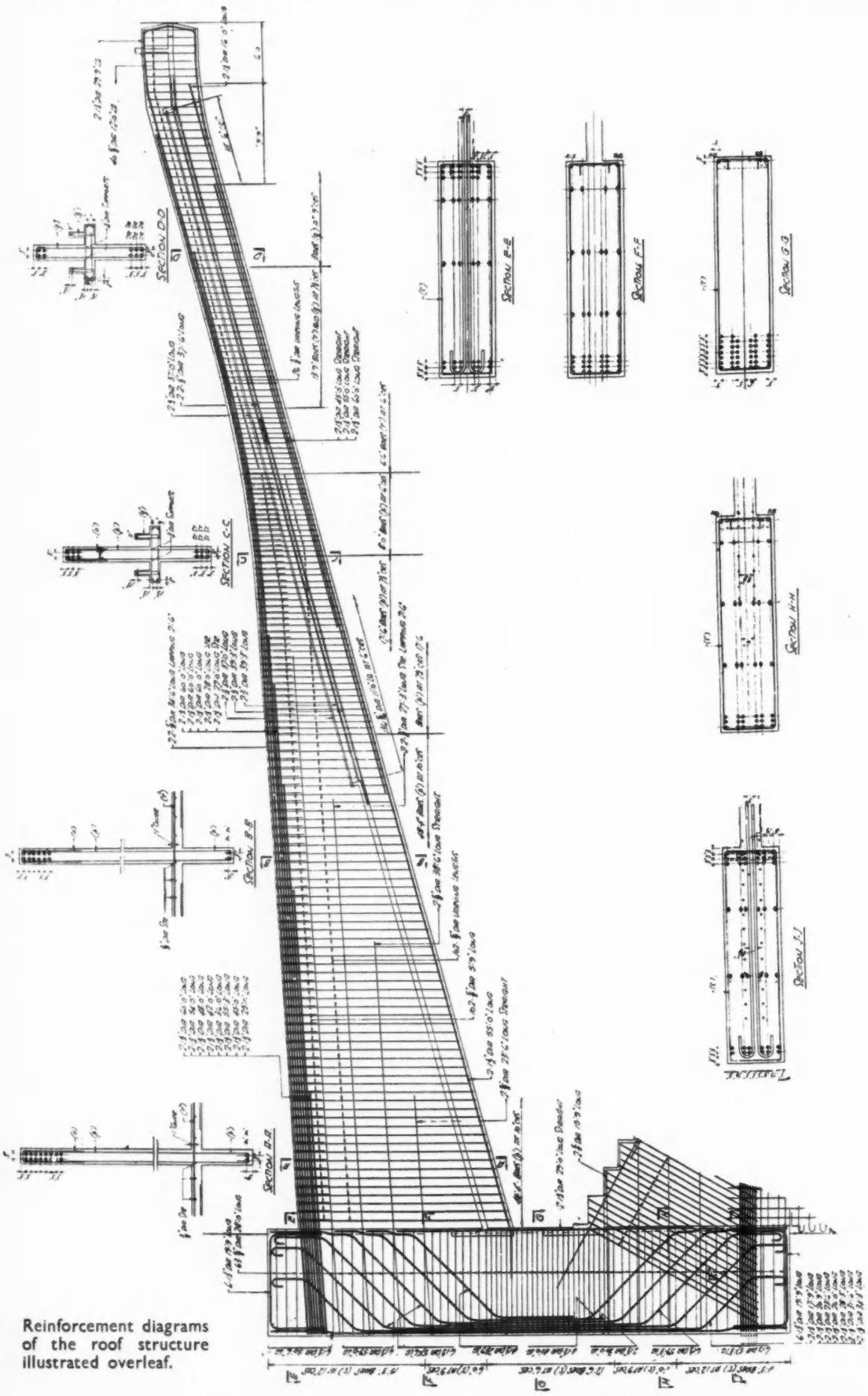


S. W. NEWBERY

The roof structure illustrated above is designed as a three hinged arch of 236 ft. 6 in. span, the necessary stiffening of the roof being effected by planes of concrete intersecting at right angles, producing fin-like effects on the exterior, the main fins of the roof being 21 ft. deep, and 9 in. thick immediately over the side walls. At the apex of the roof the vertical ribs are cut away, leaving only horizontal slabs 6 in. thick 2 ft. 9 in. wide, to pass through to form virtual hinges, the horizontal pressure on each being approximately 70 tons. The vertical ribs are at 22 ft. centres and, for the purpose of stability during striking of centering, were constructed in pairs.

WORKING DETAILS : 94

ROOF REINFORCEMENT • WEMBLEY BATHS • SIR E. OWEN WILLIAMS, K.B.E.



Reinforcement diagrams of the roof structure illustrated overleaf.

WORKING DETAILS : 95

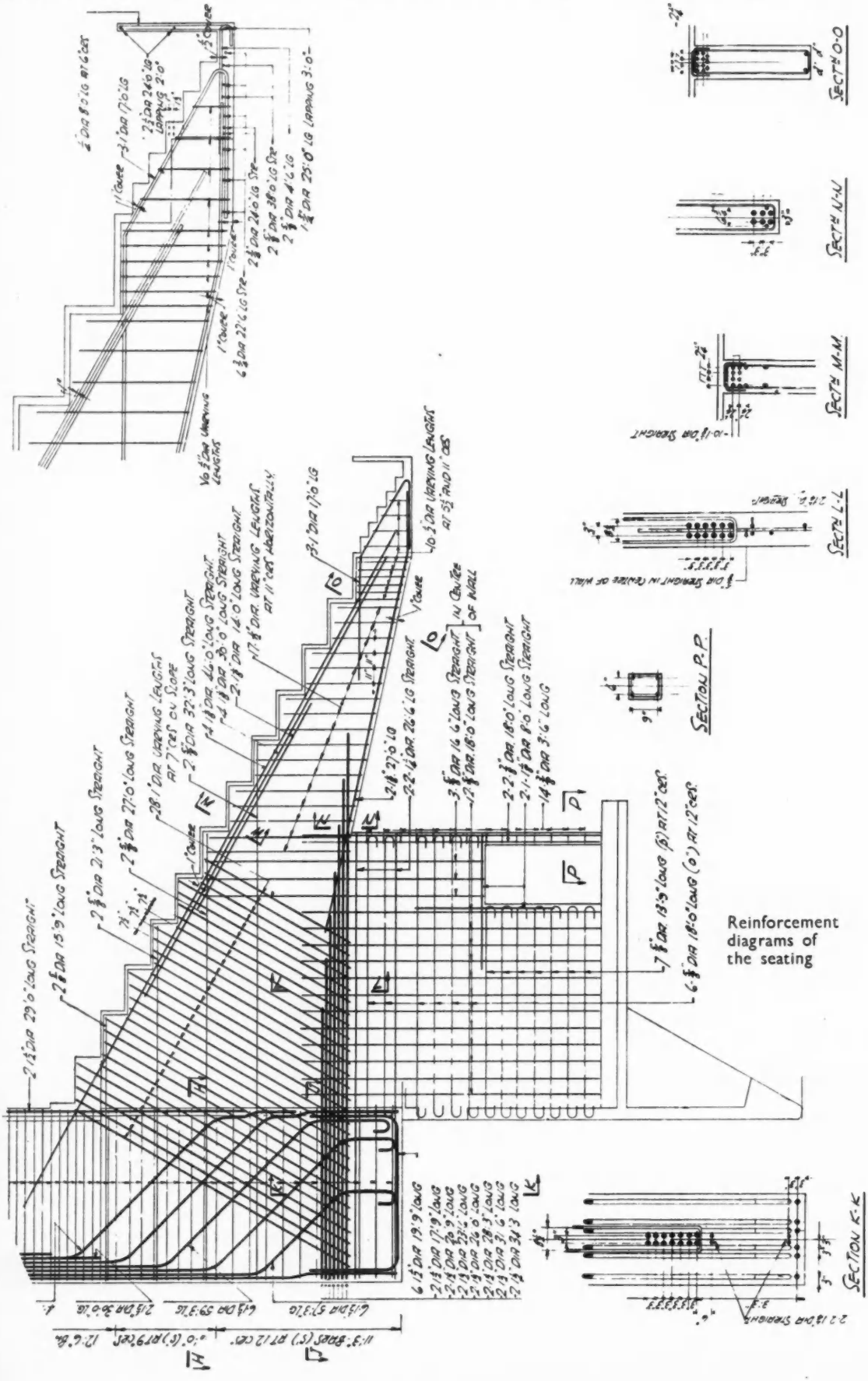
SEATING REINFORCEMENT • WEMBLEY BATHS • SIR E. OWEN WILLIAMS, K.B.E.

S. W. NEWBERY

The seating galleries shown in the above photograph, and the lavatories and buffet bars below them, are all integral parts of the roof, which is carried on two parallel hinges or knife edges 6 in. wide with a loading of 20 tons per foot run. The roof immediately over the galleries is a solid concrete slab lined with cork, but the middle two-thirds of the area is glazed on steel purlins with a centre ventilating lantern light with concrete access gangways, and in the lantern are accommodated the main electric lights and sound amplifiers. Reinforcement diagrams are shown overleaf.

WORKING DETAILS : 96

SEATING REINFORCEMENT • WEMBLEY BATHS • SIR E. OWEN WILLIAMS, K.B.E.



Reinforcement diagrams of the seating

L I T E R A T U R E

LIVE FURNITURE

[*By Professor C. H. Reilly*]

English Furniture. By John Gloag. London: A. and C. Black, Ltd. Price 7s. 6d. net.

THIS is a delightful book. Even an architect could read it. Those who know Mr. Gloag's other works, such as his fine novel, *The New Pleasure*, know he has a striking gift for the vivid phrase which drives an idea into the thickest head. He obviously has himself an architectural mind. He can design and compose. His books have unity. They also have the modern outlook and are original and vivid. Indeed, not only an architect, but a tired business man could, I imagine, read them.

In this one he has achieved the great feat of writing still one more work on English furniture and yet saying something worth while, which has not been said before. One would have sworn it was impossible. It is his point of view. Most furniture books are written from the collector's. Mr. Gloag writes from the designer's, and particularly from the architect's. While he necessarily sees the furniture he describes in relation to the movements of architectural tasks and social conditions he sees it, too, as an affair of good proportions combined with efficiency. In English furniture, particularly of the Stuart and Queen Anne periods, he sees, too, something fundamentally English in the way the craftsman struggles with and absorbs foreign ideas. While no nation keeps a more open mind for such than the English—as good nationalists we pretend the reverse, but that is part of our genius for salesmanship—no nation absorbs them more readily into its vernacular. Gradually, however, the craftsman, who absorbed and modified the designs shown by foreign woodcuts, succumbed to the man with the drawing board. This was particularly the case in the eighteenth century, when the architect was supreme. It was consequently the period when the furniture and the building in which it was placed were most closely allied. That it was also the period when English furniture was at its best, is full of hope for the present time, for once again we see something of the same fusion in the work of our younger architects. Just as Robert Adams was willing and eager to design everything in his houses down to the watch-chain of his client's lady, so I imagine are our Wells Coates's and Chermayeff's today. It is probably because all through his book one feels Mr. Gloag realizes this that it gives such a happy, confident feeling. Once more we are on the high road. His jolly phrases are, because his spirits are rising. Here are a few of them: "The butterfly gaity of French ornament combined with the timber nudity of the Gimson-Barnsley school" to explain certain recent Tottenham Court Road manifestations. Great rectangular modern settees and armchairs round a modern electric stove "like a flock of elephants converging on a glow-worm" he attributes to Chermayeff, but "the dread English Trinity of Ignorance, Indolence and Individualism against which we all have to fight" is his own. Generally, I suppose Mr. Gloag might be described in the American term as a "debunker," a very useful person that is, in a sentimental age. The positive side of his book, however, is very clearly there for the architect who reads, and for the ninety-and-nine others who only look at pictures there are excellent photographs and drawings.

CORNWALL

The Shell Guide to Cornwall. Edited by John Betjeman. London: The Architectural Press. Price 2s. 6d. net.

GUIDE books so often fall into two unfortunate classes: sentimental twaddle for tourists or a few dry facts casually appended to the local timetable, plus the ill-considered advertisements of the local butcher, baker and candlestick-maker. But a guide book has just been published that has such an abundance of information about the county it deals with—Cornwall—and has so much character of its own, that it raises this branch of literature to a higher plane.

Edited by John Betjeman, and sponsored by Shell-Mex and B.P., Ltd., it is an anthology that covers everything Cornish: architecture, topography, birds, beasts, fishes, saints, food, ferries, and hunting, golf, sailing, fishing, picnicking—and even the almost extinct Cornish tongue.

It avoids the dry pitfalls of antiquarianism and the dull lore of hotels. It begins with a photograph, "The Road to Cornwall," which is followed by detail maps of the county, a table giving the mileage to Cornwall from various towns in England, and details of the ferry service between Torpoint and Devonport. A list of some of the main towns is given with information about their situation and their buildings.

Prehistoric Cornwall is described. Legends of the saints are told. Descriptions of churches which have any claim to architectural interest are given, and the styles of architecture clearly defined. The Scilly Isles receive attention.

This book is illustrated with a series of beautiful photographs and drawings, selected with knowledge of what good photography and draughtsmanship mean. The form in which it is presented with a ringbinder, enables it to be opened flat. This sort of guide-book is an experience for any lover or potential lover of Cornwall, and for all who appreciate well-made books and apt typography.

F.M.H.

Publications Received

Trade and Weather. Edited by R. J. Mitchell. London: British Continental Press, Ltd. Price 2s. 6d. net.

Industria and Commercio dei Marmi Apuanio. By Ettore Magni. Confederazione Nazionale Fascista dei Sindacotti dell' Industria.

Fifty-seventh Annual Report of the Society for the Protection of Ancient Buildings. London: S.P.A.B. Price 2s. 6d. net.

Building Societies Year Book, 1934. Official Handbook of the National Association of Building Societies. Edited by George E. Franey, O.B.E. London: Reed and Co. Price 7s. 6d. net.

Modern Homes Exhibition, Gidea Park

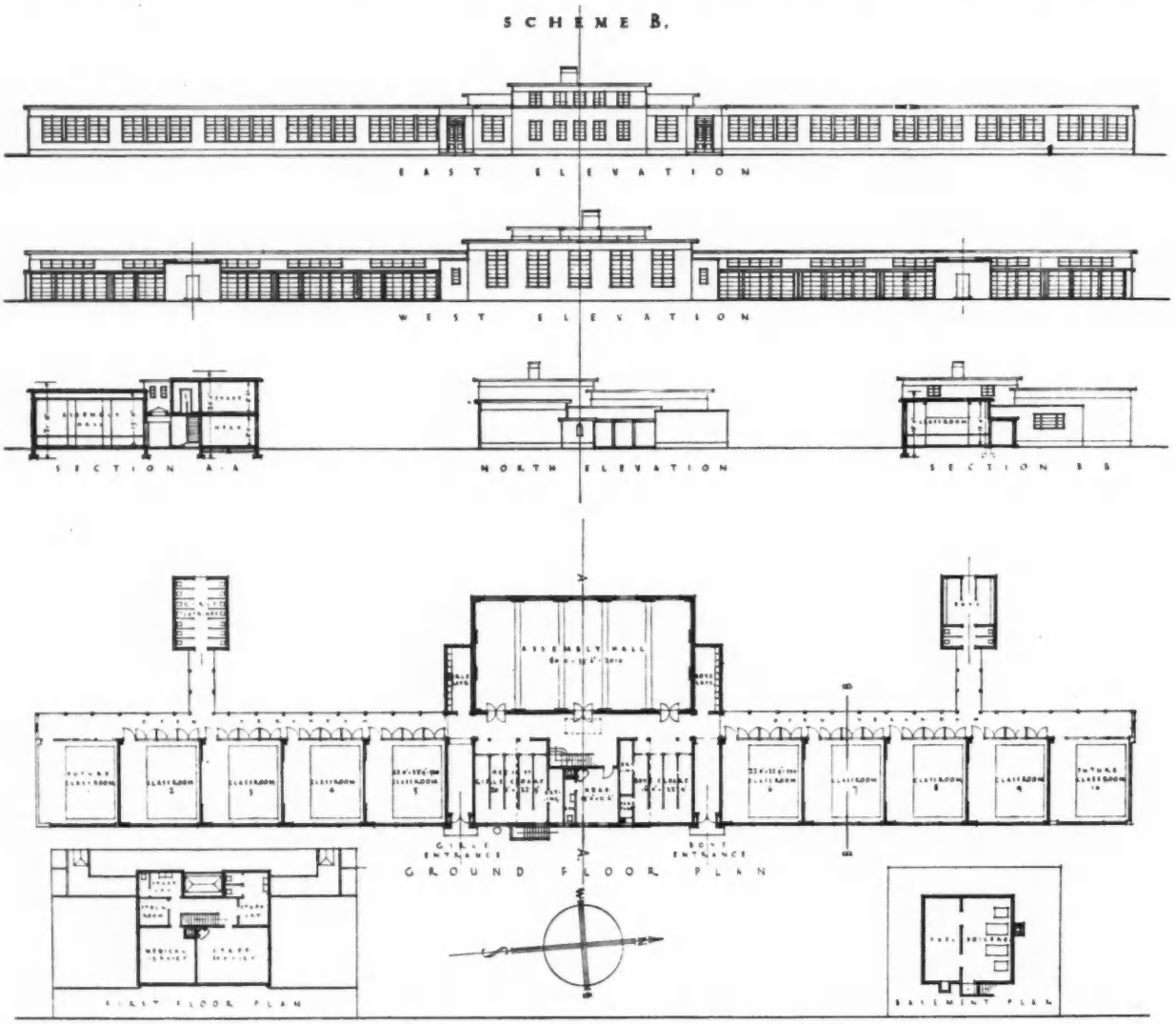
The Modern Homes Exhibition, Gidea Park, was opened by the Earl of Crawford and Balcarres on Tuesday last. It will remain open until August 20.

Sir Raymond Unwin, PP.R.I.B.A., speaking at a pre-view of the exhibition last week, said that while he himself was too old a dog to take easily to new tricks, the young architect should certainly have the chance to display his. What was worth while would be adopted. The rest would vanish into obscurity. That indeed was how architecture progressed.

"This development," he continued, "is on the right lines. It is not the ribbon development that disgraces this country and its Government and that makes our roads more dangerous to cross than any railway line. To build nowadays on an arterial road is more dangerous than if you removed the fences that enclose our railways and built houses by the track.

"This has been known to our Government departments for years. They have known that ribbon building is costlier than proper development and that it desecrates our countryside. They have known that it is evil to segregate in one district people of one class and the same outlook on life, because this leads to monotony and the lack of the community spirit we need so much. I commend you here for avoiding that evil."

COMPETITION FOR PROPOSED COUNCIL



THE JUNIOR SCHOOL

Mr. Herbert T. Buckland, F.R.I.B.A., the assessor in the limited competition for a proposed Council School on the Priory Estate, Dudley, has made his award as follows:

DESIGN PLACED FIRST (£150): Messrs. S. N. Cooke and W. N. Twist, FF.R.I.B.A., of Sun Building, Bennetts Hill, Birmingham.

DESIGN PLACED SECOND (£100): Messrs. Cherrington and Stainton, FF.R.I.B.A., of Edmund Street, Birmingham.

DESIGN PLACED THIRD (£50): Messrs. Nicol & Nicol and Thomas, AA.R.I.B.A., of 117, Colmore Row, Birmingham.

The competition was limited to architects having an office within 15 miles radius of Dudley. The winning design is illustrated on this and the facing page.

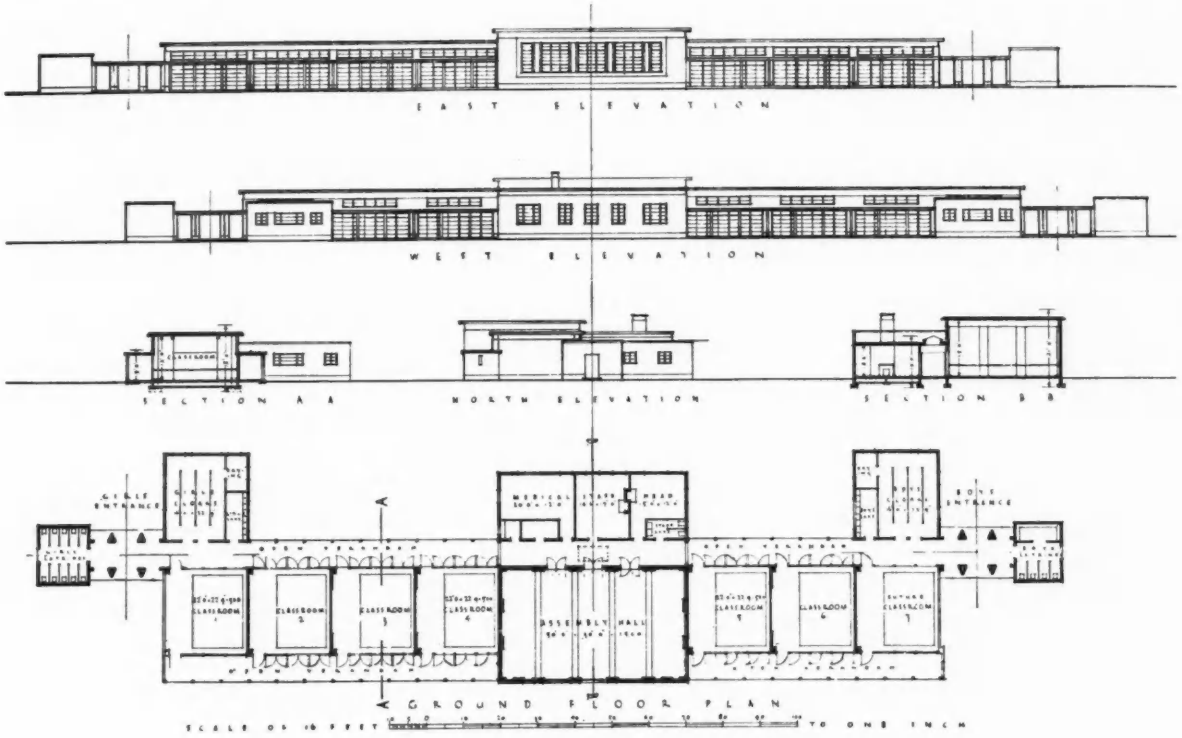
BY

S. N. COOKE

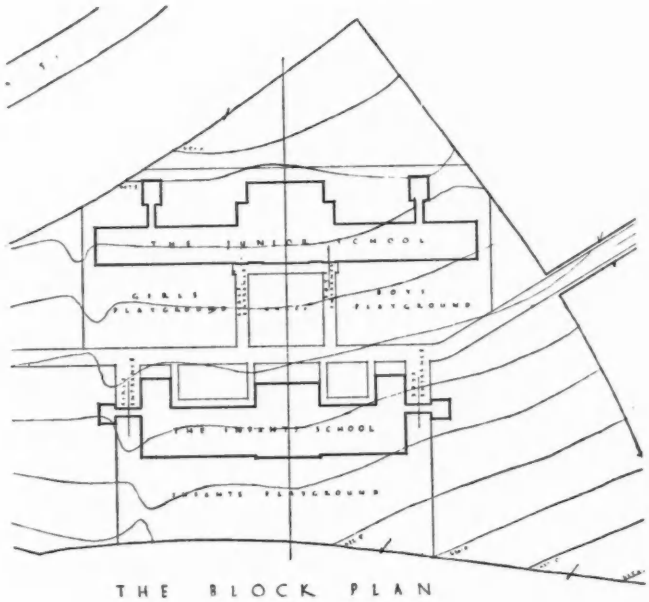
AND

W. N. TWIST

SCHOOL, DUDLEY: THE WINNING DESIGN



THE INFANTS' SCHOOL



THE BLOCK PLAN

IN PARLIAMENT

[BY OUR SPECIAL REPRESENTATIVE]

Ribbon Development

DURING a debate in the report stage of the Road Traffic Bill in the House of Lords, the question of ribbon development was raised. Lord Plymouth, on behalf of the Government, said that the Ministers of Health and Transport fully recognized the importance of joint action in this matter and were in close consultation in searching for a remedy that would be effective. Undoubtedly ribbon development, in so far as it tended to reduce available road space, had a bearing on the question of the safety on the roads. He was not yet in a position to forecast the nature of the conclusions which these two Ministers might reach, nor of the possible proposals for legislation which might ensue, but the matter was one of great importance and was fully appreciated by the Government.

The Housing Bill

At question time in the House of Commons, Mr. D. G. Somerville asked the Minister of Health, whether he proposed to consult local authorities in this country before introducing the Housing Bill in the autumn, or whether there were any objections to this course.

Sir Hilton Young said he was now in consultation with the London County Council and the representative associations of local authorities.

Major Nathan asked the Minister of

Health whether any Exchequer grants were available under the Housing Act, 1930, for the provision of rehousing accommodation for persons of the working classes who were displaced in those cases where two back-to-back houses were converted into one through house.

Sir Hilton Young said that this matter had been receiving close consideration and it had now been decided that in the circumstances suggested grants might be paid towards the necessary rehousing on the basis of the number of persons contained in the smaller of the two families inhabiting the two houses before conversion.

Carlton House Terrace

Mr. Bossom asked the Minister of Agriculture whether he was in a position to make a statement as to the action to be taken on the Report of the Crown Lands Advisory Committee on Carlton House Terrace and Carlton Gardens.

Mr. Elliot said that the Commissioners of Crown Lands proposed to adopt the report as a guide to their policy for the present, and they would therefore restrict tenancies to the purposes mentioned in the report with the intention of deferring consideration of a rebuilding policy until a reasonable period of years had elapsed. They must hold themselves free to review the matter from time to time, in consultation with the Advisory Committee in the light of the financial results but, in view of the unique position of the Terrace, he hoped there would be little or no difficulty about lettings and no occasion, therefore, for revision of policy until the question of rebuilding came up for review at the time suggested in the report. The Committee suggested two alternative ways of dealing with the upper storey of the Pinchin Johnson building, namely, removing the storey, if this were practicable, or, if this could not be done, leaving the building in isolation at that height instead of bringing the height of any new buildings into line with it hereafter. He had come to the conclusion that the first alternative was not practicable, and policy would accordingly be governed by the second. He would like to take this opportunity of thanking Lord Gorell and his Committee for their very valuable assistance in this matter.

•

Flats for the Working Classes

The first meeting was held last week of the Departmental Committee appointed by the Minister of Health to report on materials and methods of construction suitable for the building of flats for the working classes.

Mr. Geoffrey Shakespeare, the Parliamentary Secretary, who was accompanied by Mr. H. Francis, greeted the members and said that their work would be of great importance in relation to the new housing proposals of the Government. Under the new Bill to be introduced in the autumn encouragement would be given to the building of flats for the replacement of slums and the relief of overcrowding. He expressed the hope that the Committee would present an interim report before Christmas, so that an authoritative review of the available methods of construction would be ready when the terms of the Bill became effective.

TRADE NOTES

[*BY F. R. S. YORKE, A.R.I.B.A.*]

Standardized Bath

THE I.B.A.—International Bath Association—have introduced a standard Artisan bath, with several advantages over the ordinary bath tub.

•

From the architect's point of view, standardization of overall size is particularly important: he is able to plan his bathroom knowing the exact dimensions of the tub.

•

The taps are fitted to the wall instead of to the bath; and plumbing can proceed before the bath is delivered. This arrangement also allows more room in the bath itself.

•

The bath is designed to avoid extravagance in amount of water per bath. The comparative diagrams (2 and 3) show that apart from the shape of the bath, the water displacement is considerably greater in the Artisan than in the ordinary tub.

•

The bath is specially designed to take a front panel—and end panel if desired. This means that dirt accumulation under the bath is avoided, and cleaning made more simple. This arrangement also saves more than a yard of floor covering, and simplifies laying.

•

Special standardized pressed steel front and end panels are provided. These are finished with a synthetic cellulose enamel, similar to that used for motor car coachwork. Panels are fixed with short screws, and are easily removed when plumbing needs attention.

•

The "modernistic" design of the panels illustrated in the I.B.A. Catalogue is, in my opinion, singularly unpleasant, which is unfortunate, since it tends to discount value of an otherwise excellent innovation. Perhaps *plain* pressed steel panels will also be standardized. This would be a good thing.

•

The rim of the bath fits into the wall plaster or under wall tiles, so that no water can leak between the wall and the bath (Fig. 1).

•

A special I.B.A. trap provides a 1½ in. seal, without increasing the height of the bath (Fig. 4). This depth is calculated to eliminate the possibility of unsealed drainage owing to suction or evaporation.

•

The International Bath Association, Ltd., is not a company trading for profit. It is an association that is simply the "voice" of the majority of bath manufacturers. The purpose of the Association is to develop and introduce up-to-date baths and bath fixtures, and, for the convenience of all interested parties, to have certain approved designs *standardized*.

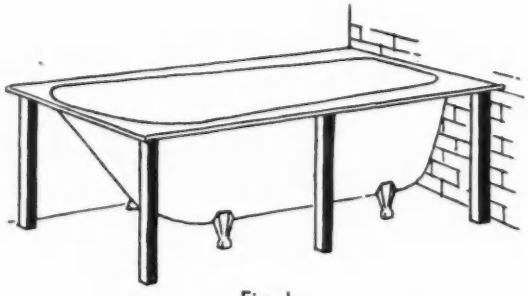


Fig. 1

This diagram shows battens ready fixed to receive panel. When recessed, of course, the end panel is unnecessary—the wall taking its place.

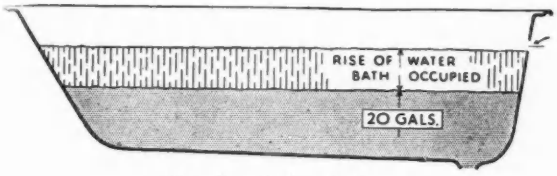


Fig. 2. *Artisan bath.*

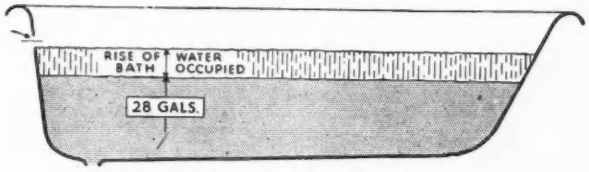
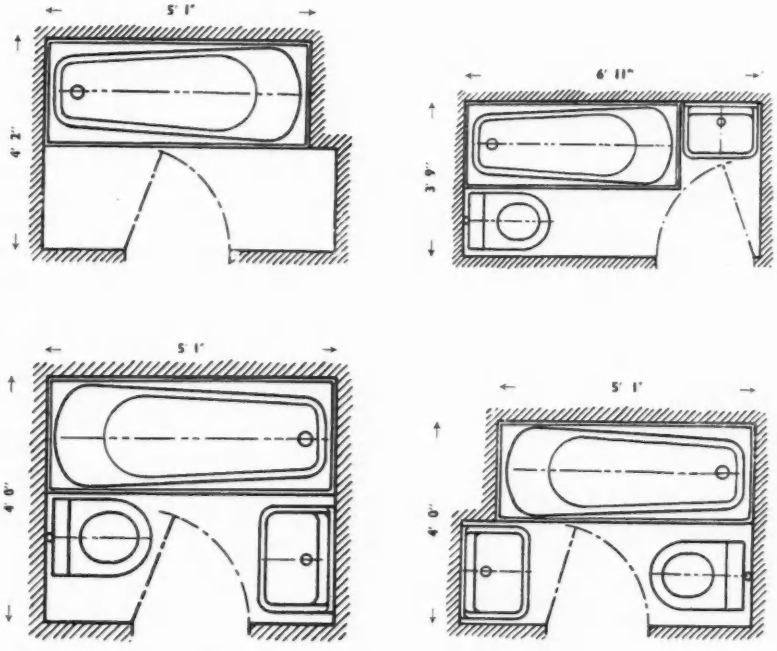


Fig. 3. *Ordinary tub bath.*



Typical plans of I.B.A. Artisan baths.

Standard Specifications

The British Standards Institution issue this month a schedule of British Standard Specifications applicable to building work.

●

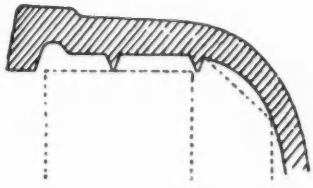
This schedule is much more useful to the architect than the indexed list that appeared in January, because the number and title of the specification is given under the appropriate trade, and trades are listed in the sequence normally adopted by the specification writer :—

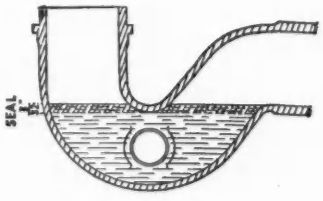
1. General.
2. Excavator.
3. Concretor.
4. Bricklayer.
5. Drainlayer.
6. Mason.
7. Pavior.
8. Slater, Tiler and Slate Mason.
9. Fire Resistance Constructor.
10. Carpenter and Joiner (including Ironmongery).
11. Ironfounder, Smith and Structural Engineer.
12. Heating and Ventilating Engineer.
13. Gasfitter.
14. Electrician.
15. Acoustical Engineer.
16. Plasterer and Wall Tiler.
17. Plumber (including Water Supply).
18. Glazier.
19. Painter, Decorator and Paint Maker.
20. Building Plant, Machinery, etc.

Bricklayer is a typical section :—

B.S.S. No.

493 Air Bricks and Gratings, Cast Iron, for use in Brickwork.
* Building Limes.
12 Portland Cement.
146 Portland Blast furnace Cement.
492 Precast Concrete Partition Slabs (Solid).
187 Sand Lime (Calcium Silicate) Bricks.
App. †1-D Mortar.
,, †1-F Hollow Concrete Blocks.
,, †1-F Hollow Blocks of Brick, Earth or Clay.
449 ,, †1-G Panel Walls.
,, †1-H Party Walls.
,, †1-L Pressure on Load Bearing Brickwork.
,, †1-M Isolated Piers and Bearing Walls.
‡ Bituminous Damp-proof Courses.
‡ Precast Concrete Partition Slabs (Hollow).
‡ Precast Concrete Hollow Walling Blocks.





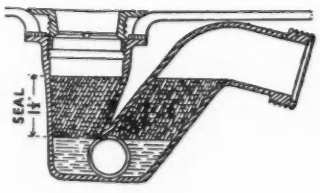


Fig. 4. *Left : the I.B.A. Standard Safe Trap.*

Fig. 5. *Above : Unsanitary type of bath trap.*

LAW REPORTS

ARCHITECT'S ACTION : ALLEGED COPYING OR USING PLANS.

Jackson v. *L. E. Jones and Son—Chancery Division. Before Mr. Justice Farwell.*

THIS was an action by Mr. Burrough de Carle Jackson, A.R.I.B.A., of "Oak Beams," Montreal Park, Riverhead, against Messrs L. E. Jones and Son, builders, of

* Ready shortly.

† This information on materials, etc., associated with the use of structural steel in building, has been included in the British Standard Specification No. 449 for the Use of Structural Steel in Building, as an interim measure to serve as a guide until such time as B.S. Specifications are available. B.S. Specifications for these materials, etc., are in course of preparation.

‡ In course of preparation but not yet available.

Riverhead, for an injunction restraining the defendants from copying or using without plaintiff's consent architectural plans or drawings made by the plaintiff and entrusted by him to the defendants for the purpose of building "Oak Beams," and from erecting any building which reproduced the artistic design of "Oak Beams."

The plaintiff also claimed damages on the ground of infringement, or wrongful uses, of his plans or any copies of them.

The defence was a denial that there was any copyright in the plans or drawings or that plaintiff's plans or drawings were used.

Alternatively the defendants pleaded that if copyright did subsist at no material time were they aware of it.

Defendants admitted building a house called "Caer Hays," at Seal, near Sevenoaks, but denied that it reproduced the original artistic character or design of "Oak Beams," or that it infringed the plaintiff's copyright. Defendants further pleaded that they were induced to build "Oak Beams" at a low price by representations made by the plaintiff that he would see that they got similar work, but he had failed to do so.

Mr. Topham, K.C., and Mr. C. J. Macgillivary appeared for the plaintiff, and Mr. Lionel Cohen, K.C., and Mr. F. E. James for the defendants.

Mr. Jackson gave evidence as to the details of the house "Caer Hays," stating that it resembled his own, which was built in the Tudor style. Witness thought that without his house "Caer Hays" could not have been built as it was.

Mr. Gervas Bailey, F.R.I.B.A., also gave evidence that in its main features and most of its details "Caer Hays" was practically a reproduction of "Oak Beams."

Cross-examined, Mr. Bailey admitted that there were certain differences in the details of the two houses. A distinctive feature in Mr. Jackson's plans for "Oak Beams," and one which particularly struck him as being very clever, was the staircase window. Such a design was, he thought, very uncommon. He agreed that the Tudor style of architecture was one of the most popular styles in use at the present time, and much in favour with architects and builders.

Mr. Hugh Patrick Maule, F.R.I.B.A., also gave evidence for the plaintiff, saying the plaintiff's house was an exceedingly charming house. The defendant's house was much in the same category, but with certain subtle differences in various details.

This evidence concluded the plaintiff's case.

Mr. Cohen said he proposed to call his evidence straight away before addressing his lordship.

Mr. Llewellyn Lewin James Jones, having stated his experience in the building trade, said he started business on his own account, under the name of L. E. Jones and Son, in April, 1930, and first met the plaintiff in October, 1931. He denied that he had ever in any way used Mr. Jackson's plans or drawings for houses he had built for other people.

Mr. Geo. Robert Harvey, who prepared the plans from which "Caer Hays" was built, said for the purpose he had no access to Mr. Jackson's plans.

His lordship gave judgment, dismissing the action with costs. After reviewing the evidence his lordship said his opinion was that there was no ground for holding that there was any copying of the plaintiff's architectural drawings and plans.

WHAT IS A SINGLE PRIVATE DWELLING HOUSE?

Regent's Park Development Co., Ltd., v. *Rosenfeld—Chancery Division. Before Mr. Justice Clauson.*

THIS was an action by the Regent's Park Development Co., Ltd., against Mrs. G. C. Rosenfeld, of 22, Avenue Road, Marylebone, to enforce the restrictive covenant, contained in the conveyance of the property, not to use the premises otherwise than as a private dwelling-house.

Mr. A. Grant, K.C., for the plaintiffs, said it had been held over and over again that this meant one single dwelling-house. In this case, in 1927, an annexe was added to the house, and this was assented to by the plaintiffs. Then, without any communication with the plaintiffs or any information reaching them, the defendant altered the premises in the meaning complained of. The result was to cut off the addition and make it a separate dwelling-house. His submission was that a separate entity had been created, and that now there were two dwelling-houses instead of one.

The defence was that the plaintiffs had no right to enforce the covenant, and further the defendant charged the plaintiffs with knowledge, laches and acquiescence.

The plaintiffs replied that they knew nothing about the matters they complained of.

Mr. Spens, K.C., for the defendant, called Mr. Rosenfeld, the husband of the defendant, who stated that the annexe was built for his wife's sister. In 1929 she left it, and it was then let on lease. There was a sub-tenant in occupation at the moment. When the representative of the plaintiffs called on witness and pointed out what had been done, witness said he was given permission to build another house. The plaintiffs' representative said the permission was only for an addition, and witness understood that an addition was tantamount to another house.

Addressing his lordship, Mr. Spens said if his lordship were against him he should ask that he should have an opportunity of making application to the proper authority for a removal of the restriction on the ground of change in the character of the neighbourhood.

His lordship said this annexe was erected under licence in 1926, and was now being used as a separate dwelling-house. It was well-settled law that what had been done was a breach of the covenant. There was nothing to suggest to the plaintiffs that there was to be a separate house. It was impossible for his lordship to spell out of the licence any sort of waiver or covenant by the plaintiffs. He could only enforce the covenant as it stood. The plaintiffs were entitled to their injunction, but as it was quite arguable that defendants had a good case for the authority to remove the covenant he would now only make a declaration in corresponding terms of the injunction to give the defendant an opportunity to take the necessary steps in the matter of getting the restriction removed. The matter would stand over for that to be done. The defendant would have to pay the costs of the action.

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

Following are the names of the specialists, general contractors and some of the sub-contractors for the buildings illustrated in this issue.

Empire Swimming Pool, Wembley (pages 152-157, 163-166). Assistant engineer, H. Ivory Hughes; resident engineer, A. H. Clark. General contractors, Holloway Bros. (London), Ltd. Sub-contractors: Alfred Bagnall and Sons, and Vigor & Co. (Poplar), Ltd., painting; Benham and Sons, Ltd., kitchen equipment; John Bolding and Sons, Ltd., plumbing and sanitary work; J. B. Brooks & Co., Ltd., dressing boxes; James Combe and Son, Ltd., heating; Crittall Manufacturing Co., Ltd., sashes; Walter Dix & Co., swimming equipment; W. T. Ellison & Co., Ltd., turnstiles; H. J. Ford, wooden fencing; Ham, Baker & Co., Ltd., manholes, grilles, etc.; John Hawley & Co., Ltd., rubber mats; Maple & Co., Ltd., seating; Mellowes & Co., Ltd., roof glazing; John M. Newton and Sons, Ltd., glazing; Paterson Engineering Co., Ltd., filtration; and wave making machinery; Penfold Fencing Co., Ltd., wire screens; Pilkington Bros., Ltd., glass discs for underwater illumination; Smith's English Clocks, Ltd., electric clock; L. Sterne & Co., Ltd., refrigeration; Adrian Stokes & Co., metal work; Troughton & Young, Ltd., electric lighting and power wiring installations; Joseph Westwood & Co., Ltd., lockers; Phillips, sound amplifiers; Guest, Keen and Nettlefolds, Ltd., steel; Cement Marketing Co., Ltd., cement; Stone Court Sand and Ballast Co., aggregates; Joseph Westwood & Co., Ltd., staging for seats; Joseph Freeman, Sons & Co., Ltd., "Cementone" No. 7 for interior decoration of Pool; Horseley Smith & Co. (London), Ltd., timber work; Bastian and Allen, Ltd., the electrode boilers and controls together with the electric water heating equipment.

Nurses' House, Hospital for Sick Children, W.C. (pages 158-162). General contractors, Leslie & Co., Ltd.; W. Aumonier and Sons, sculpture. Sub-contractors: Williamson Cliff, Ltd., bricks; South Western Stone Co., Ltd., stonework; A. D. Dawnay and Sons, Ltd., structural steel; Kleine Co., Ltd., fireproof construction; Frazzi, Ltd., special roofing and partitions; British Challenge Glazing Co., Ltd. patent glazing; Dent and Hellyer, Ltd., cast lead, plumbing and sanitary fittings; Acme Flooring and Paving Co., Ltd., wood-block flooring; Diespeker & Co., Ltd., terrazzo; Benham and Sons, Ltd., central heating; Davis Gas Stove Co., Ltd., gas cookers; William Sugg & Co., Ltd., gas fixtures and gas fitting; Drake and Gorham, Ltd., electric wiring; Carter and Aynsley, Ltd., Joseph Kaye and Sons, Ltd., Nettlefold and Son, Ltd., door furniture; Crittall Manufacturing Co., Ltd., casements; Dennison Kett & Co., Ltd., iron staircases; Educational Supply Association, Ltd., sliding partition; G. Jackson and Sons, Ltd., decorative plaster; Wainwright and Waring and A. R. H. Maxted, Ltd., metalwork; W. W. Jenkins & Co., Ltd., marble; Martin Van Straaten & Co., Ltd., tiling; John Stather and Sons, Ltd., wallpapers; D. Burkle and Sons, Ltd., fixed furniture; Waygood-Otis, Ltd., lifts; Gent & Co., Ltd., electric clocks; Betterways, Ltd., name indicator; Eric Munday, Ltd., lettering.

Messrs. Henry Neal, Ltd., Building Contractors, have removed their head office to 117, Baker Street, W.1. Telephone No.: Welbeck 8544 (3 lines).

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

BERMONDSEY. *Tenements.* The Bermondsey B.C. Housing Committee reports in connection with its application for sanction to borrow £58,329 for the erection of 113 tenements and a shop at the Tower Bridge Road site, that the L.C.C. has proposed certain minor amendments, limiting the amount to be sanctioned to £55,057, and the Committee after consideration has decided to agree to the revised estimate. The Housing Committee has also approved revised plans for the erection of blocks of flats and shops, on the Neptune Street area.

BETHNAL GREEN. *Tenements.* The L.C.C. is to erect 59 tenements on the Dinmont estate, Bethnal Green, at a cost of £25,000.

BRIXTON. *Tenements.* The L.C.C. is to proceed with the erection of a further six blocks of tenements on the Vassall Road site, Brixton, at a cost of £95,000.

BROCKLEY. *Tenements.* The L.C.C. recommends an extension of the contract with Messrs. Henry Boot and Sons, Ltd., for the erection of seven further blocks of tenements on the Honor Oak estate, Brockley, at £72,000.

CAMBERWELL. *Houses.* The Camberwell B.C. recommends leasing the site of the Addington Square depot to the Church Army Housing Association for the erection of houses.

CLAPHAM. *Tenements.* The L.C.C. is to erect three blocks of tenements on the Poynders Road site, Clapham, at a cost of £85,000.

CLAPHAM. *Tenements.* The L.C.C. is to erect 115 tenements on Macaulay Road, Clapham, at a cost of £43,000.

CROYDON. *Rehousing.* The Housing Committee of the Croydon Corporation has given further consideration to a number of alternative schemes for rehousing persons displaced under clearance orders, and recommends the completion of the erection of 92 cottages at Ham Farm, the purchase of sites and the erection in all of 238 flats at Windmill Road, Bridge Place, and the cattle market, and the total erection of 130 flats in clearance and improvement areas at Leighton Street east, Ely Road, Paddock Gardens and Victory Place, the total estimated cost of the scheme being £243,885. The Finance Committee, however, does not agree to these proposals, and has requested the Housing Committee to put forward a further scheme for the provision of houses and flats not exceeding two storeys in height, and including a portion of the Heaver's Farm site.

CROYDON. *Houses, etc.* Plans passed by the Corporation: Two houses, Blenheim Park Road, and four houses, Kingsdowne Avenue, for Messrs. Morgan, Baines and Clark; six houses, Temple Road, for Messrs. Hooker and Rogers; house, Manor Way, three houses, Russell Green Close, for Mr. E. B. Clarke; flats, Godson Road, for Messrs. S. Beadle and Sons; three houses, Witherby Close, for Mr. E. H. Smith; synagogue and classroom, Elmwood Road, for Messrs. C. H. Gibson, Ltd., on behalf of Mr. C. E. Gaventa; four houses, Hartland Way, for Messrs. Hunt Construction Co.; two houses, Addisons Close, for Mr. J. Rutley; six houses, Cloister Gardens, for Messrs. Hooker and Rogers; two houses, Bridle Road, for Messrs. Langs, Ltd.; four shops and flats, Wickham Road, for Messrs. Burcote, Ltd.; eight houses, Tennison Road, for Mr. C. Merrett; 16 houses, Sunset Gardens, for Mr. W. K. Martin; drapery showrooms, Frith Road, for Messrs. G. Baines and Son, on behalf of Messrs. Kennards, Ltd.; two houses, Naseby Road, for Mr. A. K. Carpenter; two houses, Shirley Church Road, for Mr. G. Crump, on behalf of Addington Golf Syndicate, Ltd.; four shops, Lower Addiscombe Road, for Mr. P. O. Dunk; bungalow, The Glade, for Mrs. O. E. Barker; nine flats, Stafford Road, for Messrs. H. Somerford and Son; bathing pool, etc., Birchanger Road, for Mr. W. Ernest; flats, Beatrice Avenue, for Mr. L. Cook; flats, Birdhurst Rise, for Mr. H. Potter; house, Cambourne Road, for Mr. B. M. Brown; warehouse, etc., Mitcham Road, for Messrs. M. Peaster and Son, on behalf of Messrs. C. A. Smallbone, Ltd.; two houses, Chaffinch Close, for Messrs. Wylie and Berlyn, Ltd.; two bungalows, Woodland Way, for Messrs. Wylie and Berlyn, Ltd.; 28 houses, Norbury Rise, for Mr. F. H. Wilcocks; six flats, Montpelier Road, for Messrs. E. D. Jack & Co.; eight shops, Bywood Avenue, for Messrs. Connor and Timblick; additions, Park Lane, for Mr. E. F. Starling; two houses, Davidson Road, for Mr. F. H. Wilcocks; two houses, Russell Green Close, for Mr. E. B. Clarke; bungalow, Woodland Way, for Mr. W. Petty.

POPLAR. *Tenements.* The L.C.C. is to erect 108 tenements on the Ranwell Street area, Poplar, at a cost of £45,000.

SOUTHERN COUNTIES

BOURNEMOUTH. *Hospital.* The Corporation has instructed the borough engineer, in collaboration with the borough engineer of Poole, to prepare plans for the erection of a new infectious diseases hospital, with accommodation for 168 beds, and provision for an extension to 200 beds, and a tuberculosis block, for the joint use of the Bournemouth and Poole Corporations. The site of the existing Poole isolation hospital in Ringwood Road, Alderney, has been approved as a site for the new building.

BEXHILL. *Houses, etc.* Plans passed by the Corporation: Six houses, Cambridge Road, etc., for Mr. J. E. Maynard; house, Cooden Drive, for Mr. J. T. Bridges; house, Collington Lane, for Messrs. Tubbs and Messer; house, Woodgate Avenue, for Mr. T. E. Skinner; house, Cooden Drive, for Mr. E. Bunce.

BRIGHTON. *Houses.* The Health Committee of the Corporation has approved revised plans by the borough engineer for the lay-out of the Manor Farm estate, Whitehawk, including the erection of 212 houses, and the construction of roads, sewers, etc., at a total estimated cost of £86,000.

BRIGHTON. *Sports Ground.* The General Purposes Committee of the Corporation recommends that the scheme for the establishment of a county tennis ground, with appurtenant buildings, at the Marshall playing field, in accordance with the plans agreed between the Corporation Parks Committee and the Sussex County Lawn Tennis Association, at an estimated cost of £34,500, be proceeded with. The scheme includes, in addition to the construction of the necessary grass and hard courts, the construction of a grand stand, pavilions, bar, chauffeurs' room, etc. Tenders are to be obtained for the erection of the grand stand, pavilions, and other buildings.

DORCHESTER. *Extensions to Isolation Hospital.* The Corporation reports that the Ministry of Health has approved proposals for new buildings and additions at the isolation hospital, and has instructed the borough engineer to prepare full plans and estimate of the cost of the work to be done.

FARNHAM. *Houses, etc.* Plans passed by the U.D.C.: Factory buildings, Runfold, for the Runfold Sand and Tile Co., Ltd.; and regional laundry, Farnham Institution, for Messrs. Hodgson, Dixon and Quirk, for Surrey Public Assistance Committee.

PORTLAND. *Houses.* The U.D.C. Housing Committee has instructed the surveyor to prepare lay-out plans for the erection of houses on the Avalanche Road and Weston sites.

EASTERN COUNTIES

BARNET. *Isolation Hospital.* The Herts C.C. recommends the appointment of Messrs. Alfred Saxon, Snell and Phillips, architects, to prepare preliminary plans and estimate for the erection of an isolation block at the Wellhouse hospital, Barnet.

HERTS. *Schools.* The Herts Education Committee recommends the following proposals for providing additional school accommodation at St. Albans: the erection of a county grammar school to accommodate about 320 boys at Brampton Road; extensions at the central school at Hatfield Road; the erection of an elementary school at Winches Farm; the erection of an elementary school at Julians Hill; and the reorganization of the Priory Park School.

HERTS. *Cottages.* The Herts. C.C. recommends a scheme for the development of the Beastney's Farm site, at the Hill End hospital, including the erection of 50 additional cottages, at a total estimated cost of £32,750.

LOWESTOFT. *Houses, etc.* Plans passed by the Corporation: Eight houses, Marlborough Road, for Mr. S. C. King; alterations, Blackheath, for Miss Nobbs; three bungalows, Kirkley Run West, for Mr. S. Leaper; showrooms, Commodore Road, for Mr. S. Fuller; three houses, Gunton Lane, for Mr. J. Wales; four houses, Waveney Drive, and workshop and store, Kimberley Road, for Messrs. J. Gaze and Sons; and 88 houses, Waveney Drive estate, for Mr. B. W. Youngs.

MIDLAND COUNTIES

BEDFORD. *Flats, etc.* Plans passed by the Corporation: Two houses, Phillpotts Avenue, for Messrs. E. H. C. Inskip and Son; two houses, Putnoe Lane, 19 houses, Castle Road, and extension of road and sewer, Castle Road, for Messrs. H. C. Janes, Ltd.; two houses, Phillpotts Avenue, for Messrs. L. and C. Hannen.

STOKE-ON-TRENT. *Houses.* The Housing Committee of the Stoke-on-Trent Corporation recommends granting a loan of £6,000 to the Church Army Housing, Ltd., in connection with its proposal to erect 24 houses on land at the Meir estate. The Housing Committee have also considered an offer by Messrs. Ball and Robinson to erect 296 houses on the Blurton Green estate for sale to the Corporation at the inclusive price of £380 per house. The Committee have appointed a sub-committee to negotiate with Messrs. Ball and Robinson as to the price of the proposed houses, and as to the details of the scheme, with a view to its being proceeded with, subject to the approval of the Ministry of Health.

NORTHERN COUNTIES

BLYTH. *Houses.* Plans passed by the Corporation: Two houses, Shotton Avenue, for Messrs. Beaney and Townsend; two houses, Cypress Gardens, for Mr. J. W. Tebble; four houses, Gordon Road, for Mr. A. R. Robertson; and eight houses, Wright Street, for Messrs. Pattison and Hush.

FALLOWFIELD. *School.* The Board of Education has approved plans of the Manchester Education Committee for the erection of a senior boys' school at Barlow Hall and a junior school at Fallowfield.

KEIGHLEY. *Houses, etc.* Plans passed by the Corporation: 20 bungalows, Primrose Grove, for Mr. Maurice G. Spencer; eight houses, South Street, for Mr. James Wharton; 22 houses, Woodhouse estate, for Corporation Housing Committee.

RAWTENSTALL. *Houses.* The Corporation has approved plans submitted by the borough engineer for the two and three bedroom houses proposed to be erected on the Prospect Hill and North Road sites.

SEDGELEY. *Houses,* The U.D.C. Housing Committee has approved plans submitted by the estate manager for the erection of 42 houses in connection with the continuation of the Upper Gornal extension scheme, and is to obtain tenders for the work. The U.D.C. is also in negotiation with Himley Estates, Ltd., for the purchase of approximately 8¼ acres at Boundary Hill required for the further development of the Bird Street housing area. Plans passed by the U.D.C.: Eight houses, Castle Street, for the Gerald Trust; two houses, Himley Road, for Mr. A. Guest; two houses, Wolverhampton Road, for Mr. J. T. Knight; four houses off Rosemary Crescent, for Messrs. A. A. and A. L. Moore; two houses, Coton Road, for Mr. A. N. Bloxham; two houses, Queens Road, for Mr. A. Ratcliffe; and four houses, Himley Crescent, for Messrs. Timmins and Davies.

WYTHENSHAWE. *School.* The Manchester Catholic trustees are to erect a school for 500 at Brownlow Green and a school for 350 at Wythenshawe.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A_1	Abergavenny ..	S Wales & M.	1 5	1 0½
A_2	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A_1	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
4	Airdrie ..	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B_2	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
A_2	Atherstone ..	Mid. Counties	1 4	1 0
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry ..	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_2	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham	Mid. Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth ..	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton ..	N.W. Counties	1 5½	1 1½
A_2	Boston ..	Mid. Counties	1 4	1 0
A_2	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A	Brighton ..	S. Counties	1 4	1 0
A	Bristol ..	S.W. Counties	1 5½	1 1½
B_2	Brixham ..	S.W. Counties	1 2½	11
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B_2	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
	Burslem ..	Mid. Counties	1 5½	1 1½
	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury ..	N.W. Counties	1 5½	1 1½
A	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff ..	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A_2	Chelmsford ..	E. Counties	1 4	1 0
A_2	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester ..	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley ..	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A_2	Colchester ..	E. Counties	1 4	1 0
A	Colne ..	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby ..	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorchester ..	S.W. Counties	1 2½	11
A	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N.E. Coast	1 5½	1 1½
A_2	EASTBOURNE ..	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE	E. Counties	1 4	1 0
A_2	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S.W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole ..	Yorkshire	1 4½	1 0½
A_2	Gosport ..	S. Counties	1 4½	1 0½
A_2	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull ..	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B_2	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln ..	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A_2	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_2	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson ..	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid. Counties	1 5½	1 1½
A_2	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford ..	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth ..	Scotland	*1 5½	1 1½
A_2	Peterborough ..	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A_2	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A_2	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby ..	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	Slough ..	S. Counties	1 4½	1 0½
A_1	Solihull ..	Mid. Counties	1 5	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud ..	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swadlincote ..	Mid. Counties	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A_2	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist...	N.E. Counties	1 5½	1 1½
A_2	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay ..	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall ..	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick ..	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid. Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby ..	Yorkshire	1 4½	1 0½
A	Widnes ..	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor ..	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A_2	Wycombe ..	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	11½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 8
Mason (Banker) . . . . . ,,	1 7
,, (Fixer) . . . . . ,,	1 8
Plumber . . . . . ,,	1 7
Painter . . . . . ,,	1 6
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 7
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 3
Timberman . . . . . ,,	1 3
Navvy . . . . . ,,	1 2½
General Labourer . . . . . ,,	1 2½
Lorryman . . . . . ,,	1 5
Crane Driver . . . . . ,,	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . . per ton	2 2 0
Blue Lias Lime . . . . . ,,	1 16 6
Hydrated Lime . . . . . ,,	3 0 9
Portland Cement, in 4 ton lots (d/d site, including Paper Bags) . . ,,	1 18 0
Rapid Hardening Cement, in 4 ton lots (d/d site, including Paper Bags) ,,	2 5 6
White Portland Cement, in 1 ton lots ,,	8 15 0
Thames Ballast . . . . . per Y.C.	6 3
¾" Crushed Ballast . . . . . ,,	6 9
Building Sand . . . . . ,,	7 3
Washed Sand . . . . . ,,	8 3
2" Broken Brick . . . . . ,,	8 0
¾" ,, ,, ... ,,	10 3
Pan Breeze . . . . . ,,	6 6
Coke Breeze . . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . . .per F.R	0 9	1 1
Bends . . . . each	1 9	2 6
Taper Bends . . ,,	3 6	5 3
Rest Bends . . ,,	4 3	6 3
Single junctions . . ,,	3 6	5 3
Double . . . ,,	4 9	6 6
Straight channels . .per F.R.	1 6	2 6
¾" Channel bends . . each	2 9	4 0
Channel junctions . ,,	4 6	6 6
Channel tapers . . ,,	2 9	4 0
Yard gullies . . ,,	6 9	8 9
Interceptors . . ,,	16 0	19 6
IRON DRAINS:		
Iron drain pipe . . per F.R.	1 6	2 6
Bends . . . . each	5 0	10 6
Inspection bends . . ,,	9 0	15 0
Single junctions . . ,,	8 9	18 0
Double junctions . . ,,	13 6	30 0
Lead wool . . . lb.	6	—
Gaskin . . . ,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . . per M.	2 18 0
Grooved do. . . . . ,,	3 0 0
Phorpres bricks . . . . ,,	2 17 3
Phorpres Cellular bricks . . ,,	2 17 3
Stocks, 1st quality . . . ,,	4 11 0
,, 2nd ,, . . . ,,	4 2 6
Blue Bricks, Pressed . . . ,,	8 17 6
,, Wirecuts . . . ,,	7 17 6
,, Bricdles . . . ,,	7 0 0
,, Bullnose . . . ,,	9 0 0
Red Sand-faced Facings . . ,,	6 18 6
Red Rubbers for Arches . . ,,	12 0 0
Multicoloured Facings . .	7 10 0
Luton Facings	7 10 0
Phorpres White Facings . . ,,	3 17 3
Phorpres Rustic Facings . . ,,	3 12 3
Midhurst White Facings . . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . . ,,	21 0 0
Headers . . . . . ,,	20 10 0
Bullnose . . . . . ,,	27 10 0
Double Stretchers . . . ,,	29 10 0
Double Headers . . . ,,	26 10 0
Glazed Second Quality, *Less* ,,	1 0 0
,, Buffs and Creams, *Add* ,,	2 0 0
,, Other Colours . . ,,	5 10 0
2" Breeze Partition Blocks . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 10
3" ,, ,, ,, . .	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

The following d/d F.O.R. at Nine Elms:	s. d.
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . . ,,	2 11
York stone . . . . . ,,	6 6
,, ,, Sawn templates . . ,,	7 6
,, ,, Paving, 2" . . . F.S.	1 8
,, ,, ,, 3" . . . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . . per M.	28 17 6
22" × 12" Marchionesses . . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . . ,,	15 10 0
18" × 9" Ladies . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, green ,, ,,	24 7 4
Best machine roofing tiles . . ,,	4 10 0
Best hand-made do. . . . ,,	5 0 0
Hips and valleys . . . each	9½
,, hand-made . . . ,,	10
Nails, compo . . . . lb.	1 4
,, copper . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . as 1" F.S.	9
Deal, Joiner's . . . ,, ,,	5
,, ,, 2nds . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . . ,, ,,	4
Teak, Moulmein . . ,, ,,	1 3
,, Burma . . . ,, ,,	1 2
Walnut, American . . ,, ,,	2 3
,, French . . . ,, ,,	2 3
Whitewood, American . . ,, ,,	1 1
Deal floorings, ¾" . . . Sq.	18 6
,, 1" . . . ,,	1 1 6
,, 1¼" . . . ,,	1 2 0
,, 1½" . . . ,,	1 5 0
,, 1¾" . . . ,,	1 10 0
Deal matchings ¾" . . . ,,	14 0
,, 1" . . . ,,	15 6
,, 1¼" . . . ,,	1 4 0
Rough boarding ¾" . . . ,,	16 0
,, 1" . . . ,,	18 0
,, 1¼" . . . ,,	1 6 0

Plywood, per ft. sup.

Thickness	¼"			½"			¾"			1"		
Qualities	AA.	A.	B.	AA.	A.	B.	AA.	A.	B.	AA.	A.	B.
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
Birch	4	3	2	5	4	3	7½	6	4½	8½	7	6
Alder	3½	3	2	5	4	3	6½	5½	4½	8	7	6
Gaboon Mahogany	4	3	3	6½	5½	4½	9½	7½	–	1/0½	10	–
Figured Oak 1 side	8½	7	–	10	8	–	11½	–	–	1/6	–	–
Plain Oak 1 side	6½	6	–	7½	7	–	9½	–	–	1/–	–	–
Oregon Pine	5	4	–	5½	5	–	6	–	–	–	–	–

	d.
Scotch glue . . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:

(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	½"	¾"	1"	1¼"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
,, 3"-11½" long ,,	7	9	1/3	1/8	3/–
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3
,, ,, 3"M-½" long ,,	8	10	1/5	1/11	3/6
Bends . . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . . ,,	1/–	1/3	1/10	2/6	5/1
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/–	2/–
Flanges . . . ,,	9	1/–	1/4	1/9	2/9
Caps . . . . ,,	3½	5	8	1/–	2/–
Backnuts . . . ,,	2	3	5	6	1/1
Iron main cocks . ,,	1/6	2/3	4/2	5/4	11/6
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–

Discounts: TUBES.

Per cent.		Per cent.
Gas . . . 65	Galvanized gas .	52½
Water . . . 61½	,, water	47½
Steam . . . 57½	,, steam	42½

FITTINGS.

Gas . . .	57½	Galvanized gas . 47½
Water . . .	52½	,, water 42½
Steam . . .	47½	,, steam 37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ½" . . ,,	8 6
,, ,, ⅝" . . ,,	8 3
,, ,, ¾" . . ,,	8 0
,, ,, ⅞" . . ,,	7 6
,, ,, 1" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1½" . . ,,	7 6
,, ,, 3" . . ,,	4" s. d.
Cast-iron rain-water pipes of ordinary thickness metal . . F.R	8 10
Shoes . . . . each	2 0 3 0
Anti-splash shoes . . ,,	4 6 8 0
Boots . . . . ,,	3 0 4 0
Bends . . . . ,,	2 7 3 9
,, with access door . . ,,	— 6 3
Heads . . . . ,,	4 0 5 0
Swan-necks up to 9" offsets . ,,	3 9 6 0
Plinth bends, 4½" to 6" . ,,	3 9 5 3
Half-round rain-water gutters of ordinary thickness metal . . F.R.	5 6
Stop ends . . . . each	6 6
Angles . . . . ,,	1 7 1 11
Obtuse angles . . . ,,	2 0 2 6
Outlets . . . . ,,	1 9 2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	18 6
,, drawn pipes . . . ,,	17 0
,, soil pipe . . . ,,	18 6
,, scrap . . . ,,	10 6
Solder, plumbers' . . . lb.	9½
,, fine do. . . . ,,	1 0
Copper, sheet . . . ,,	8½
,, tubes . . . ,,	11
L.C.C soil and waste pipes: 3"	4" 6"
Plain cast . . F.R.	1 0 1 2 2 6
Coated . . ,,	1 1 1 3 2 8
Galvanized . ,,	2 0 2 6 4 6
Holderbats . . each	3 10 4 0 4 9
Bends . . . ,,	3 9 5 3 10 3
Shoes . . . ,,	2 10 4 4 9 6
Heads . . . ,,	4 8 8 5 12 9

PLASTERER

	£ s. d.
Lime, chalk . . . per ton	2 5 0
Plaster, coarse . . . ,,	2 10 0
,, fine . . . ,,	4 15 0
Hydrated lime . . . ,,	3 0 9
Sirapite . . . . ,,	3 6 0
Keene's cement . . . ,,	5 0 0
Sand, washed . . . Y.C.	11 6
Hair . . . . lb.	6
Laths, sawn . . . bundle	2 4
,, rent . . . ,,	3 9
Lath nails . . . lb.	9½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft.	s. F.S.	2½
,, ,, 26 oz. ,, ,, ,, ,,		3
Flemish, Arctic, Figured (white)*	,,	7
Blazoned glasses . . .	,,	2 6
Reeded; Cross Reeded	,,	11
Cathedrals: eleven varieties (white)*	,,	6½
Crown sheet glass (n/e 12 in. × 10 in),	,,	2 0
Flashed opals (white and coloured)	,, 1 0 and	2 0
¼" rough cast; rolled plate . .	,,	7
¼" wired cast; wired rolled . .	,,	10
¼" Georgian wired cast . .	,,	11
¼" Polished plate, n/e 1 ft. . .	,, †10 to	‡1 1
,, ,, 2 . .	,, †1 2 ,,	‡1 4
,, ,, 4 . .	,, †2 3 ,,	‡2 6
,, ,, 8 . .	,, †2 9 ,,	‡3 2
,, ,, 20 . .	,, †3 7 ,,	‡4 2
,, ,, 45 . .	,, †3 11 ,,	‡4 7
,, ,, 100 . .	,, †5 0 ,,	‡5 7
Vita glass, sheet, n/e 2 ft. . .	,,	1 3
,, ,, over 2 . .	,,	1 9
,, ,, plate, n/e 2 ft. .	,,	3 0
,, ,, 7 . .	,,	5 0
,, ,, 15 . .	,,	6 0
,, ,, over 15 . .	,,	7 6
"Calorex" sheet 21 oz., and 32 oz.	,, 2 6 and	3 6
rough cast ¼" and ⅜"	,,	8½ ,, 1 0
Putty, linseed oil . . .	lb.	3

*Colours 1d. F.S. extra.

†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s. d.
White lead in 1 cwt. casks . .	cwt. 2 6 0
Linseed oil	gall. 2 2½
Boiled oil	,, 2 4½
Turpentine	,, 4 1½
Patent knotting	,, 14 0
Distemper, washable . . .	cwt. 2 6 0
,, ordinary . . .	,, 2 0 0
Whitening	,, 4 0
Size, double	firkin 3 0
Copal varnish	gall. 23 0
Flat varnish	,, 14 0
Outside varnish	,, 16 0
White enamel	,, 1 15 0
Ready-mixed paint . . .	,, 13 6
Brunswick black . . .	,, 7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR		£ s. d.
Digging over surface n/e 12" deep and cart away	Y.S.	2 9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.	8 6
" to form basement n/e 5' 0" deep and cart away	"	9 0
" " 10' 0" deep and cart away	"	9 6
" " 15' 0" deep and cart away	"	10 0
If in stiff clay	add "	6
If in underpinning	"	4 0
Planking and strutting to sides of excavation	F.S.	1 0
" " to pier holes	"	5
" " to trenches	"	5
" " extra, only if left in	"	3
Hardcore, filled in and rammed	Y.C.	10 0
Portland cement concrete in foundations (6-1)	"	1 6 0
" " (4-2-1)	"	1 12 6
" " underpinning	"	1 16 0
Finishing surface of concrete, spade face	Y.S.	7

DRAINLAYER		4" s. d.	6" s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
" junctions		3 9	4 6
Gullies and gratings	"	16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER		£ s. d.
Brickwork, Flettons in lime mortar	Per Rod	27 10 0
" " in cement	"	28 15 0
" Stocks in cement	"	35 0 0
" Blues in cement	"	52 0 0
Extra only for circular on plan	"	2 0 0
" backing to masonry	"	1 10 0
" raising on old walls	"	2 0 0
" underpinning	"	5 10 0
Fair Face and pointing internally	F.S.	1½
Extra over fletton brickwork for picked stock facings and pointing	"	8½
" " " red brick facings and pointing	"	11
" " " blue brick facings and pointing	"	1 4
" " " glazed brick facings and pointing	"	3 6
Tuck pointing	"	7
Weather pointing in cement	"	3½
Slate dampcourse	"	10
Vertical dampcourse	"	1 1

ASPHALTER		s. d.
½" Horizontal dampcourse	Y.S.	4 6
½" Vertical dampcourse	"	6 9
½" paving or flat	"	4 0
1" paving or flat	"	5 6
1" × 6" skirting	F.R.	1 0
Angle fillet	"	2
Rounded angle	"	2
Cesspools	Each	5 0

MASON		s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17 9
Bath stone and do., all as last	"	13 6
Artificial stone and do.	"	13 0
York stone templates, fixed complete	"	10 6
" thresholds	"	13 6
" sills	"	1 0 6

SLATER AND TILER		£ s. d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr.	3 10 0
Do., 18" × 9"	"	3 7 0
Do., 24" × 12"	"	3 17 0
Westmorland slating, laid with diminished courses	"	6 0 0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3 0 0
Do., all as last, but of machine-made tiles	"	2 16 0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	"	4 6 0
" " " " " " (green)	"	4 15 0

CARPENTER AND JOINER		£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2 5 0
Shuttering to sides and soffits of beams	F.S.	8
" to stanchions	"	8
" to staircases	"	1 8
Fir and fixing in wall plates, lintols, etc.	F.C.	3 9
Fir framed in floors	"	4 6
" " roofs	"	6 6
" " trusses	"	7 6
" " partitions	"	8 6
⅞" deal sawn boarding and fixing to joists	Sqr.	1 14 6
1" " " " "	"	1 17 6
1½" " " " "	"	2 3 0
2" × 2" fir battening for Countess slating	"	9 6
Do. for 4" gauge tiling	"	12 0
Stout feather-edged tilting fillet	F.R.	4½
Patent inodorous felt, 1 ply	Y.S.	2 3
" " " 2 "	"	2 9
" " " 3 "	"	3 3
Stout herringbone strutting to 9" joists	F.R.	10½
1" deal gutter boards and bearers	F.S.	1 2
1½" " " "	"	1 6
8" deal wrought rounded roll	F.R.	8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2 1 0
1¼" do.	"	2 10 0
1½" do.	"	2 17 0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S.	1 6
1¼" do	"	1 9

CARPENTER AND JOINER—*continued*		s. d.
1¼" deal moulded sashes of average size	F.S.	1 9½
2" " " "	"	1 11½
1¼" deal cased frames double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ¾" parting beads, and with brass faced axle pulleys, etc., fixed complete	"	3 7
2" " " " "	"	3 10
Extra only for moulded horns	Each	6
1¼" deal four-panel square, both sides, door	F.S.	2 0
2" " " " "	"	2 8
1¼" " but moulded both sides	"	2 4
2" " " " "	"	3 0
4" × 3" deal, rebated and moulded frames	F.R.	1 0
4½" × 3½" " " "	"	1 4
1¼" deal tongued and moulded window board, on and including deal bearers	F.S.	1 9
1¼" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2 6
1¼" deal moulded wall strings	"	2 1
1¼" " outer strings	"	2 4
Ends of treads and risers housed to string	Each	1 9
3" × 2" deal moulded handrail	F.R.	1 3
1" × 1" deal balusters and housing each end	Each	2 0
1¼" × 1¼" " " "	"	2 9
3" × 3" deal wrought framed newels	F.R.	1 3
Extra only for newel caps	Each	6 0
Do., pendants	"	6 0

SMITH AND FOUNDER		£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.	15 6
Riveted plate or compound girders, and hoisting and fixing in position	"	19 6
Do. stanchions with riveted caps and bases and do.	"	19 0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	"	17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.	11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1 10 0

PLUMBER		£ s. d.
Milled lead and labour in flats	cwt.	1 12 0
Do. in flashings	"	1 15 6
Do. in covering to turrets	"	2 5 0
Do. in soakers	"	1 7 6
Labour to welted edge	F.R.	3½
Open copper nailing	"	3
Close " "	"	4

	½" s. d.	¾" s. d.	1" s. d.	1½" s. d.	2" s. d.	4" s. d.
Lead service pipe and fixing with pipe hooks, F.R.	10	1 0	1 3	2 0	2 10	—
Do. soil pipe and fixing with cast lead tacks	—	—	—	—	—	5 6
Extra, only to bends Each	—	—	—	—	2 0	6 9
Do. to stop ends "	6½	8	9	11	1 0	—
Boiler screws and unions "	3 3	3 9	5 0	8 0	—	—
Lead traps "	—	—	—	6 3	8 9	—
Screw down bib valves "	6 9	9 6	11 0	—	—	—
Do. stop cocks "	7 0	9 6	12 6	—	—	—

		s. d.
4" cast-iron ½-rd. gutter and fixing	F.R.	1 0
Extra, only stop ends	Each	1 0
Do. angles	"	1 6
Do. outlets	"	2 9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.	1 2
Extra, only for shoes	Each	1 3
Do. for plain heads	"	5 6

PLASTERER AND TILING		s. d.
Expanded metal lathing, small mesh	Y.S.	2 0
Do. in n/w to beams, stanchions, etc.	"	2 9
Lathing with sawn laths to ceilings	"	1 3
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	"	1 5
Do. vertical	"	1 7
Rough render on walls	"	1 2½
Render, float and set in lime and hair	"	1 9
Render and set in Sirapite	"	1 11
Render, backing in cement and sand, and set in Keene's cement	"	2 9
Extra, only if on lathing	"	4
Keene's cement, angle and arris	F.R.	6
Arris	"	1½
Rounded angle, small	"	3
Plain cornices in plaster, including dubbing out, per 1" girth	"	1½
1" granolithic pavings	Y.S.	3 0
1½" "	"	4 6
6" × 6" white glazed wall tiling and fixing on prepared screed	"	17 6
9" × 3" " " " "	"	1 2 6
Extra, only for small quadrant angle	F.R.	8

GLAZIER		s. d.
21 oz. sheet glass and glazing with putty	F.S.	7½
26 oz. do. and do.	"	8½
Flemish, Arctic, Figured (white) and glazing with putty	"	1 1
Cathedral glass and do.	"	1 2
Glazing only, British polished plate	"	7
Extra, only if in beads	"	2
Washleather	F.R.	4

PAINTER		s. d.
Clearcolle and whiten ceilings	Y.S.	0
Do. and distemper walls	"	9
Do. with washable distemper	"	1 1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	"	3 3
Do. on woodwork	"	3 0
Do. on steelwork	"	3 0
Do. and brush grain and twice varnish	"	5 0
Stain and twice varnish woodwork	"	1 11
Stain and wax-polish woodwork	"	4 0
French polishing	F.S.	1 2
Stripping off old paper	Piece	2 0
Hanging ordinary paper	"	2 9

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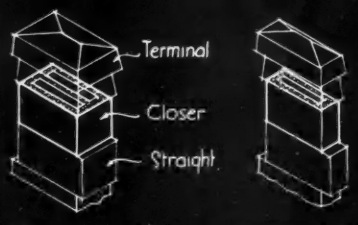
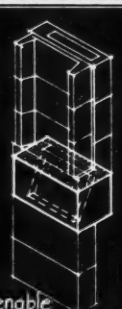


DOUBLE FLUE. SINGLE FLUE.

Closer blocks are used to give a straight edge if required above the roof for appearance. (1 in each case)

CLOSER BLOCK.

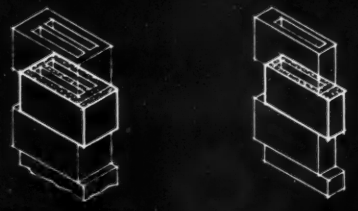


To enable flue to be set back or forward 4½"

OFFSET BLOCK.

TABLE OF SIZES OF FLUE BLOCKS.

	"A" TYPE BLOCKS 13" inside								"B" TYPE BLOCKS 8½" × 2½" inside			
	SINGLE FLUE				DOUBLE FLUE				SINGLE FLUE			
	WIDE	DEEP	HIGH	WEIGHT	WIDE	DEEP	HIGH	WEIGHT	WIDE	DEEP	HIGH	WEIGHT
Building-in blocks (3 to a set)	13"	4½"	8¾"	62 lbs	26"	9"	9"	111 lbs	21"	4½"	8"	84 lbs
Cover blocks	13"	4½"	9"	46 lbs	22½"	9"	9"	90 lbs	21"	4½"	9"	45 lbs
Raking blocks 60°	13¾"	4½"	9"	62 lbs	26¼"	9"	9"	86 lbs	25"	4½"	9"	42 lbs
Raking blocks 45°	12"	4½"	9"	59 lbs	24"	9"	9"	110 lbs	22"	4½"	9"	58 lbs
Straight blocks	16¾"	4½"	9"	35 lbs	16¾"	9"	9"	64 lbs	20.6"	4½"	9"	37 lbs
Closer blocks	14½"	4½"	9"	28 lbs	14½"	9"	9"	51 lbs	18½"	4½"	9"	30 lbs
Ventilating blocks	16¾"	4½"	9"	37 lbs	.	.	.	.	.	.	.	.
Offset blocks	17"	9"	9"	83 lbs	17"	12¾"	9"	105 lbs	20½"	9"	9"	94 lbs
Corbel blocks	18"	13½"	6"	92 lbs	22½"	18"	6"	144 lbs	18"	13½"	6"	86 lbs
Terminals, Ordinary	18"	10"	13½"	59 lbs	20"	16"	13½"	119 lbs	22¼"	11"	11½"	90 lbs
End type	17½"	10"	13½"	61 lbs	19"	16"	13½"	99 lbs	22½"	11"	11½"	88 lbs
Middle type	17"	10"	13½"	61 lbs	16¾"	16"	13½"	97 lbs	22¾"	11"	11½"	88 lbs
Terra Cotta blocks, Closer	14½"	4½"	9"	28 lbs	14½"	9"	9"	54 lbs	18½"	4½"	9"	30 lbs
Terminal	18"	10"	13½"	30 lbs	20"	16"	13½"	59 lbs	22½"	11"	11½"	40 lbs

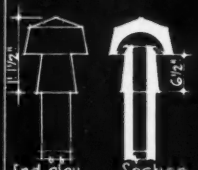


DOUBLE FLUE. SINGLE FLUE.

Standard block. Flue eccentrically placed for bonding with brickwork.

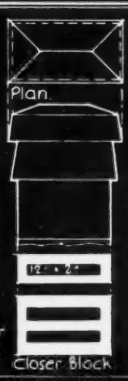
STRAIGHT BLOCKS.

ELEVATIONS OF SINGLE FLUE TERMINALS.

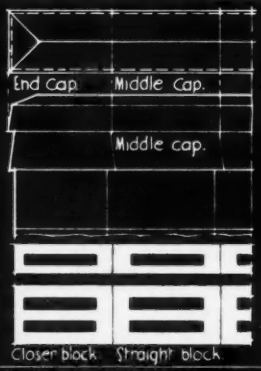


End elev. of Single flue terminals. Section

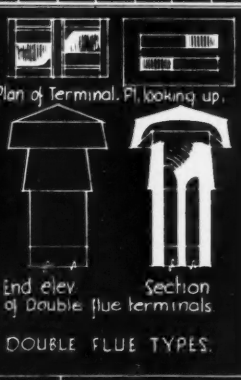
PLANS OF SINGLE & DOUBLE FLUE TYPES.



Closer Block

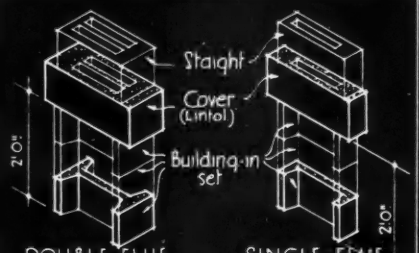


Closer block. Straight block



End elev. Section of Double flue terminals.

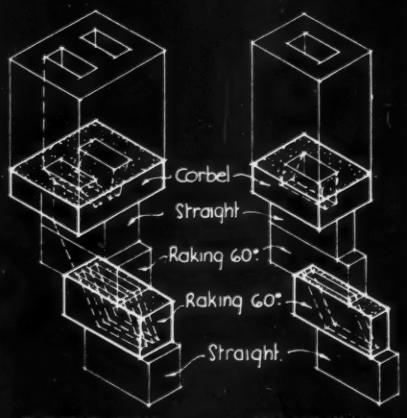
DOUBLE FLUE TYPES.



DOUBLE FLUE SINGLE FLUE.

3 blocks open on one side to provide fire opening. Back of built-in fires to be at least 2" from back of flue for proper ventilation.

BUILDING-IN & COVER BLOCKS.



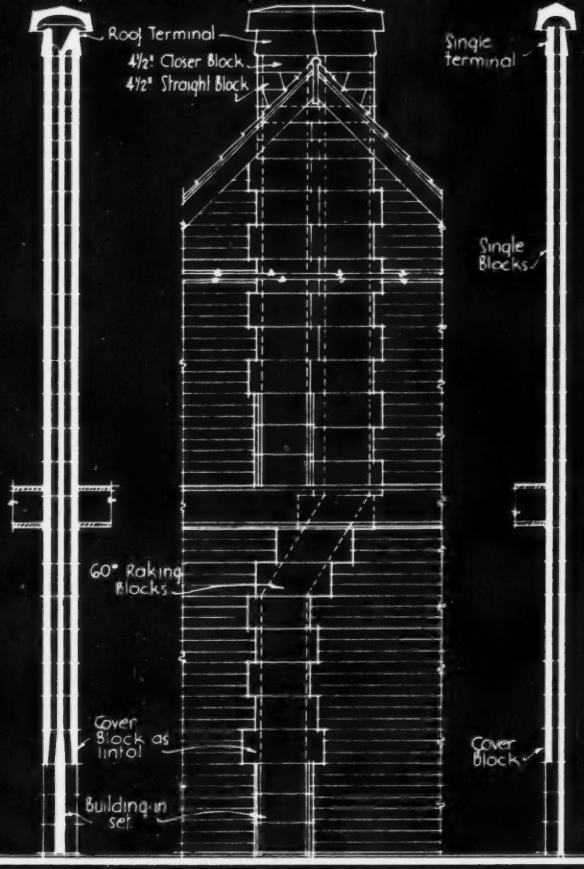
DOUBLE FLUE SINGLE FLUE.

Flues may be raked at 60° or 45° & converted to brick dimensions for termination in a chimney stack.

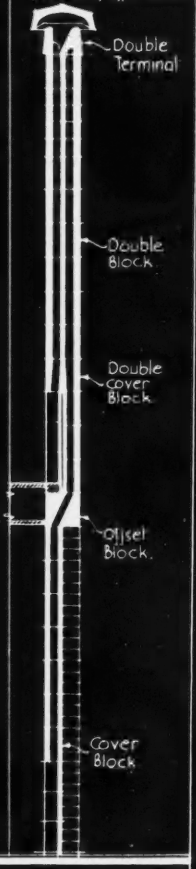
CORBEL & RAKING BLOCKS.

ELEVATION & ALTERNATIVE SECTIONS OF STACKS.

SECTION with double flue block. ELEVATION Single or double flue blocks. SECTION with single flue



ALTERNATIVE SECTION for double flues, using offset blocks.



Information from the British Commercial Gas Association.

INFORMATION SHEET: CHIMNEY STACKS & FLUES: FLUES & FLUE FITTINGS FOR GAS FIRES.

SIR JOHN BURNET, TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1.

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INFORMATION SHEET
• 131 •
GAS FLUES

General :

The flue is built up of a series of cast-concrete blocks, which are of suitable size to bond into brickwork. The single type can be embodied in a 4½ in. wall without any projection.

Substantial savings are made through the absence not only of projecting chimney-breasts, but also of foundation concrete, brick footings, trimming joists and trimmers, concrete hearths and skew-back arches, as well as of large brick chimney-stacks.

The erection of the orthodox 9 in. by 9 in. brick chimney is an unjustified expense—at least in the case of bedrooms where a gas fire is usually installed or, in any event, a coal fire is practically never lighted. Yet a room without a flue at all cannot in practice be said to have proper means of ventilation, and the choice of a heating system is limited without regard to the occupant's needs or purse.

Sizes :

The inside measurements of the flues are suitable for their dual purpose—to remove the combustion products of gas and to ensure additional ventilation.

The shape of a gas flue is specially important. That a round flue is unsuitable is one of the reasons why a pipe, even of comparative large diameter, should not be used for the run immediately above the fire. For many years now the best gas stove makers have not fitted round flue-outlets to their gas fires. Tests show that the most suitable flue area is one in which the proportion of width to depth is six to one, and thus the inner measurements are 12 in. by 2 in. and 15 in. by 2½ in.

How suitable are the flues for their secondary purpose is proved by the fact that they have been installed for ventilation only in many instances where the system of heating was such as to need no flue to carry away products of combustion. They are also used in connection with forced draught ventilation for cellars and the like.

Moreover, the flue is often found useful for ventilating the kitchen of a flat, for example, for carrying away the smell of cooking, with the aid of a hood fixed over the hot-plate of the gas cooker.

Plastering :

To form an effective key for plastering or rendering, both faces of the flue block are heavily scored. The double block (for use where flues are backing on each other) has a bed of 17 in. by 9 in. and a centre web of 1 in. only. Its outer walls are thus specially strong, the wide bed facilitates the flashing and the making of the mortar joints, and the external width is such as to permit of satisfactory bonding with the brickwork of the party wall.

Termination :

The flue is terminated on the roof. No type of flue should terminate in an aperture in the wall ; for should a heavy wind be blowing against the wall, there will be down-draught in the flue, and the products of combustion are likely to be forced back into the room.

Wherever possible, the standard terminal should be used. It should be carried through and well above the roof, and the orthodox method of flashing to the roof in lead and to the first complete course-joint above the roof is recommended.

Notes on Fixing :

An entirely separate flue must be provided for each fireplace. *There are no exceptions whatever to this rule.*

For gas fires having five to seven radiants, 12 in. by 2 in. flues are suitable. Where gas fires have more than seven and up to fourteen radiants, the larger flue, 15 in. by 2½ in., must be used. Where inset fires are installed, the building-in set is suitable up to a seven radiant size : for larger fires, the opening should be formed in brick and gathered over to the cover block.

Since mortar "fangs" inside the flue seriously obstruct the passage of the products of combustion, great care should be taken to clean off any cement that may adhere to the inside of the blocks.

A good method of keeping the passage free of mortar is to make use of a piece of sacking with a length of string tied to it. The sacking is drawn upwards through the flue as the blocks are fixed, so that it is always just below the top of the block last laid. It is withdrawn when the top of the flue is reached, and when only the terminal remains to be fixed.

Source of Information : British Commercial Gas Association

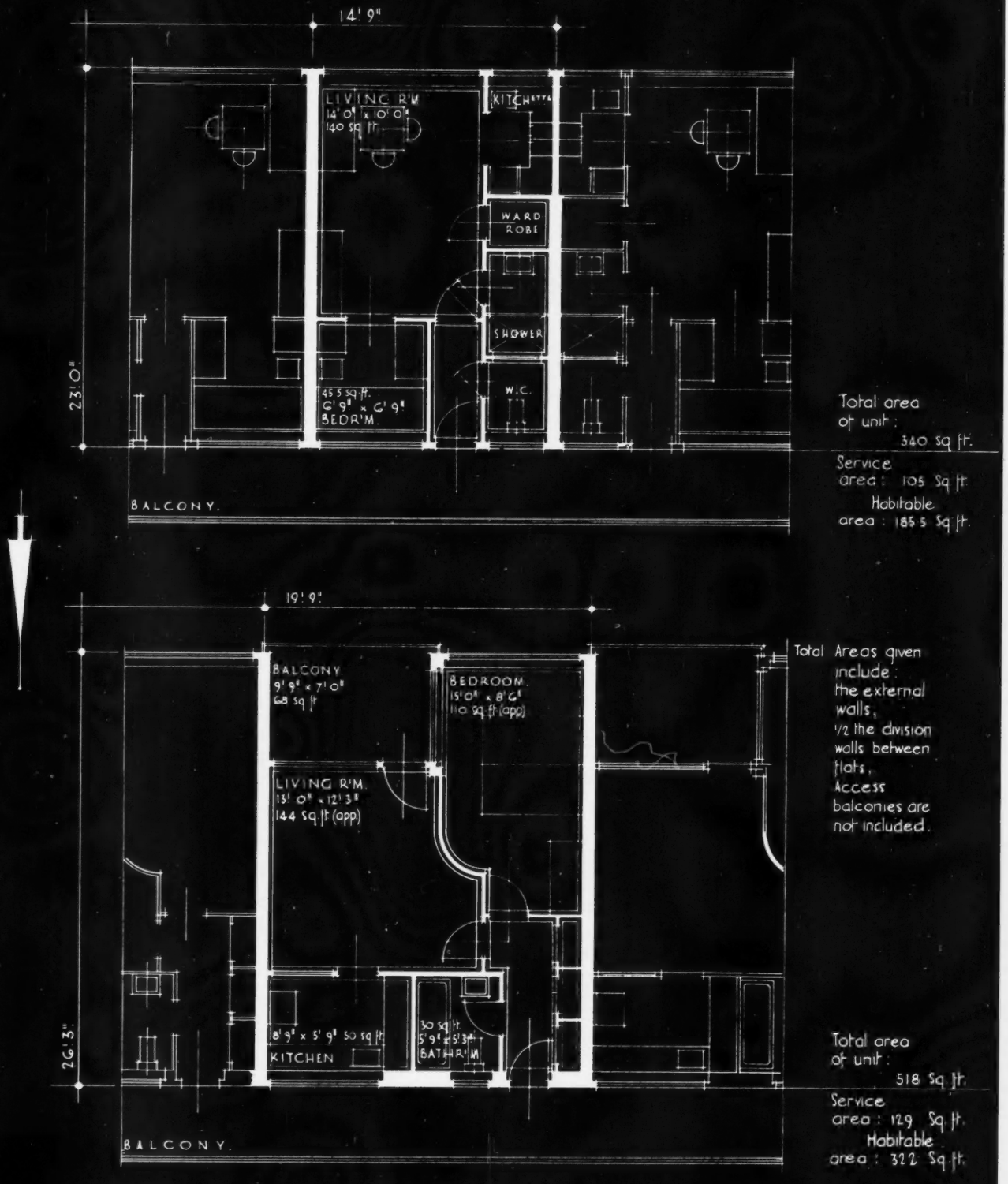
Address 28 Grosvenor Gardens, S.W.1

Telephone Sloane 8226

THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION

TYPES OF FLAT UNIT : FRANKFURT A.M.

ACCESS : Balcony
TYPE : 2-room, bathroom & kitchenette



INFORMATION SHEET : INDUSTRIAL HOUSING 3.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS. ONE MONTAGUE PLACE BEDFORD SQUARE LONDON

THE ARCHITECTS' JOURNAL
LIBRARY OF PLANNED INFORMATION

INFORMATION SHEET

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INDUSTRIAL HOUSING—III

(FRANKFURT A.M.)

THE upper plan is of a 2-roomed flat for one or two persons. It will be noticed that no bath has been provided, but a shower and lavatory basin are fitted in the one compartment with borrowed light from the w.c.

The lower plan is of a type giving slightly larger accommodation. The balcony shown was provided only in the upper storey of the block built.

In both plans the access balcony is at the side where the less important rooms lie.

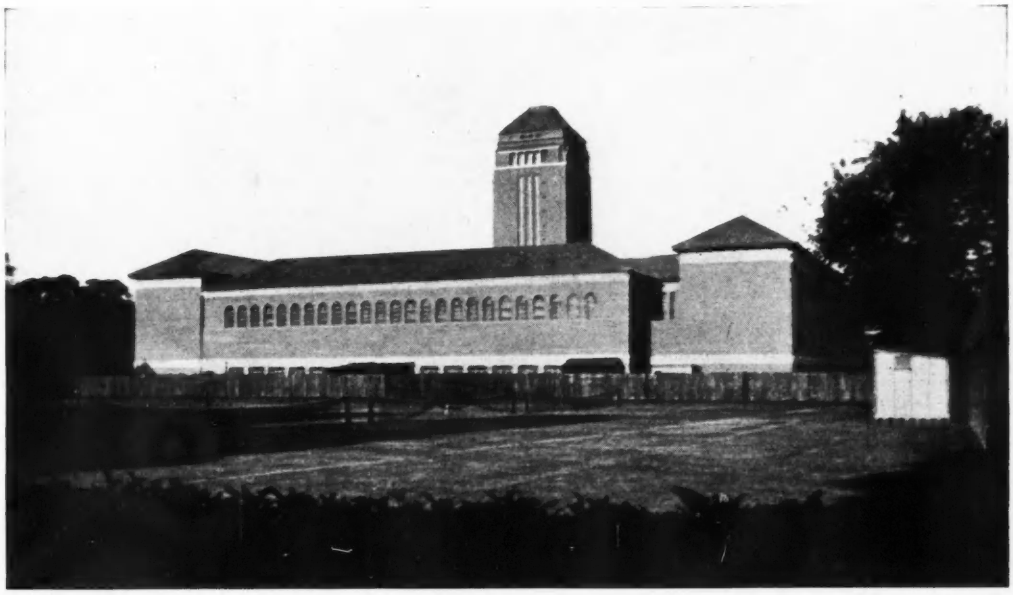
In the analysis of areas given the total area of the unit is taken from the centre lines of the division walls, and includes the thickness of the external wall, approximately 1 foot.

The service area includes all that space which is not used as living accommodation for the occupants, i.e., service area includes kitchenette, wardrobe, shower, w.c. and lobby. Where bathrooms occur they are also included. In the lower plans a large balcony is included in the habitable area.

Previous Sheets dealing with Housing (Nos. 124 and 128) were presented with our issues for July 5 and July 19.

NEW LIBRARY, CAMBRIDGE UNIVERSITY

DESIGNED BY SIR GILES GILBERT SCOTT, R.A.



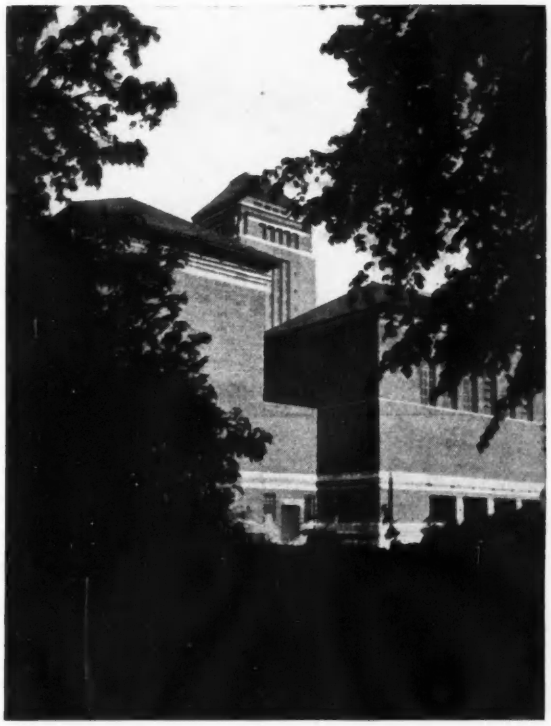
EVERARD

This building stands on a comparatively level site, approached from Burrell's Walk (which branches off Queen's Road) and faces the western boundary of the new Clare College Memorial Buildings.

The foundations are of reinforced concrete pile construction and were dealt with as a separate contract, which was completed in the autumn of 1932. The superstructure was put in hand immediately and it is expected that it will be completed towards the end of the year.

The building is largely of steel construction, and is faced externally with thin bricks of a brownish shade. Plinths, cornices, etc. are of stone, Clipsham being used in the more exposed positions and Weldon elsewhere. The roof is covered with specially made tiles, of the Lombardic type.

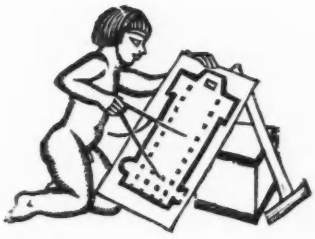
The library is erected round two large courts, with the Reading Room occupying the whole of the western side of the building; two photographs of this side are reproduced on this page. A feature of the internal construction is that the floors of the book-stacks are carried on the structural steelwork of the stacks themselves and do not depend on the walls for their support. A photograph of the main entrance front is reproduced overleaf.



EVERARD

NEW LIBRARY AT CAMBRIDGE

A view of the main entrance (eastern) front, taken from Burrell's Walk. The tower is approximately 160 ft. high above ground level, and rises about 90 ft. above the building. The architect is Sir Giles Gilbert Scott, R.A., P.R.I.B.A.



SERVING THE NEW ENDS

THE way of architecture is always towards perfection. A house, a great building, the temples of the ancients, were things completely realized, the ideas perfected and the compositions balanced in all their parts, so that the designers of them could say, "these are finished and will remain our monuments." But life itself is not finished, moving continuously forward in succession of change. And the institutions of society are monumental only by size or weight of years. They grow by accretion and are answerable to the amount and to the kind of logic that is in men at different stages of their development.

Thus architecture lives to record, not only what is permanent but that which passes and finds favour only for a time, and he who designs serves and is served by these two influences in varying measure. In so far as a designer serves the permanent his work lives on to appeal to those emotions that reside permanently in man, even when what is permanent arises from the satisfaction of factors which are subject to change.

In this lies the problem that besets the architect who must add to and alter the fine works of his predecessors. Let us imagine for a moment that in the early nineteenth century an architect built a school. In his day education still thrilled with the learning of Greece and Rome, as architecture itself drew all its finer emotions from the rediscovery of the grandeur and subtlety of Grecian monumental architecture. Stone and timber were the materials of the day; the constructional problems none other than the very soluble problems to be associated with these. A plan of class rooms and a hall; a yard for play. In all a programme uncomplicated and suggestive of the monumental plan, with its problems more æsthetic than practical.

From these there was evolved a building that satisfied the requirements of schoolmasters and governors of that time, but went on to arouse the emotions that respond to noble composition in building and subtlety in the management of light and shade, long after it had ceased to serve its practical purposes to the satisfaction of its users; so that to-day and in a time that holds definite views upon the value of sunlight and upon the nature of school curricula, it is held in affectionate remembrance as a thing too precious to be destroyed. Yet anything that shall be added to it must serve the new ends: the modern school being imperfect without laboratories and gymnasia.

Therefore, say the governors to their architect, we must add and provide new things so that it shall not be said that we are lacking, but you must preserve the grandeur of the past in what you design for us now, for it is a matter of pride with us that the school buildings are great works of architecture. And the architect goes away to think this over and to think also of what fortune is his to have a fine and a profitable work to do, and how he is thought architect enough to add greatness to greatness. And he thinks again how shall I reproduce the likeness of greatness still providing for the needs of this present, for the windows of the old building are small and the light not good for working, and I must build a laboratory and an art room and a new gymnasium; and there are bicycles to house, and a number of other things to do, which I can do splendidly and boldly with steel beams and metal windows, flooding the laboratory with light as I know how, and building a gymnasium that will open to the air perhaps . . . it is indeed difficult, for the old architect was a great man, held in reverence at the Institute, where his portrait hangs. Perhaps I can go back to the governors and tell them what I could do if it weren't for this old architect, for I find it uncommonly unnerving to serve two masters at one time. I wonder, perhaps, whether I could not tell them eloquently how fine a thing it would be to make a new gymnasium and a new laboratory absolutely perfect of their kind, not caring for exactly what old what's-his-name would have done, but trusting to doing this job so well that it will serve to stand beside the other and last its time. I wonder if they would let me do it, or is the risk too great? They think nobody can do better than the good thing that is theirs, and I know they will talk about dignity, the classic mind and the traditions of the foundation.

It's possible, but a good deal more expensive, to make a compromise—with windows bigger, but not too big—carry the string courses through—use a good deal of stone and the old mouldings over again—making the best I can of the inside so that parts of it will look fairly modern.

I could go back to the governors and explain. . . .

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Westminster, S.W.1
Telephones: Victoria
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Telegrams:
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NOTES & TOPICS

ENLIGHTENED EDINBURGH

A WRITER in *The Edinburgh Evening News* last week referred to the Pinchin-Johnson building as "a blessing in disguise, for its appearance led to the saving of all the rest of Carlton House Terrace and Gardens . . ."

*

He added, with the rich humour that sometimes flows out of Scotland, that "Seldom has a Government department got such a rap over the knuckles as was administered when the sacrilege was discovered. A few modernists thought it was all a storm in a teacup, and would have wiped out Nash's façade as Rennie's Waterloo Bridge is now being wiped out, but the majority of Londoners have been delighted to hear that, although it is impracticable to pull down or lower the Pinchin-Johnson modernist masterpiece, there is to be nothing more of the same sort on that site."

*

I presume that Sir Reginald Blomfield is called a modernist on the strength of having written *Modernismus*.

THE B.B.C. ON PRESERVATION AND PLANNING

I enjoyed the discussion on the Preservation of the Countryside which was broadcast last Friday. All the people who took part were agreed that what really mattered was good manners on the part of the townsman who uses the country.

*

Mr. Langley Taylor and Mr. A. G. Street made some good points about planning, and I think Mr. John Gloag's plea for parkways on the American model is the only really practical alternative to ribbon development. Isn't it better to have a long, thin residential area going on behind a deep band of trees that stretches on either side of the main road than a continuous border of villas?

*

But what did definitely emerge from the discussion was that preservation is impossible without planning. It was a happy idea to broadcast on this subject just before the Bank Holiday week-end, when thousands of people were hoping to enjoy the country. I hope it made some of them apprehensive regarding the permanence of the beauty spots they visited.

*

Mr. Jocelyn Bray's description of the Leith Hill Preservation scheme filled me with hope. A scheme that is based, not on official control, but upon the intelligent co-operation of a number of private landowners who guarantee not to allow their property to be developed for building, so that a great generous open space is preserved permanently, is the sort of planning that is perhaps best adapted to the individualism of the English.

*

Incidentally, it is a pretty good example of enlightened self-interest because the property adjacent to such preserved spaces is immediately enhanced in value for building.

FUNCTIONALISTIC

My recent reference to a new-coined term, "functioneer," has caused several people to draw my attention to another word, which is, I suppose, the inevitable result of the intemperate use of "functionalism" as a descriptive expression. This word is *functionalistic*.

*

I find it cropping up in a book by Miss Grace Cope, HON. M.I.A.A.S., called *Designs for Homes*. In discussing "Psychology in the Bedroom" (Chapter X) the author says: "Each piece of furniture is in harmony and, in modern interpretation, Functionalistic, the form of each piece resulting from its use and purpose."

*

I commend Miss Cope's book as a tonic for tired architects. Sophie Tucker used to sing a song in which these words occurred: "If you want to keep your husband

At the new R.I.B.A. Building: Plaster panel, on ceiling over main staircase, representing Norman Architecture. By James Woodford.

At the new R.I.B.A. Building: Plaster panel, on ceiling over main staircase, representing Saxon Architecture. By James Woodford.

straight you must show him a lot of curves!" Miss Cope is an exponent of curves in domestic architectural design.

*

In dealing with "The Circular Home" she says: "Surrounded by soothing contours and forms such as this design portrays, wastage of health (mental as well as physical), of energy and courage would be practically nil."

*

What I would like to do is to stage a debate between Miss Cope and some of the bright young people who "say it with angles for the sake of angles." I should like to empanel as adjudicators of the debate Sir Reginald Blomfield, Sir Edwin Lutyens, Sir Owen Williams and Mr. Joseph Emberton. Meanwhile, I hope the expression "functionalistic" won't pass into circulation.

SPREAD OF THE COMPETITION HABIT

I see that over twelve local authorities are announcing competitions for public buildings, offices and houses. Some of these competitions are limited to architects resident in the locality, but the holding of such competitions with properly accredited assessors does suggest that the costive parochial outlook of local authorities is changing.

*

This may have an important effect upon the appearance of England in the future; but I am not making prophecies.

THE ARCHITECTURE OF GAS

The recommendations of Professor J. B. S. Haldane, which I discussed last week, about gas-proof shelters for modern houses to meet the scientific refinements of modern warfare, are receiving official recognition in France.

*

In June, I referred to an exhibition that was held in Paris, devoted to the architecture of funk, and which illustrated an underground system of anti-gas lairs to afford protection from air-raids. Now a bill for the "passive defence" of Paris has been drafted, and will be discussed by the French Parliament.

*

Will the next ten years see the frantic contriving of burrows in all the capitals of Europe? Aeroplanes cannot defend cities. Will architecture develop an anti-air-raid branch, so that it may be said of London, Paris and Berlin, at some future time, and in the words of Vitruvius: "Thus all these cities are saved and preserve their freedom, not by machines, but by expedients which are suggested through the ready ingenuity of their architects"?

*

What mad questions these would have seemed before "The Great War for Civilization."

APPROACHES TO VILLAGES

I was motoring in Somerset and Dorset last week-end with a very enthusiastic advertising expert. He was also a lover of rural England. Nearly every village or small town we approached increased his irritation by the careless squalor of its outskirts.

*

He suggested a new activity for those who wish to preserve England. "Why don't they persuade rich men who're looking around for some worthy object to give a big prize to the village that has the tidiest approaches?" he demanded. "Railway companies offer prizes for tidy stations."

*

He said a lot of other things, variously unprintable, but eminently stimulating; but I make a present of his idea to the C.P.R.E., with full permission to use it when they find an appropriate philanthropist. A prize fund might even be started.

LONDON'S LITTLE LIDO

The Tower Beach has been given to London children with the approval of His Majesty the King for their enjoyment, and a wise and kindly letter of instructions for its use by children has been written by Viscount Wakefield.

*

If only all public authorities would couch their instructions, and announce their regulations in this courteous way, England would be an easier and more pleasant place to live in. Lord Wakefield's injunctions are of this character: "Don't throw stones at each other, or into the water. We want to keep all the gravel on the Beach."

*

Framers of public notices please copy. Not so much of the "strictly forbidden" and "prosecuted with the utmost rigour of the law" in future. Adults in our public parks are entitled to courtesy: they don't get it; not even legibility on most of the notices erected by public bodies, who, by harsh wording and repellent typography, create the impression that they hate everybody.

PROCRUSTEAN DESIGN

The inability of architects to satisfy the demands of those exacting critics, domestic experts, was brought home to me again by an irate manager of a new block of service flats that has some claim to modernism. She said: "All the cupboards in the kitchen are out of reach of ordinary people."

*

I suggested that the architect was surely willing to correct what must, after all, have been an error of detail. "Not a bit of it," she said; "he refused to alter anything, and advised me to employ taller staff!"

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

The problem that besets the architect who must add to and alter the fine works of his predecessors 179

Work on the new Brighton motor race track is to start in October .. 182

"*In England the unsightly exposure of washing on balconies or drying grounds mars the trim appearance of any housing scheme. At Drancy the kitchen balcony is enclosed to the full storey height and all clothing is hung on rods provided in this space ; it is forbidden to expose washing elsewhere*" 197

One sixth of the working-class families in Liverpool have no adult male wage-earner 202

THE ARCHITECTS' DIARY

Thursday, August 9

R.I.B.A. *Architects' Unemployment Committee. At 7 Bedford Square, W.C.1. Exhibition of work done under the Architects' Emergency Scheme. Open until further notice.*

MODERN HOMES EXHIBITION. *Gidea Park. Until August 20.*

HANTS. AND ISLE OF WIGHT ARCHITECTURAL ASSOCIATION. *At Cumberland House, Portsmouth. Annual Exhibition of members' works and the Prize Drawings of the R.I.B.A. (1934). Until August 25.*

Tuesday, August 14

ARCHITECTURAL ASSOCIATION. *Annual excursion to Norway. Until August 30.*

Wednesday, August 15

LONDON SOCIETY. *Visit to the Church of St. Nicholas, Deptford Green, S.E.8. 3 p.m.*

SLUM AT OLYMPIA

A slum alley built from materials collected in a London clearance area will be a feature of the 19th (biennial) Building Trades Exhibition which is to be opened at Olympia on Wednesday, September 12, at 4 p.m., by Lord Balfour of Burleigh.

The slum will form the entrance to the "New Homes for Old" exhibit which will include a survey of recent housing developments and the relation of housing to town planning.

Sir Giles Gilbert Scott, R.A., P.R.I.B.A., will preside at the opening of the Exhibition and other speakers will be : Mr. W. E. Collier, J.P., President, National Federation of Building Trades Employers ; and Mr. Luke Fawcett, President, Amalgamated Union of Building Trade Workers.

The Exhibition closes on September 26.

CEILINGS

A good deal of interest will be aroused by the observations on ceilings contained in a report just issued on the fifteen blocks of flats belonging to the Westminster City Council.

Six of these blocks on the Grosvenor Housing Estate have been completed during the past four years, and four of the blocks on the Ebury Bridge Estate were completed during the autumn of 1930.

According to the report of Miss M. R. Baskett, the woman property manager, "the cracks which appear in the ceiling along the lines of the steelwork of the buildings are unsightly, and detract from the appearance of the room, although they cause no risk of damage."

With regard to the Ebury Bridge Estate, the report points out "the investigation of the defects which had become apparent in the plaster of various ceilings showed that they could be ascribed to a combination of several possible contributing factors, of which no particular one could be said to be the definite cause. The defects are being dealt with as they appear, by replastering the ceilings, although in the top flats it is frequently sufficient to secure the plaster by means of battens."

It is understood that a searching enquiry has been made into the reasons, architectural or otherwise, for the ceiling defects which have involved the Council in considerable expense.

THE BRUSSELS EXHIBITION

Mr. Howard Robertson, who has been appointed by the Department of Overseas Trade to be the architect of the British Pavilion at the Brussels Exhibition, and to lay out the British section, has recently been surveying the ground and found that work is in active progress. Squads of men are engaged in levelling the huge esplanade which is to receive the crowds entering the Exhibition grounds from the Place St. Lambert. A restaurant is already open. Electric sub-stations and transforming cabins are springing up everywhere.

THE RUISLIP CASE

In our last issue we printed a letter by Messrs. Connell and Ward which appeared in *The New Statesman and Nation* for July 18 ; this letter has drawn the following reply in the current issue of the above paper, from Mr. K. McFarlane, Chairman of the Ruislip-Northwood U.D.C. :—

ARCHITECTURAL CENSORSHIP

SIR,—I have no wish to prolong unduly the public discussion on the Ruislip Arbitration case, in which the opinion of the Ruislip-Northwood Council was upheld, but I am unable to agree with the view put forward by Messrs. Connell and Ward in your issue for July 18 regarding the duty of local authorities in dealing with building plans. The Council, being satisfied that the approval of the plans for two houses only was sought, gave its decision, and in the circumstances of the particular case did not call for details of probable future development, though any evidence which the architects might have considered relevant would have been taken into account if it had been submitted. If the Council had requisitioned information which was not voluntarily submitted, and which the Council had no reason to suppose would influence its decision, needless delay would have been caused and the Council's action might have been challenged as *ultra vires*.

I agree with Messrs. Connell and Ward that the question of the absence of such information has been raised only since the Arbitration, but it has been raised only in order to demonstrate the absurdity and unfairness of the published statements that plans for a colony of houses had been rejected. I gather that we are now agreed that those statements were not correct although it was not clear from their letter in your issue for July 7 whether they desired to challenge my refutation of them.

K. MCFARLANE
(Chairman, Ruislip-Northwood Urban District Council)

MANCHESTER SOCIETY OF ARCHITECTS

On August 2 a party of members of the Manchester Society of Architects visited the Sutton Trust's new flats in Gorton, designed by Messrs. Harry S. Fairhurst and Son.

BRIGHTON'S MOTOR RACE TRACK

We understand that work on Brighton's motor-racing track, which has been the subject of much discussion, is to start in October. The track will cost £100,000, and will stretch 4½ miles across one of the loneliest stretches of downland near the Devil's Dyke.

BIJOU MANSIONS

The Earl of Crawford and Balcarres, speaking at the opening of the Modern Home Exhibition, Gidea Park, said : "One sees advertisements of houses which describe themselves as 'bijou mansions'—even as baronial halls. That is pretentiousness and vanity. I am glad to see none of that here. Again, one sees brown-paper panelling, deal fumed to look like oak, and masses of vulgar, tawdry, bastard Tudor half-timbering. That is a sham and a fraud. Finally, a very common thing in modern houses of this size is the needless and meaningless gable."

He went about big housing estates, he continued, and saw row upon row of identical houses jammed up one against the other, with plenty of tiresome mechanical-stained glass and lots of unnecessary Tudor gables and woodwork—houses where on

Sunday afternoon the family took down the Tudor woodwork in order to re-creosote it. The danger was that twenty-five years hence there would be nothing left but slums half a mile long.

COMPETITION NEWS

YORK : PRISON SITE

The York Corporation Castle Committee reports that the purchase of the prison has been completed, and recommends the Council to invite architects to submit a lay-out of and a scheme for building on the prison grounds, and that prizes of £250, £150 and £100 be offered for the designs placed first, second and third respectively.

BIRMINGHAM : COLLEGE

The Birmingham Education Committee is to obtain competitive designs for the proposed new college for technical, commercial and art studies.

HERTS : CENTRAL OFFICES

The Herts C.C. proposes to hold an architectural competition for the erection of the central offices at Hertford. The premiums to be offered are £350, £250 and £150, for the designs placed first, second and third respectively.

BOLTON : COLLEGE

The Bolton Education Committee has to hold an open competition for the proposed technical college. Premiums of £500, £250 and £100 are to be offered for the designs placed first, second and third respectively.

ENFIELD : CIVIC CENTRE

The Town Planning Committee of the Enfield U.D.C. recommends that the President of the R.I.B.A. be asked to nominate an assessor to adjudicate upon competitive designs for a civic building in connection with the proposed scheme for a civic centre and to advise the Committee with regard to the suitability of a site for the erection of the building.

Competitions Open

August 17.—Sending-in Day. Proposed new Municipal Offices for the Swinton and Pendlebury Urban District Council. Assessor : J. R. Adamson, F.R.I.B.A. Premiums : £150, £100, £75. Last day for questions was June 11. Conditions (deposit one guinea) from the Clerk to the Council, Council Offices, Swinton, Manchester.

August 31.—Sending-in Day. Proposed Memorial Assembly Hall at Methodist College, Belfast. Assessor : Mr. R. S. Wilshere, F.R.I.B.A. Competition is open to architects resident in Ireland. Premiums : £100 and £50. Designs must be submitted to Mr. Wilshere at the Education Offices, Belfast, not later than 10 a.m. on Friday, August 31. The last date for questions was July 2.

September 22.—Sending-in Day. Civic Centre, Tunbridge Wells, for the Corporation of Tunbridge Wells. Assessor : E. Berry Webber, F.R.I.B.A. Premiums of £300, £200, £100 and £75. Conditions are now obtainable (deposit £1 1s.) from Mr. J. Whitehead, Town Clerk, Tunbridge Wells. The last day for submission of designs is September 22.

October 1.—Sending-in Day. Proposed Municipal Assembly Halls, Wolverhampton, for the Wolverhampton Corporation. Assessor : C. Cowles Voysey, F.R.I.B.A. Premiums : £350, £250 and £150. Conditions from the Town Clerk, Town Hall, Wolverhampton. Last day for questions was May 21. (Deposit £1 1s.)

THIS ARSHETECTURE

A small farmhouse on the road between Salzburg and Ling, in Austria. The house is finished in plaster, the tree-trunks at the corners being realistically coloured on a pale yellow ground.

R. I. B. A.

R.I.B.A. CENTENARY BANQUET

The Prince of Wales has accepted the invitation of the President and Council of the R.I.B.A. to be present at the Centenary Banquet of the R.I.B.A., to be held on Thursday, November 22.

ARCHITECTS' DANCE AT OLYMPIA

Mr. Greville Montgomery, the Director of the Building Trades Exhibition, is giving a dance at Olympia in September during the Exhibition in aid of the Architects' Unemployment Scheme which is carrying on the work begun by the Architects' Unemployment Relief Fund. All the expenses of the dance are again being met by Mr. Montgomery, as they were two years ago when the dance was held for the benefit of the Unemployment Relief Fund, so that the entire proceeds of the sale of the tickets will be devoted to the Employment Scheme.

The organization of the dance is once more in the hands of Mrs. Lanchester, the chairman of the R.I.B.A. Social Committee.

The date has been fixed for Friday, September 21, in the National Hall. A sit-down supper will be served at 8.30 p.m. and dancing will continue till 1 a.m. Tables may be reserved for parties of six or more, if the order is received before Wednesday, September 19. After September 19 no reservations can be made. Tickets are £1 each (or 15s. if bought in numbers of three) and may be obtained from Mrs. Lanchester, Chairman, Social Committee, R.I.B.A., 9 Conduit Street, W.1, or the Secretary, Architects' Unemployment Committee, 9 Conduit Street, W.1.

COUNCIL MEETING

Following are some notes from a recent meeting of the Council of the R.I.B.A.

Prizes and Studentships : General Conditions.—On the recommendation of the Board of Architectural Education, General Condition No. 6 was amended to read as follows : "Except where otherwise stated, no competitor for any prize or studentship shall be eligible to receive for a second time a prize or studentship or medal which he may previously have gained. This condition does not, however, apply to competitors placed second in competitions nor to competitors awarded Certificates of Honourable Mention."

Programmes of Study Proposed by R.I.B.A. Prize Winners.—The Board reported that they had approved the programmes of study proposed by the following prize winners : (1) Miss Sadie Speight, R.I.B.A. Neale Bursar 1934 ; (2) Mr. W. A. Eden, R.I.B.A. Hunt Bursar 1934 ; (3) Mr. A. D. Kirby, R.I.B.A. Tite Prizeman 1934 ; (4) Mr. G. D. Griffiths, R.I.B.A. Alfred Bossom Travelling Student 1934. (The Committee of Officers of the Board of Architectural Education have given Mr. Griffiths permission to reduce the time to be spent in America from six months to four months, excluding the time to be spent in travel.)

The R.I.B.A. Henry Jarvis Studentship at the Architectural Association School of Architecture, 1931.—The Board reported that the studies and thesis on Cement and Concrete submitted by Mr. W. W. Fisk in connection with the Studentship had been approved.

Students of the R.I.B.A. Overseas.—In view of the fact that Students R.I.B.A. overseas do not pay the usual Students' contribution of £1 1s., but receive the Journal and Kalendar free of charge it was resolved, on the recommendation of the Board, that in the case of students of the R.I.B.A. resident overseas a time limit of five years from the date of the election of the student be imposed for remaining on the Register of Students.

Advisory Panels.—The report of the Panels Sub-Committee of the Central Panels Committee on "How to make the Panel System work well" was approved. The Council also approved a memorandum submitted by the Public Relations Committee regarding a suggested Code of Procedure for adoption by the architect-members of the Advisory Panels.

R.I.B.A. MAINTENANCE SCHOLARSHIPS

The R.I.B.A. announce that the following Maintenance Scholarships have been awarded for the year 1934-1935 :—

An Ordinary R.I.B.A. Maintenance Scholarship of £100 per annum to Mr. Ronald William Higgs, of Birmingham ; and the R.I.B.A. Fourth and Fifth Year Maintenance Scholarship of £100 per annum to Mr. Norman Edwin Block of the Bartlett School of Architecture, University of London.

The following Scholarships have been renewed for a further period of one year :—The R.I.B.A. Ordinary Maintenance

Scholarship of £100 per annum awarded to Mr. E. F. Ward (Architectural Association School of Architecture, London) in 1932; and the Ralph Knott Memorial Maintenance Scholarship of £45 per annum at the Architectural Association School of Architecture, London, awarded to Mr. C. O. Tremeer in 1933.

THE EXAMINATIONS

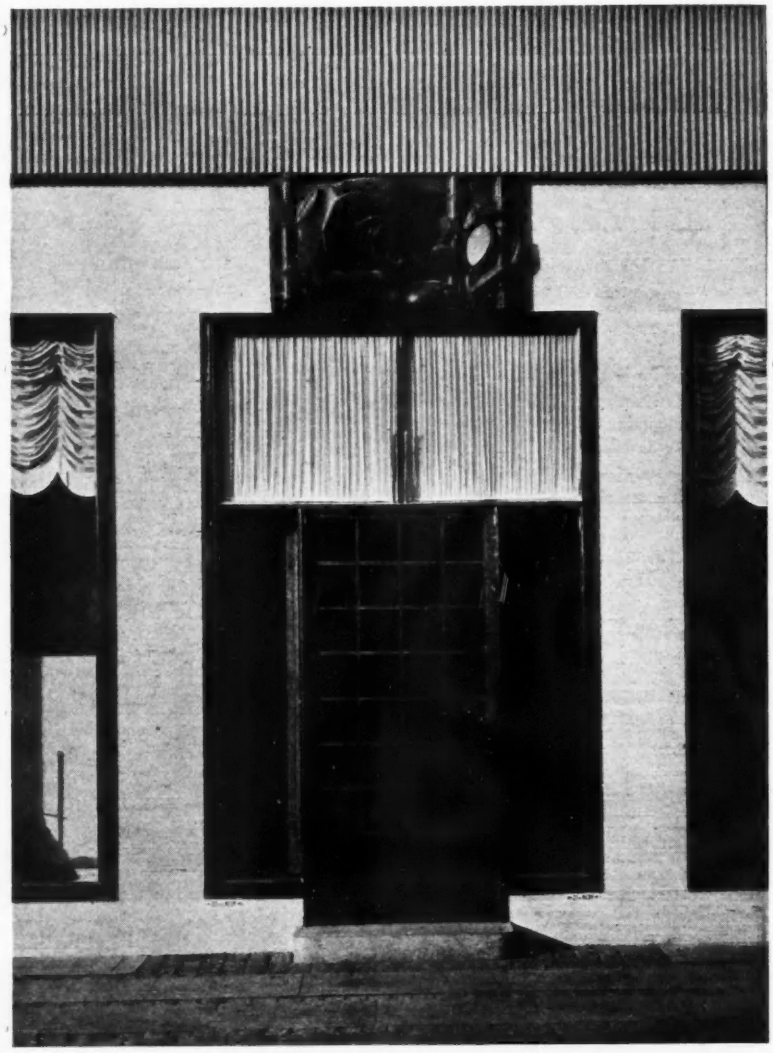
The Final Examination: The Final Examination qualifying for candidature as Associate R.I.B.A. was held in London and Edinburgh from July 4 to 12, 1934. Of the 205 candidates examined 81 passed (29 in Part 1 only) and 124 were relegated. The successful candidates are as follows:—J. M. Aitken (*Part 1 only*); C. H. Allport; G. H. Beech (*Part 1 only*); W. H. Beesley; P. Billington; E. Boothroyd; C. E. Boreham; H. J. Broadwater; (*Part 1 only*); G. H. Brown (*Part 1 only*); G. E. Cardew (*Part 1 only*); H. M. Casson; C. V. Charles; E. Clarke; T. H. Clayton; E. W. Collins; C. E. Collyer (*Part 1 only*); E. C. Cooper (*Part 1 only*); H. W. Cortis; C. M. Crichton; F. M. Dewing; B. E. Doctor; A. Dumble (*Part 1 only*); W. J. Dungey (*Part 1 only*); H. Fedeski; L. H. Fermaud; J. Forbes (*Part 1 only*); H. S. Gardiner; (Miss) M. C. Gick; J. Grace (*Part 1 only*); A. L. Gray; J. W. Greenwood (*Part 1 only*); L. J. Grigg; B. Hackett; F. L. Hannam (*Part 1 only*); A. J. Hardcastle; E. W. Harkness; C. A. Hart (*Part 1 only*); G. A. Henry; W. R. Hurry (*Part 1 only*); W. Ingham; W. J. Jobson (*Part 1 only*); T. W. Knight (*Part 1 only*); H. R. Lanchester (*Distinction in Thesis*); E. D. Lyons (*Part 1 only*); H. C. Macaree (*Part 1 only*); A. A. Macfarlane; E. K. Mackay; J. G. Mackenzie (*Part 1 only*); H. Mackley; L. Marks; W. Marsden; F. Marston; L. G. Mayman; F. C. Ménage (*Part 1 only*); J. L. Morgan; A. S. Morris (*Part 1 only*); P. G. Negus; R. G. Nicholls (*Part 1 only*); A. P. Pascoe; L. R. Penman; C. H. Pike; T. Pilkington (*Part 1 only*); G. W. Pollard (*Part 1 only*); A. S. Pyne; C. E. Reeve; D. Roth; C. G. Runnicles; R. P. Sharman (*Part 1 only*); R. W. Sherwin; R. A. Smeeton; J. F. Smith; G. H. Smithson; C. C. Spence; J. S. Stedman (*Part 1 only*); J. L. Thorpe; A. Watson; J. S. Watt; J. S. Westcott; N. E. Weston (*Part 1 only*); A. C. Williams (*Part 1 only*); G. L. Williams.

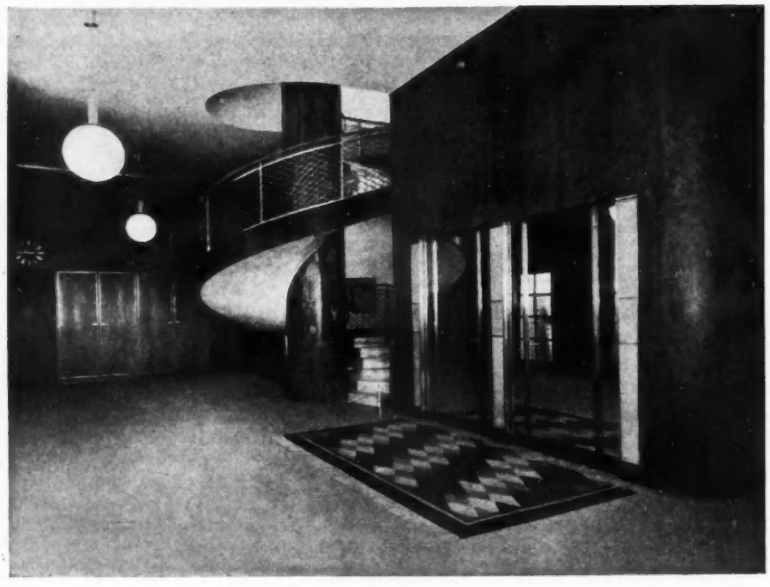
The Special Final Examination: The Special Final Examination qualifying for candidature as Associate R.I.B.A. was held in London from July 4 to 10, and in Edinburgh from July 4 to 12, 1934. Of the 28 candidates examined 12 passed (2 in Part 1 only) and 16 were relegated. The successful candidates are as follows:—P. E. Culling; R. Dron; S. G. Goligher; C. W. Lemmon; H. A. Metayers (*Part 1 only*); H. Nightingale; N. Stirrup (*Part 1 only*); V. D. Thomas; C. J. Thurgood; W. B. Walton; W. E. Wolff; C. J. Wylde.

Special Examination in Design for former Members of the Society of Architects. The Special Examination in Design for former Members of the Society of Architects qualifying for candidature as Associate R.I.B.A. was held in London from July 4 to 9, 1934. One candidate was examined and passed. The successful candidate was: J. C. Bawcutt.

The Examination in Professional Practice for Students of Schools of Architecture recognised for exemption from the R.I.B.A. Final Examination. The Examination was held in London and Edinburgh on July 10 and 12, 1934. Of the 33 candidates examined 30 passed and 3 were relegated. The successful candidates are as follows: T. W. Barton; J. Campbell; T. J. Coton; J. F Coull; R. Dickinson; R. N. Dixon; J. H. Evans; M. Gardner; J. F. Gooding; J. W. Harrison; L. Hayes; L. H. Hill; W. F. Johnson; H. J. Lake; P. E. McManus; F. H. Marvan; R. S. Morton; A. M. Neilson; R. W. Paterson; C. G. Percy; A. Reiach; J. Robertson; H. G. Round; (Miss) E. M. Sherwell; (Miss) E. M. Smeall; G. A. Smith; (Miss) R. O. Smith; P. M. Thompson; W. I. Thomson; A. W. Varcoe.

AN OFFICE BUILDING

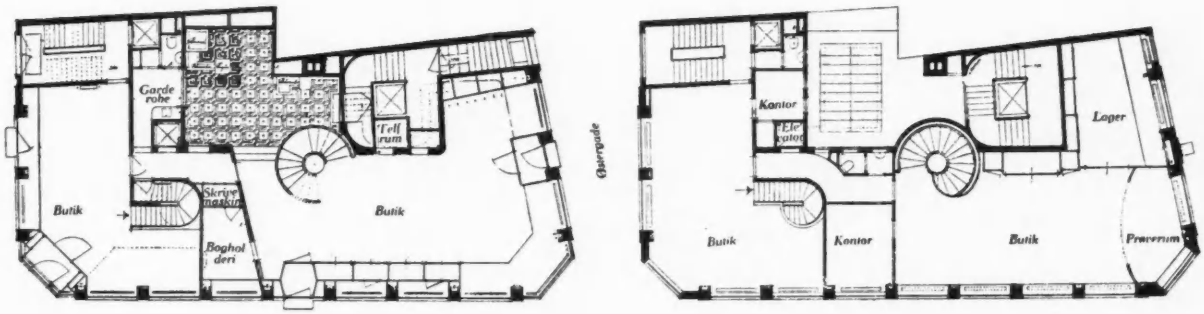




IN COPENHAGEN: BY HELWEG-MÖLLER

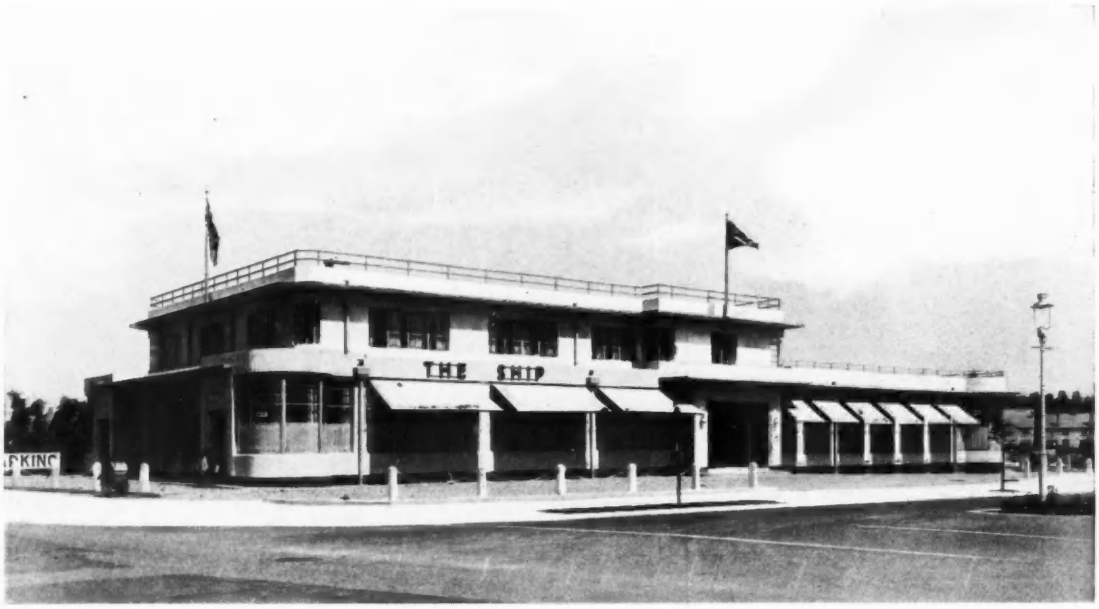
This is the headquarters of a large Danish fur company in Copenhagen. The building is in reinforced concrete, faced chiefly with a new ceramic facing material brought out by the Royal porcelain factory of Copenhagen. This material consists of Chamotte clay with a thin clay-coloured glaze. The tiles which cover the horizontal strips along the building are about 14 in. by 10 in. in size and have a faintly fluted surface. The cills are of green glazed tile and the vertical pillars are faced with greyish Roman travertine. The shop on the ground floor is finished with Brazilian palisander and bronze. Windows are of bronze and stainless steel.

The photograph on the right shows a general view. On the facing page are a detail of the shop entrance, showing at the top some of the fluted ceramic facing material; and an interior of the hall: the spiral staircase is in marble and bronze.

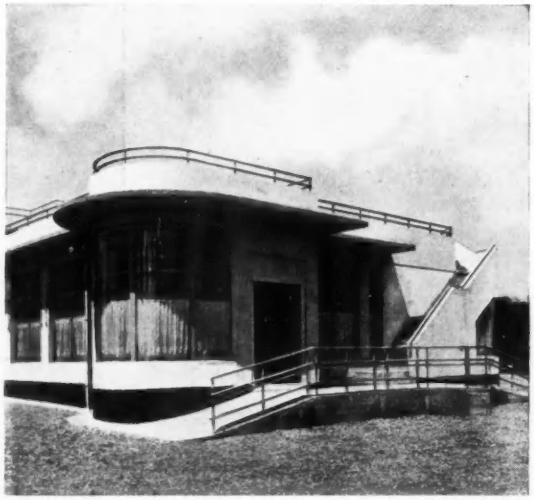


GROUND AND UPPER FLOOR PLANS

THE SHIP HOTEL,



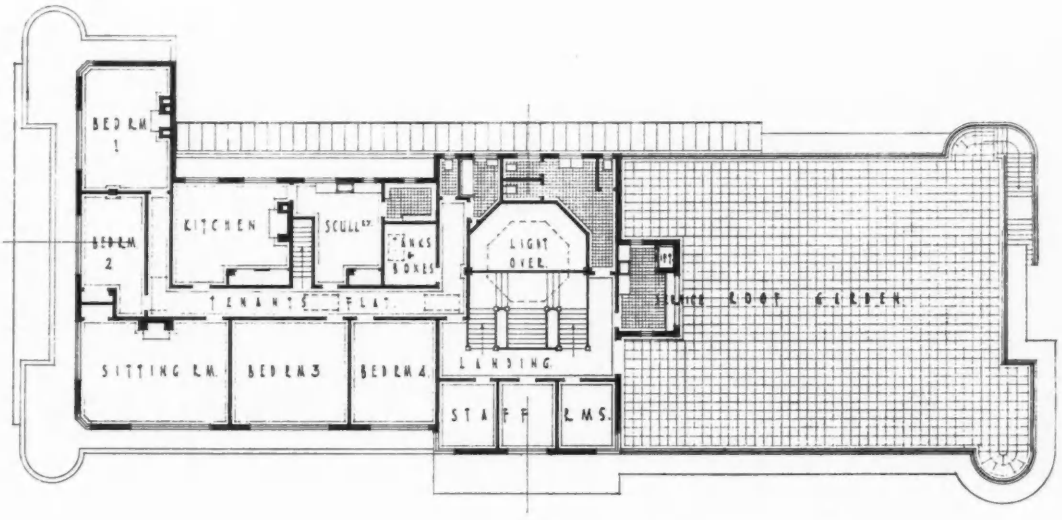
DESIGNED BY BAILY AND EBERLIN



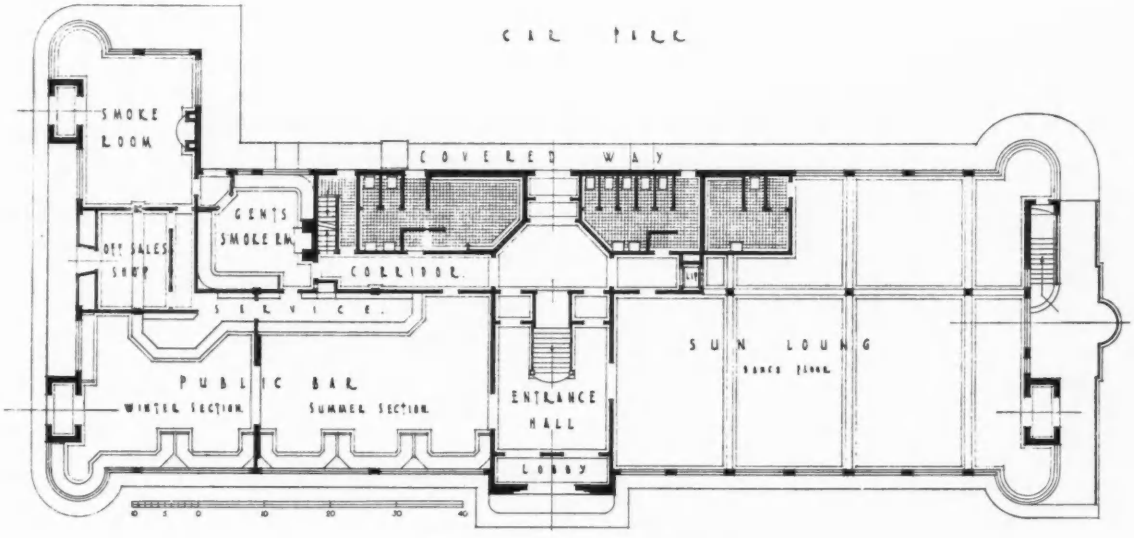
SPENCER HIGSON

The photographs show: top, a general view of the main (south-west) elevation; centre, a detail of the sun lounge (south-east) elevation; and, left, the interior of the sun lounge looking towards the doors leading to the entrance hall. The lounge is 65 ft. long by 45 ft. wide and has a sprung dance floor.

SKEGNESS, LINCOLNSHIRE



FIRST FLOOR PLAN

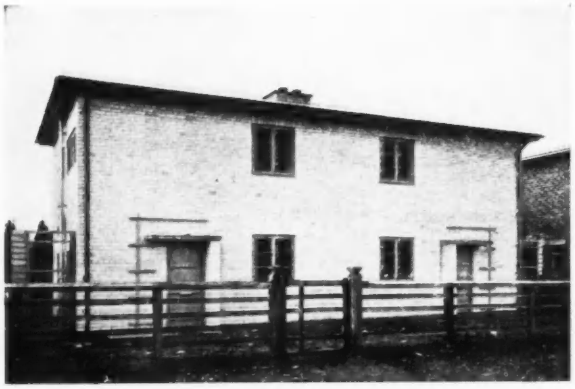


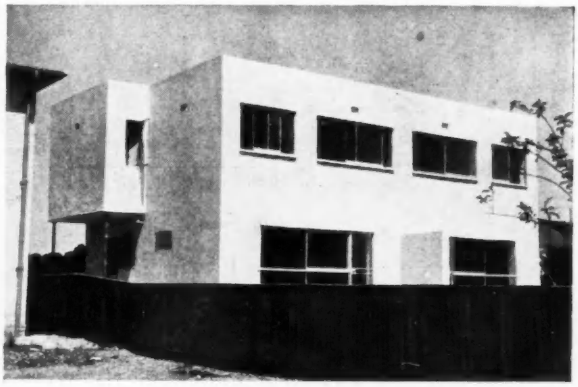
GROUND FLOOR PLAN

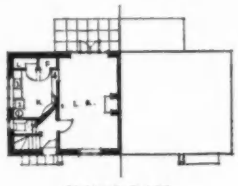
This hotel is designed to cater mainly for the summer time trade at a seaside resort, and the accommodation has therefore been arranged so that it may be reduced to about one-third during the winter, when the sun lounge and public bar are locked off. The first floor is arranged as a flat for the occupier and a large roof garden for the service of teas.

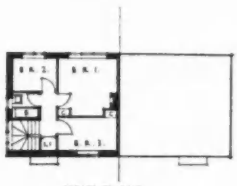
Structurally the building is steel framed with reinforced concrete walls and precast concrete floors, with a reinforced concrete cellar which, owing to the waterlogged site, has an asphalt membrane on the outer face. Externally, the rendering is in cream cement with windows, railings and other ironwork a bright green.

EIGHT HOUSES AT THE MODERN



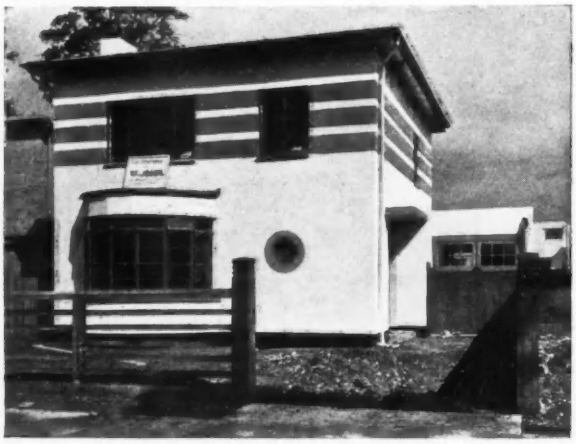


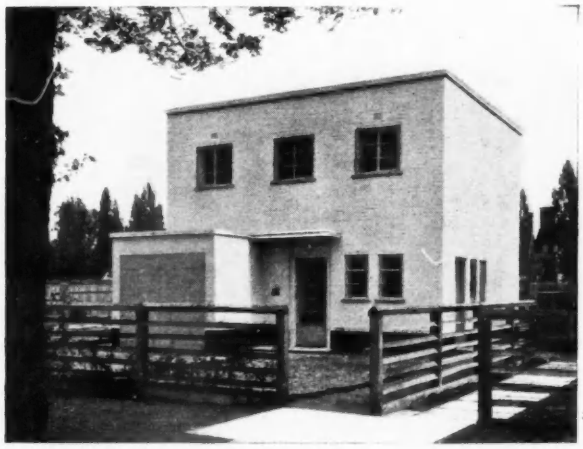


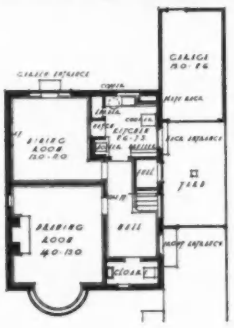


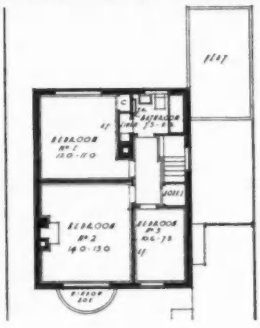
Above: Class A (Cost, £650): By Scott, Chesterton and Shepherd. (Builders: H. M. Nowell, Ltd.)

Right: Class A (Cost, £650): By Holford, Stephenson and Yorke. (Builders: Workwell and Prosper.)



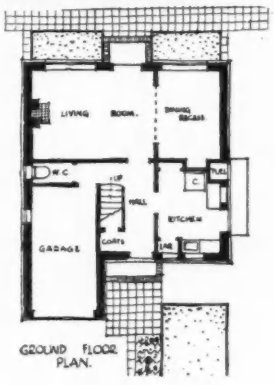


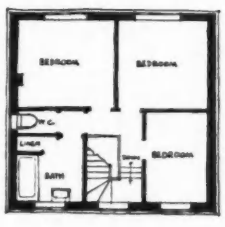




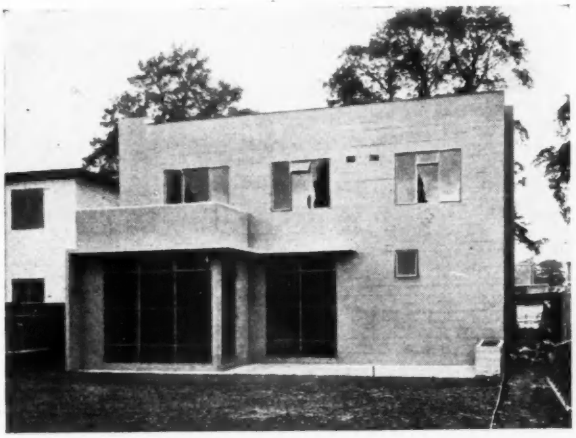
Above: Class C (Cost, £1,040): By Minoprio and Spencely. (Builders: Hine and Horn.)

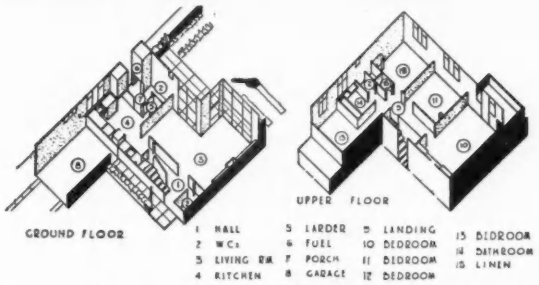
Right: Class C (Cost, £1,040): By Geoffrey F. Ransome. (Builders: Stedman Bros.)



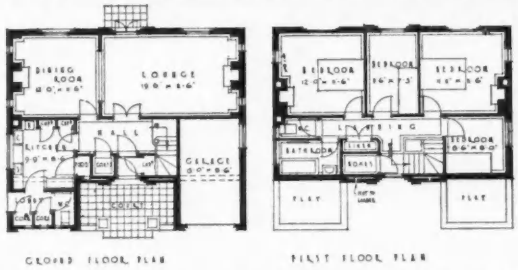


HOMES EXHIBITION, GIDEA PARK

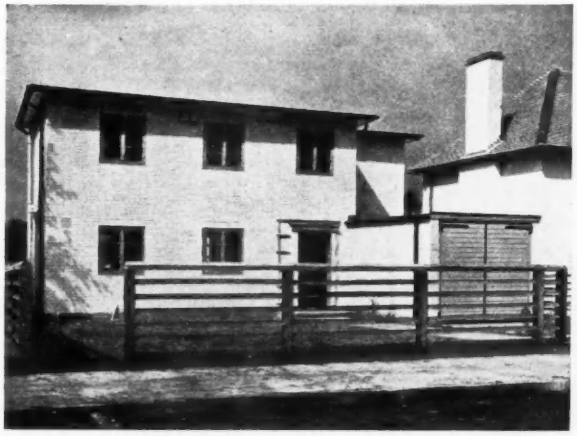


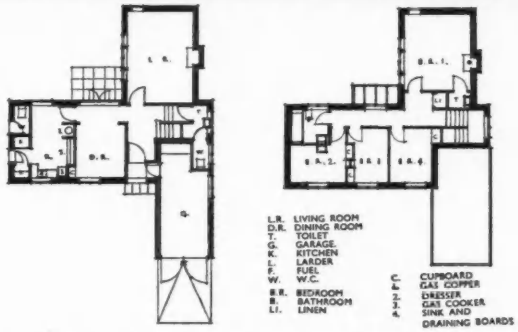


Class D (Cost, £1,250): By H. Spence Sales. (Builders: Walter Taylor (Builders) Ltd.)

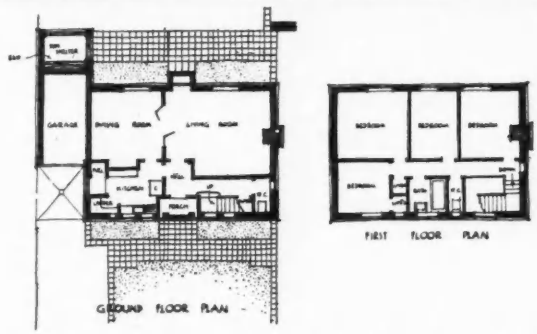


Class E (Cost, £1,475): By John Leech. (Builders: F. N. Noble and Son, Ltd.)





Class E (Cost, £1,475): By Scott, Chesterton and Shepherd. (Builders: H. M. Nowell Ltd.)



Class E (Cost, £1,475): By Geoffrey F. Ransome. (Builders: Stedman Bros.)

LETTERS FROM READERS

Petrol Filling Stations

F. J. G.

SIR,—May I join your leader writer in congratulating the L.C.C. upon accepting an admirable enactment for regulating the appearance of petrol filling stations. The large variety of designs at present in vogue simply bewilders the motorist and makes it impossible for him to recognise a filling station at first sight.

Londoners, some years ago, suffered the same difficulty with regard to the Underground, with its strange medley of buildings. Today the standardization of elevations has made the Tube stations, even in Greater London, unmistakable.

The L.C.C. have decided that all petrol filling stations must comply with definite regulations as to materials and conduct, lettering and colour schemes. This is an admirable beginning, for which all motorists will be grateful. It should, however, be followed by the adoption of a definite standard design for the elevations of all new stations, the design being obtained by the promotion of an open competition.

There are many owners of petrol filling stations who do not favour the uncivilized extravagances we so often see, and who do not wish to desecrate our cities and countryside.

I have seen many delightful filling stations illustrated in your JOURNAL, among the most outstanding being Stewart and Ardern's in Ilford and Moon's in Kensington. In the architectural handling of these two buildings especially there is much to excite interest and esteem.

F. J. G.

The A.A. Exhibition of Students' Work

V. HARDING

SIR,—I read in your issue for July 19 an account by your correspondent of the Annual Exhibition of Students' Work at the Architectural Association. This glowing account sent me with all speed to the Association to enjoy the exhibition for myself.

Your correspondent states that "research" is the keyword of the curriculum. What evidence have we of this? A number of large sheets of paper covered with neat little sketches coloured with yellows, greens and reds, with (if the student really aims at high marks) a dash of blue here and there; one notices also a number of wordy notes, apparently done with the sole object of making the sheets look "busy"—more words more marks.

The designs for the most part seem to be produced on the same lines, namely, with both eyes and mind fixed inflexibly on marks. Most of the buildings seem to be regarded as pegs on which to hang pretty colours and styles of different kinds; students seem to have restrained themselves from trying to approach design through the study of materials and methods of construction, though this might be to some extent excusable in a few designs of great brilliance and imagination. One has heard that the A.A. now provides a dismountable model of a domestic structure; one hoped that this might be some real attempt to help students to grapple with modern construction. But no, it is merely an old-fashioned brick house with a still more old-fashioned timber roof and dormer windows. There is no evidence of research into such essential problems of modern building technique as thermal conductivity.

My conclusion was that the work exhibited, with very few exceptions, showed obedience to superficial clichés, but no effort to get to the root of architectural design. If this is the way to make a collection of "mentions" and "stars," it may be that a search of the portfolios of less successful students would disclose work which shows a more obvious desire to grapple with the main problem.

V. HARDING

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THE OLD SURREY THEATRE

The old Surrey Theatre in Blackfriars Road, S.E., is to be sold to the Royal Eye Hospital, which occupies an adjoining building. It is the intention of the hospital authorities to build an extension on the site, to cost £300,000.

The theatre was built in 1782.

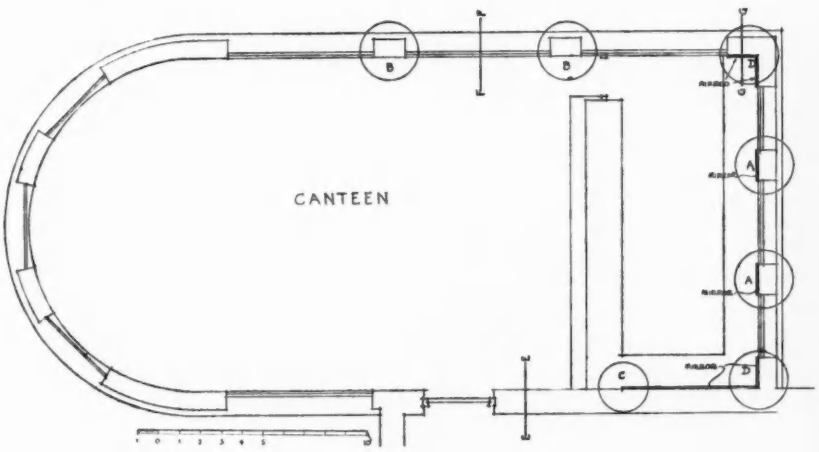
HEREFORD: HOUSES

The Hereford Corporation has instructed the city engineer to invite local architects to submit alternative designs for houses on the Hinton Court estate, for the rehousing of persons displaced under Clearance Orders.

Service station at Ilford. By Cameron Kirby. See letter on this page.

WORKING DETAILS : 97

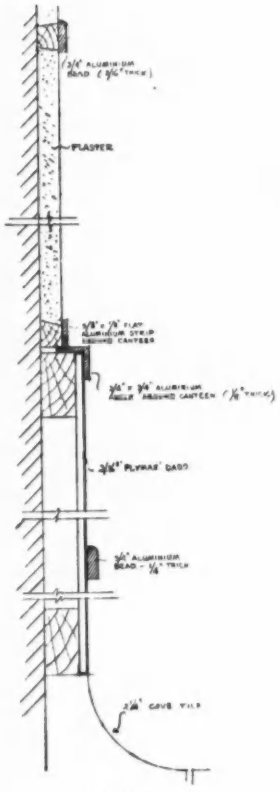
CANTEEN DETAILS • MANOR POWIS PITHEAD BATHS, LANARK • J. H. FORSHAW AND J. A. DEMPSTER

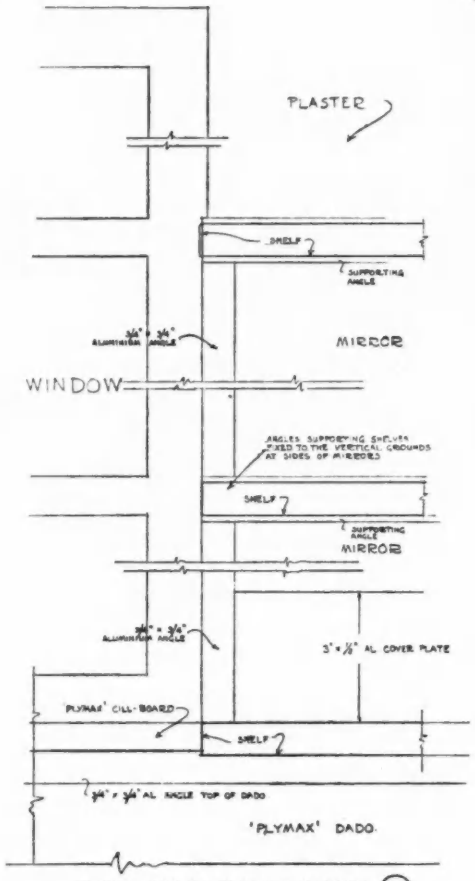


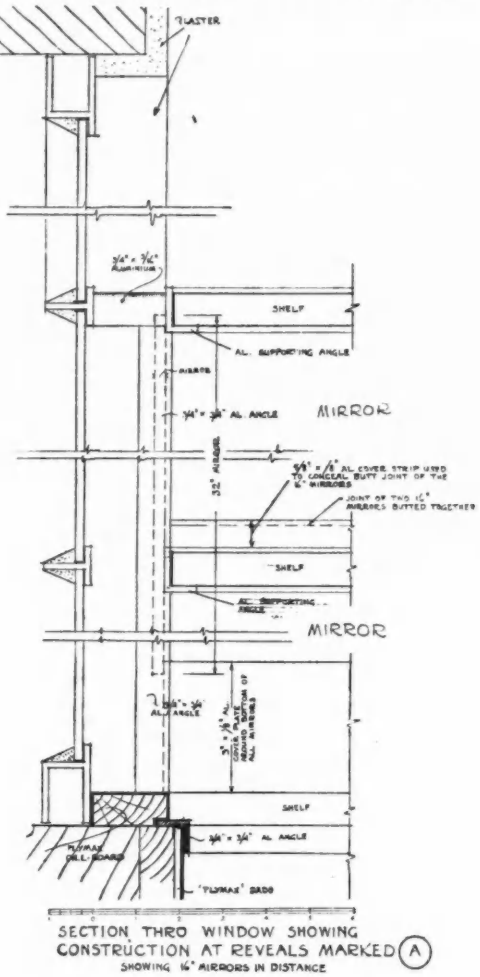
The decorative treatment of the canteen at Manor Powis Pithead Baths, of which a photograph and plan are reproduced above, is in subdued tones of sunshine yellow and grey. The dado has been carried out in metal covered plywood, with plastered walls above, and the metal fitments are in polished aluminium. Detail drawings of the canteen are reproduced overleaf.

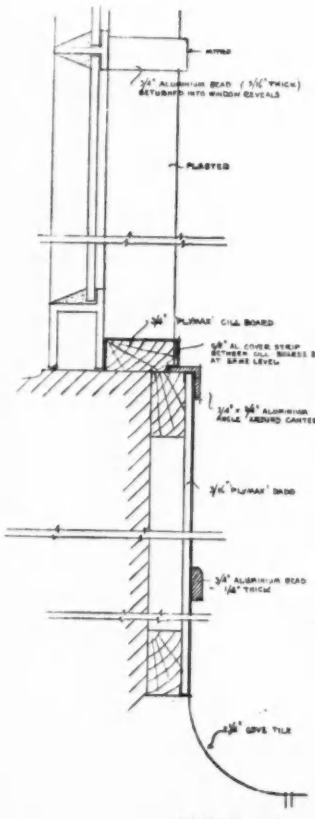
WORKING DETAILS : 98

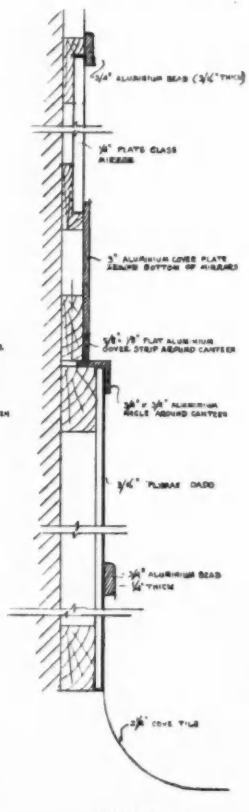
CANTEEN DETAILS • MANOR POWIS PITHEAD BATHS, LANARK • J. H. FORSHAW AND J. A. DEMPSTER

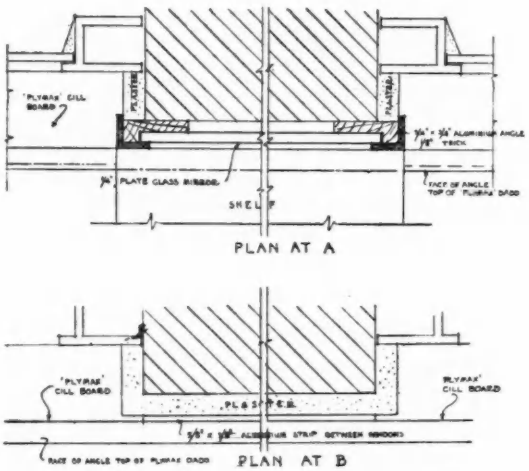


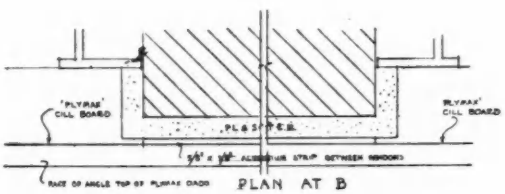


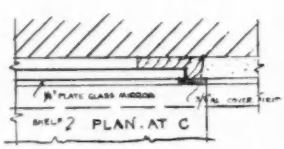


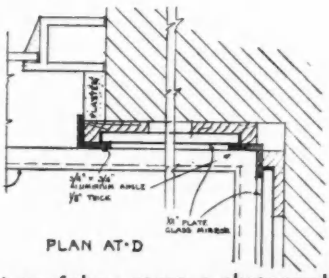








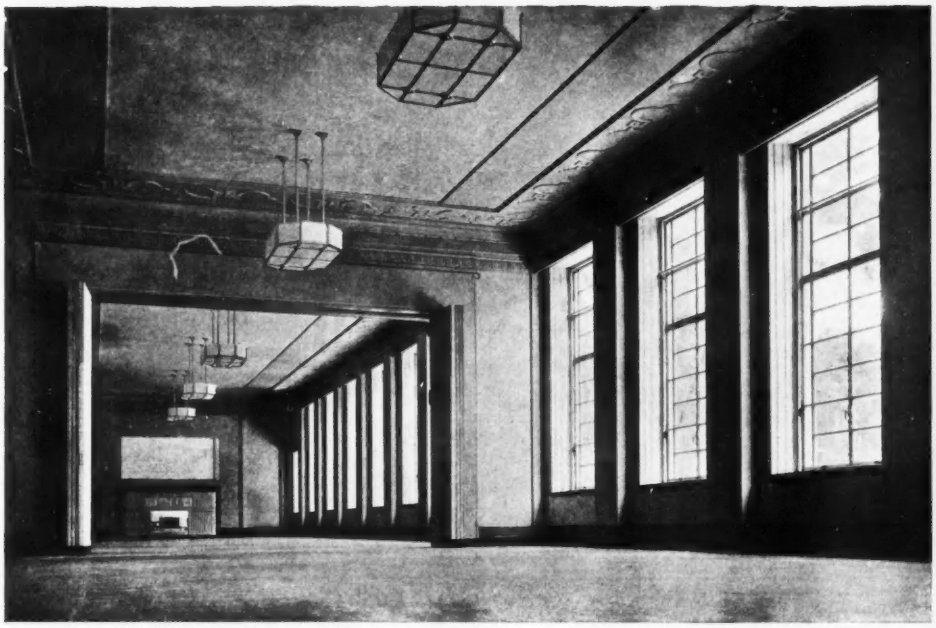




Detail drawings of the canteen, a photograph and plan of which are reproduced overleaf.

WORKING DETAILS : 99

FOLDING DOORS • NURSES' HOUSE, GUILFORD ST., W.C. • STANLEY HALL AND EASTON & ROBERTSON

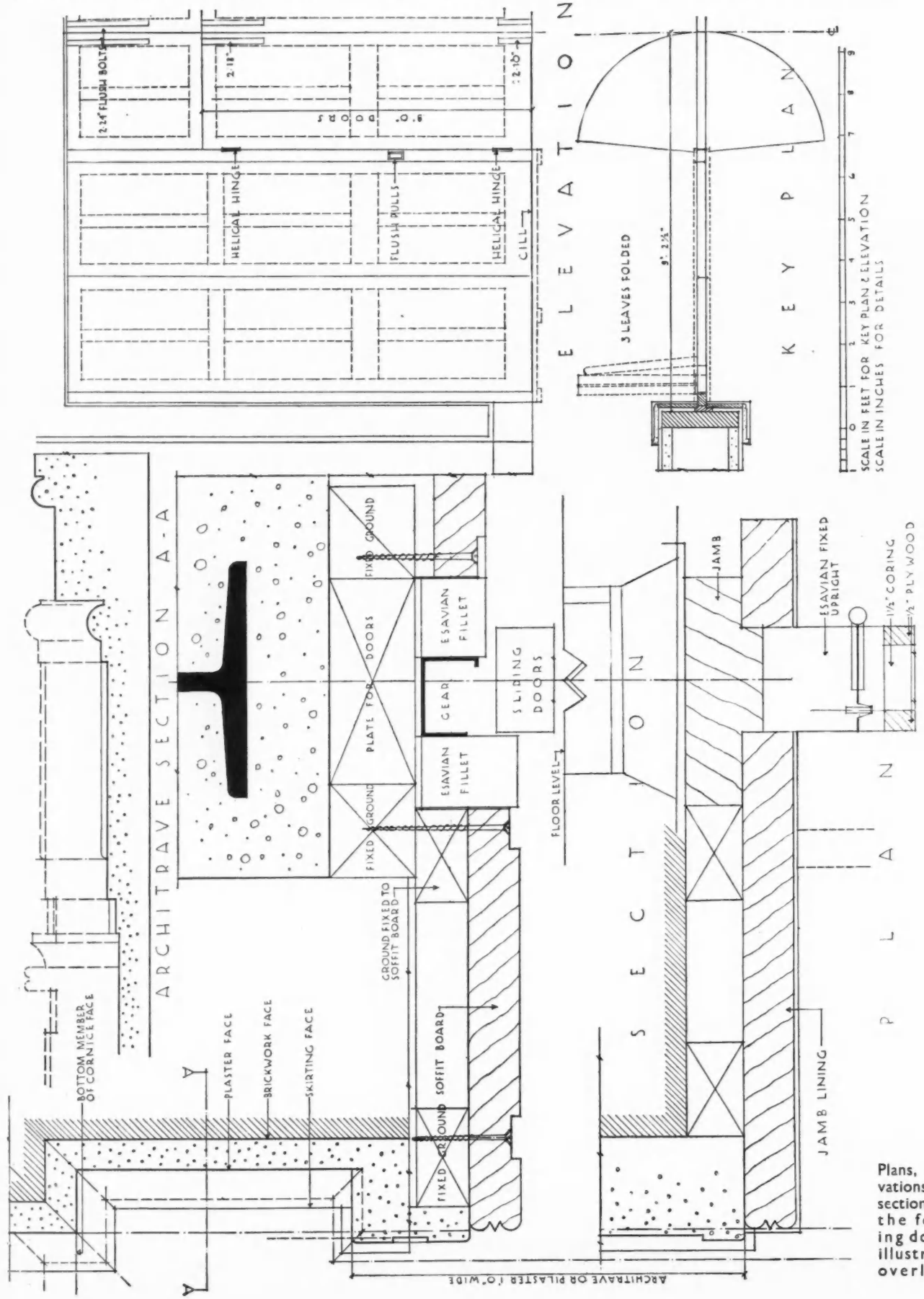


DELL AND WAINWRIGHT

The folding doors illustrated above separate the nurses' dining room from the common room. The doors are 11 ft. 4 in. high, divided into six leaves, flush panelled and packed with eel-grass quilting to deaden sound. Each of the centre leaves is made in two sections: the upper fixed by special flush bolts, the lower, 8 ft. 6 in. high, fitted with helical springs for use as pass doors. The doors run on a V-shaped floor track fixed to a wood cill. This cill is reversible, so that when the doors are folded back there is no floor obstruction.

WORKING DETAILS : 100

FOLDING DOORS • NURSES' HOUSE, GUILFORD ST., W.C. • STANLEY HALL AND EASTON & ROBERTSON



Plans, elevations and sections of the folding doors illustrated overleaf.

HOUSING SUPPLEMENT : 5

This, the fifth of our HOUSING SUPPLEMENTS, *deals with the Cité de la Muette at Drancy, a suburb to the north-east of Paris. This scheme has been built by the Département de la Seine under the Loucheur Law, the French equivalent of our Addison Scheme. From 70% to 90% of the total cost is borne by the State.*

HOUSING IN PARIS

THE CITÉ DE LA MUETTE, DRANCY

ARCHITECTS: BEAUDOUIN AND LODS

ENGINEER: E. MOPIN

[*By E. A. A. Rowse, A.R.I.B.A., A.M.I.Struct.E.*]

IN common with most of the greater European countries, France faces the problem of the redistribution of the overcrowded populations of her larger towns. It has been estimated that some 1,500,000 inhabitants are living in the worst slum conditions, while yet another 4,000,000 are inadequately housed. This represents about 36 per cent. of the total urban population.

The difficulties which beset us in this country are universally met with abroad. There, as here, exists that vicious circle of high population densities, housed in worn-out buildings, bringing about severe land speculation. This results in inflated values both in ground and dwelling rentals. Also, given a legal height limitation, and a necessity to obtain a margin of profit, the excessive building up of sites must follow. Thus population is further increased, amenities are completely lost, and we arrive at yet more acute slum conditions.

In London it is the central areas which are adversely affected, while the outer suburban zones are less intolerable. Paris—that is, the finely planned, though decaying centre—is surrounded beyond the fortification lines by a belt of villa and small-holding development. This, lacking any planning, is rapidly and inevitably deteriorating into a coalescence of slums.

The flight from the fully built-up centres of all cities, which has been increasingly evident during the first third of the twentieth century, is in Paris illustrated by some acute examples.

The town of Drancy, lying about five miles outside the main urban centre of Paris, contained, until the end of the war, some 6,000 inhabitants. Since that date the population has increased to the figure of 42,000, and this has resulted in a state of overcrowding, in semi-rural conditions, unparalleled in our own country. The disordered appearance of the whole district is well illustrated in the aerial view. To effect a cure the Département de la Seine, under the stimulus of the Loucheur Law and the inspiration of Monsieur Sellier, decided to carry out a rehousing scheme in the area affected.

A site of some 11 hectares, or approximately 27 acres, was purchased, on which it was found necessary to erect 1,200 dwellings housing about 5,000 inhabitants. In this country, with semi-rural development at 12 to the acre, at least 100 acres would have been required, with no allowance made for open spaces, or the ample ancillary buildings here provided. The problem set by the necessity to house a density of approximately 190 persons per acre had to be solved. To avoid misunderstanding, this fact should be clearly borne in mind; since such a concentration would be sufficient to have created yet another congested area, had the ordinary standard of two-storey detached dwellings been adopted. In order to avoid such an anticlimax the architects, Messieurs Beaudouin and Lods, decided to apply the principle of height, on something like the same lines as their countryman Le Corbusier has proposed in his masterly, but visionary, solution for the troubles of Inner Paris. There are, however, differences of principle, which give marked practicability and individuality to this, as yet, the only executed scheme.

The problem of what height should be fixed as a limit might have been solved in two ways. The maintenance of a uniform "ceiling" of about five storeys would have resulted in a tame mediocrity, repellent to the vivacious temperaments of the architects, and offering, if buildings intervals were to be liberal, only a small proportion of unbuilt recreation space of no great value. Further, the towers were only adopted after it was found impossible to provide the required accommodation in any other way.

Alternatively the principle of height might have been developed to greater limits. That, in the final result, it was not carried further towards a higher ratio of flats per lift is, by some, advanced as a criticism. Reference is therefore immediately made to the principles of design controlled by sun

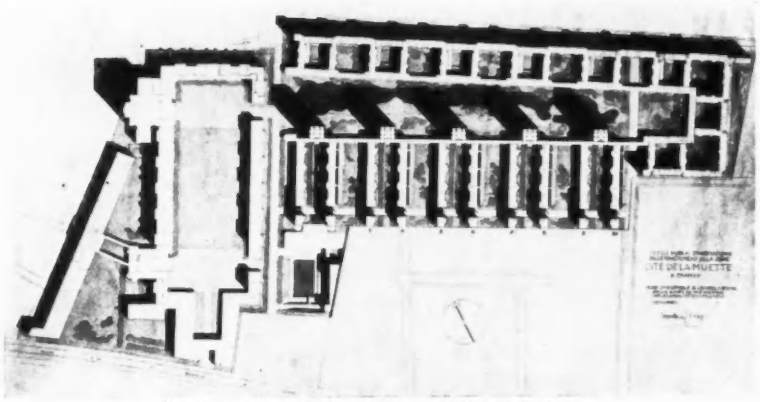


Fig. 1. Geometric projection of building shadows.

elevation and building shadows. A scientific examination on these lines of the merits of various "ceilings" led the architects to adopt three limits of three, four and fifteen storeys. The lay-out plan and main masses were moulded in accordance with these premises. A geometric projection and model illustrating the methods adopted to arrive at the building interval are shown (Figs. 1 and 3). By these means it is ensured that between certain hours no building shadow falls on its neighbour.

The initial ideals of light and space which were to control the design having been settled, the details of the site might be considered. At first glance it is abundantly clear that the architects have a full grasp of the essentials which underlie modern life. Above all they have realized that if urban dwellers are to be closely packed in cellular building masses there must be provided influences capable of counteracting the possible ill effects. The disposition of the main habitable quarters (Fig. 2 [7, 9, 10]), deep in the site and far removed from Route No. 30 to the south, which runs from Bonneuil to Stains, provides for that quiet and seclusion, not possible under more extended planning, when other than traffic, absolutely essential to the actual dwellers, is apt to penetrate the area.

The grouping of all buildings such as the Church Schools, Social Centre and Markets (Fig. 2), on the western end of the site allows the full conveniences of modern life for every dweller, especially women and children, without the necessity for crossing a main traffic route.

The situation of the great service station (Fig. 2 [1]), which supplies hot water to the entire town and deals with the disposal of sewage on a specially interesting system, is dictated by the possibility of dividing the pipe circuits into two parts, which, by reason of differences in use in the buildings served, may be adjusted to meet the various peak loads and the possibility of disconnection during varying periods.

Interlocking with both the residential and commercial-civic zones are two great open spaces (Fig. 2 [5 and 8]) fully protected from the cold winds by buildings extending along their entire northern sides. Their area, relative to the total of the site, demonstrates forcibly the rightness of the initial proposition of development in height. Here, in generously planted areas, both adults and children will participate in formal or informal games, at almost the very door of their dwelling, witness the tennis court arena with flanking seat banks, between each two blocks of flats (Fig. 4); or in the cool of the evening stroll along the borders of beautiful artificial lakes. A marked advance on the standard set in this country, with not more than a quarter of a mile between any dwelling and the nearest playing space.

There is about the whole lay-out that clarity and dignity, proper to urban design, which contrasts vividly with the squalid jumble of individual housing which surrounds the Cité on all sides.

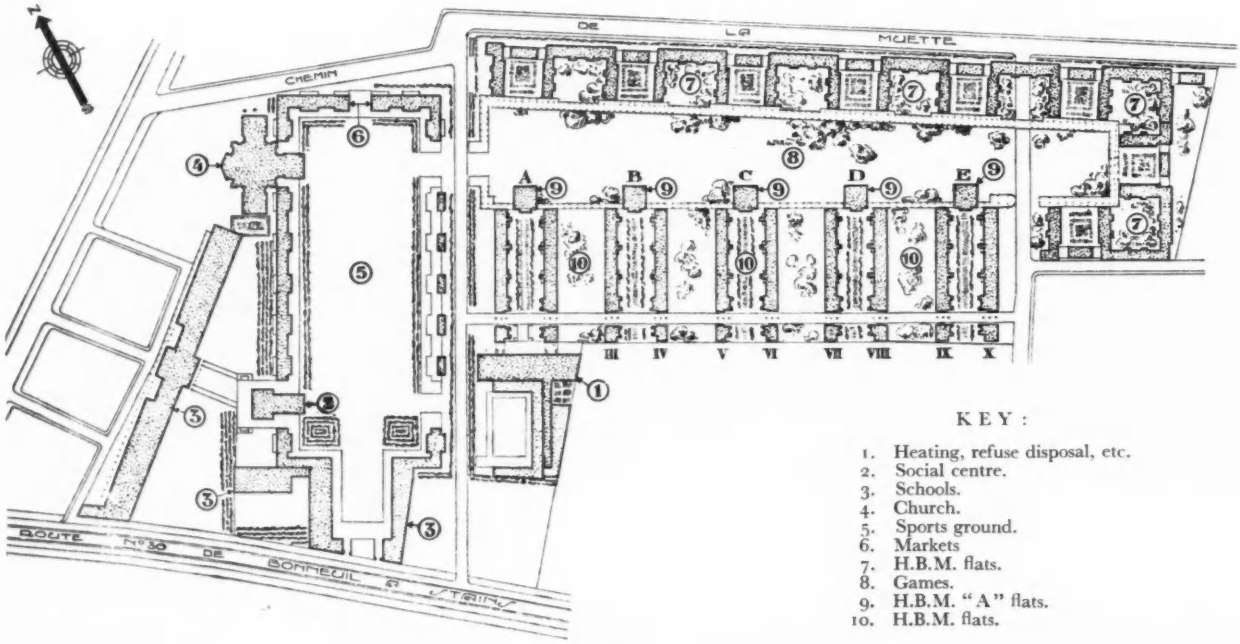
The plans and sections (Figs. 4a and 5) illustrate clearly the nature of the detail arrangement. This is characterized by an affluence not generally associated with the dwellings of the poorer paid workers. The majority of the flats are of the class known as "Habitation à bon Marché," or H.B.M. In the towers they are of the "ameliorées," or "A" type. It was decided, however, at the outset, that whatever economies would be made in the construction (and they are considerable, as much as 20 per cent. below costs for normal methods) should be expended on the finish of the flats.

The superficial areas of the flats are given in the following table. In most cases they will be found to exceed the normal for this country by a comfortable margin.

Accommodation	H.B.M. sq. ft.	H.B.M. "A" type sq. ft.
1 room and offices ..	377	505
2 „ „ ..	485	615
3 „ „ ..	590	720

In France the proportion of children to adults is low, about 1·5 per family. Hence flats having more accommodation than three rooms are not largely provided.

In one scheme of 551 flats, already exe-



KEY:

1. Heating, refuse disposal, etc.
2. Social centre.
3. Schools.
4. Church.
5. Sports ground.
6. Markets
7. H.B.M. flats.
8. Games.
9. H.B.M. "A" flats.
10. H.B.M. flats.

Fig. 2. Lay-out plan.

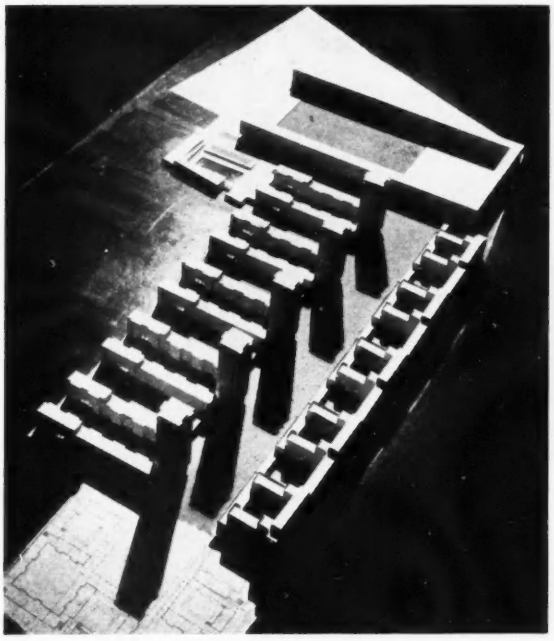


Fig. 3. Model showing building shadows.

cuted at Bagneux to house slum dwellers removed from Montmartre, the following table gives the proportions the various types bear to the total :—

32	flats of 1 room	—6	%
115	„ „ 2 „	21	%
297	„ „ 3 „	54	%
85	„ „ 4 „	15	%
22	„ „ 5 „	4	%

Here it will be noticed that, as in this country, it is the three-room type which predominates.

Vertical communication is of two forms, according to the heights served. In the three and four storey " peigne," a staircase gives access to two flats per landing. Such heights avoid unduly overtaxing the endurance of women and children. In the towers two express lifts are the functional means of communication ; though one main central stair and two semicircular stairs on each end of the tower provide alternative means of escape. (Fig. 6.)

These latter are worth remark, as they indicate the modern attitude to the danger of fire outbreak. It is argued that a sufficient volume of combustible material to make a serious outbreak of fire possible does not exist in buildings constructed of fireproof materials ; the stairs are therefore provided only as precaution against panic. To the English mind a circular newel stair for this purpose might seem a contradiction in terms. It is surprising, however, how easily they can be descended, or mounted, once the rhythm of the " going " has been learned. Their ingenious construction in precast vibrated concrete units is illustrated in the photograph.

The regularity and lightness which generally characterizes steel skeleton constructions is evident in the plans. This permits a more economic use of the space enclosed than when the " bearing wall " is used as a basis for the structure. In the latter case the thickness of external and tie walls seriously reduces the area of all rooms.

While some direct intercommunication of room with room has been allowed, the principle, so frequently adopted in this country, of making one unit a traffic line by which others are reached, is here greatly restricted. The entrance lobby leads directly to the kitchen, living rooms, bath, and one bedroom, etc. Only in the case of one bedroom per flat is intercommunication resorted to. In this case it may be noted with surprise that in some cases it has been found possible to connect the second bedroom with the living room by sliding doors. Thus the latter may be very considerably enlarged and a greater elasticity of accommodation obtained.

By the provision of full length metal sliding windows with steel shutters to all living rooms, opening on to shallow balconies, the problem of fresh air and sunlight for the baby has been solved. It is thus possible to throw a generous proportion of the exterior side of the room open, thus converting it into an excellent playroom for the children, which, by reason of its close intercommunication with the kitchen, can still be under surveillance by the mother at all times.

It will be noticed that the intervals between the low pavilions running north and south are unequal, the distances being 20 and 28 metres respectively. On the larger courts open the habitable rooms, while on the narrower inner ones are concentrated all the services and staircases. It is the subtle adjustment of these horizontal dimensions to the use of the rooms, to the height of the buildings, and to the angle of elevation of the sun at various times of the day which constitute the real planning interest of the scheme. In this country, where similar planning is far too often controlled by uniformed reference to minima set up by local codes, the standards set at Drancy ought to have a profound effect.

A further detail in the planning is worthy of note. In England, and more so still in Scotland, the unsightly exposure of washing on balconies or drying grounds mars the trim appearance of any scheme. Here part of the kitchen balcony is enclosed to the full storey height in a precast vibrated concrete grillage to form a " séchoir," or drying chamber, through which the air circulates (Fig. 9). In the towers these grillages form almost the entire side of the north and south elevations as well as the fronts of all balconies. All clothing is hung on rods provided in this space, and it is forbidden to expose washing anywhere else.

Exceptional in the ample character of their planning, it is perhaps in the matter of equipment and finish that these buildings astound most of us. Here is found none of the pinched meanness of interior treatment which too often characterizes similar work in this country. Every effort has been made to take full advantage of the extraordinary economies made possible by the method of construction and to expend these on the provision of conveniences and quality of finish not often met with even in good middle class work in England.

The lightness characterizing the plan forms has already been referred to, and this is further emphasized by the complete omission of all fireplaces, either for gas or solid fuel. The wisdom and inevitability of this is soon realized when consideration

Fig. 4. Three-storey blocks with a tennis court and tiered seats.

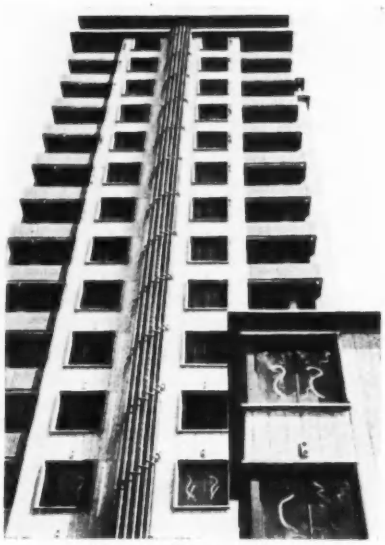


Fig. 6. Escape stairs.

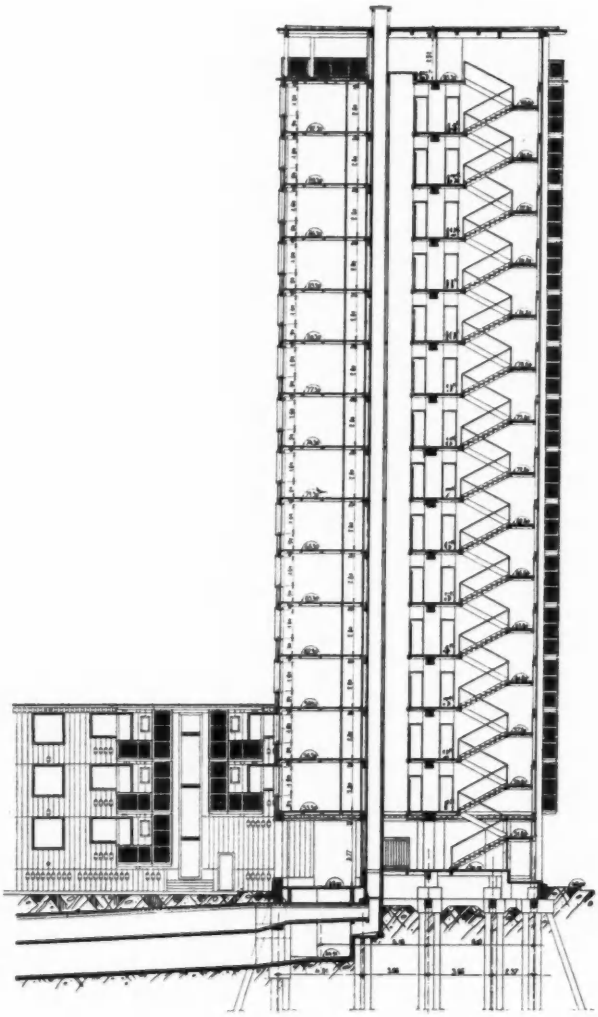


Fig. 5.

PLAN AND SECTION

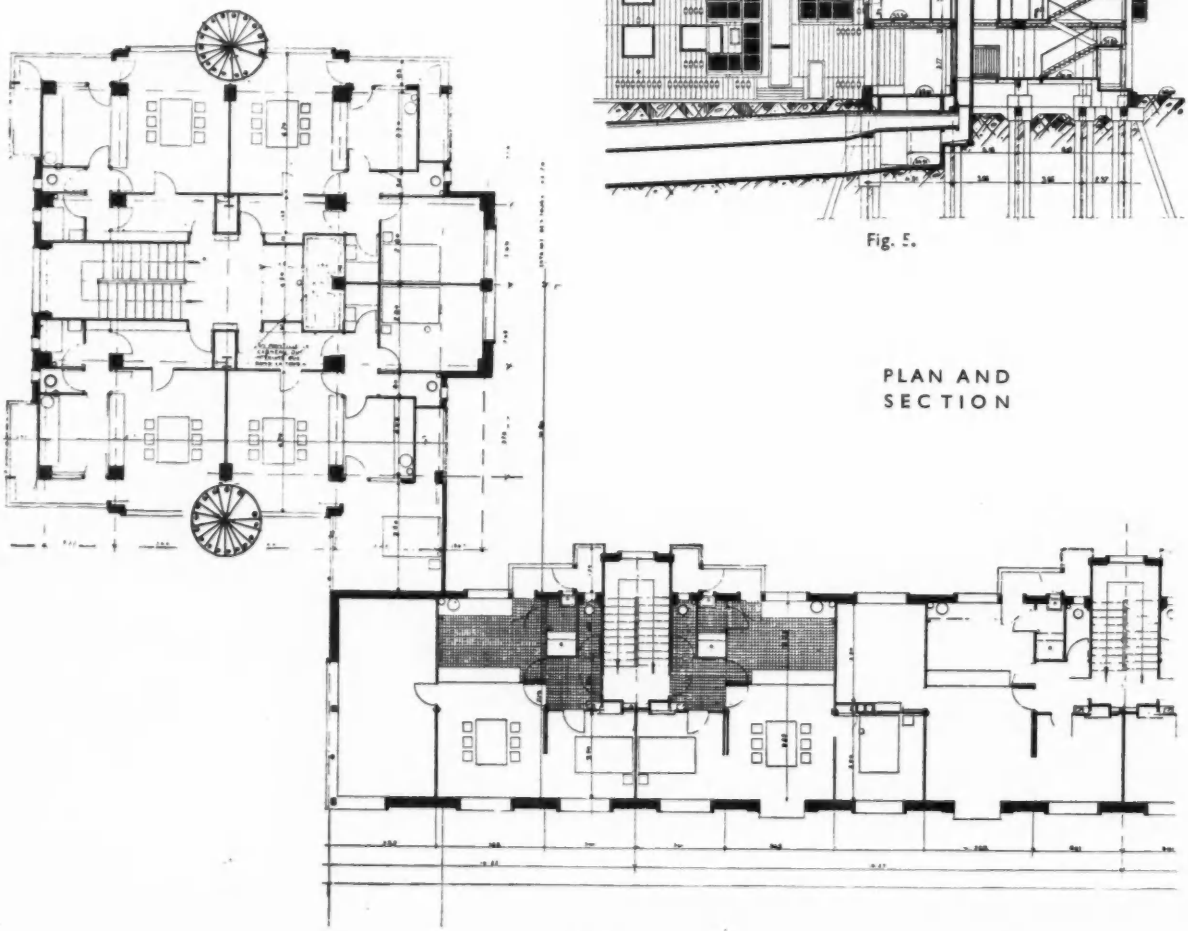


Fig. 4a.

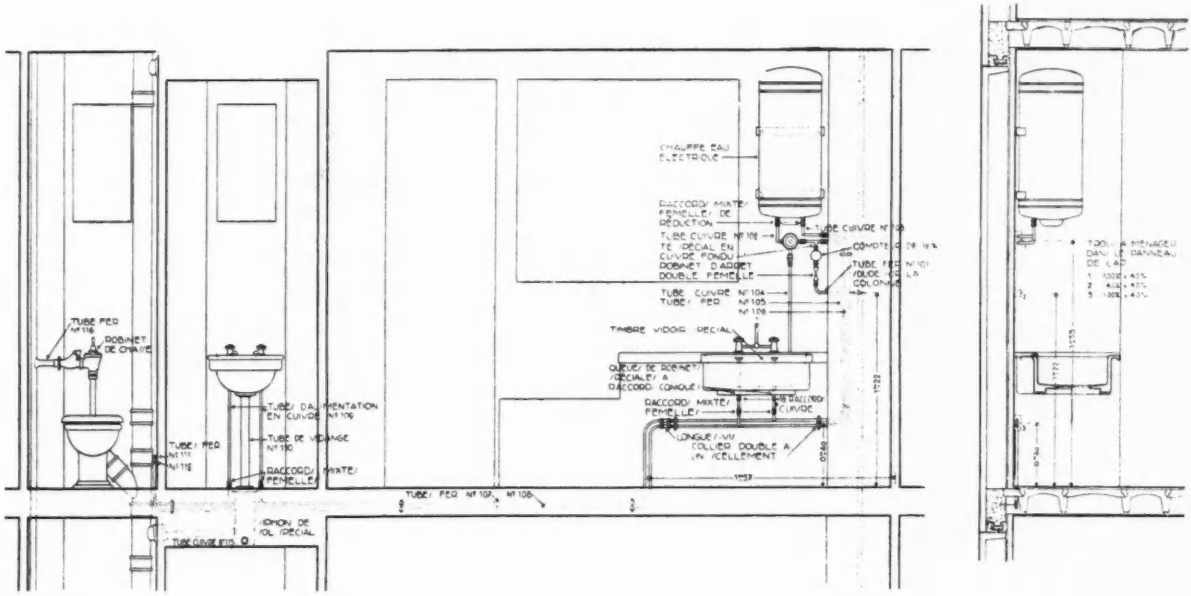
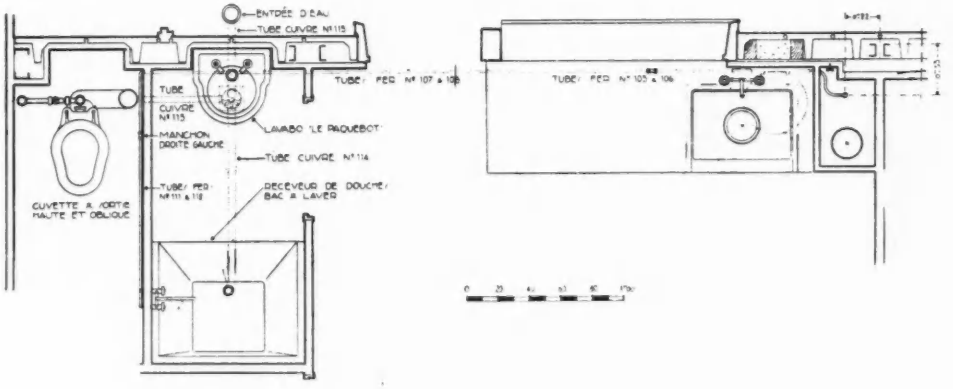


Fig. 7.



Kitchen, bath and w.c. lay-outs and elevations.

Fig. 8.

was given to the proportionate volume which would be occupied by flues, had they been introduced in the towers. A complete system of radiators provides carefully adjusted heating to every dwelling, maintaining admirably equable temperatures throughout the coldest weather. In the kitchen electric calorifiers over the sinks (Figs. 7 and 8) ensure an ample supply of hot water for domestic use.

Individual drainage evacuation and sewage disposal have been carried here to a completeness and efficiency which, when contrasted with barbaric, even troglodyte, methods still generally adopted, merit the highest praise.

The Garchey system of evacuation of refuse by vacuum has been adopted. The kitchen sinks are fitted on their underside with a special sealed container, into which can be thrown all household refuse. The container is filled with water, covered by a large metal plug, and the trap rises when the refuse is drawn out by the suction maintained in the system. Thus is the bogy of the dustbin obviated.

Alongside the sink, and raised on a shelf to the level of 2 ft. above the floor, is a gas cooker of especially compact form. As it opens away from the light its position would at first appear unsatisfactory, but the logical height above the floor allows close inspection without stooping and it does not appear inconvenient.

But it is especially in the design of the main service systems in which the true spirit of the "modern" is to be seen. Running along the entire length of the whole residential quarter is a gallery in which are concentrated, in ordered and easily accessible ranges, all the services pipes, conduits and cables for water, gas, heating, drainage, electricity, etc. Standing in this tunnel of vast length the observer has a vision of what the underside of every pavement or footpath of a well-organized town should look like. These mains pick up, at a central point in each group of buildings, all the secondary branches, or common drains. These in their turn in the usual manner connect with the feet of the service stacks which ascend the buildings internally, fully exposed in all cases. Thus, without loss of efficiency, the façades are kept clear of that disfiguring scrawl of piping which so mars the appearance of buildings in this country.

The baths in the "peignes" (Fig. 10) should be noted. They are of the spray type, but are provided with a wide flanged shallow container raised about two feet above the floor. This allows the washing of children and clothes without the discomfort of stooping, which constitutes so

Fig. 9. Drying Rooms.

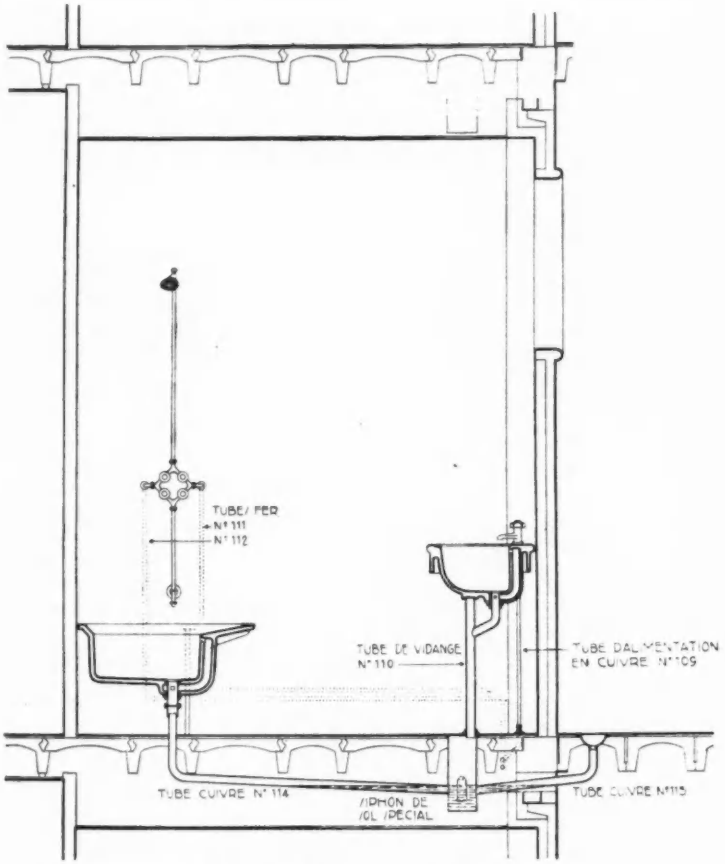


Fig. 10. Section through bath recess.

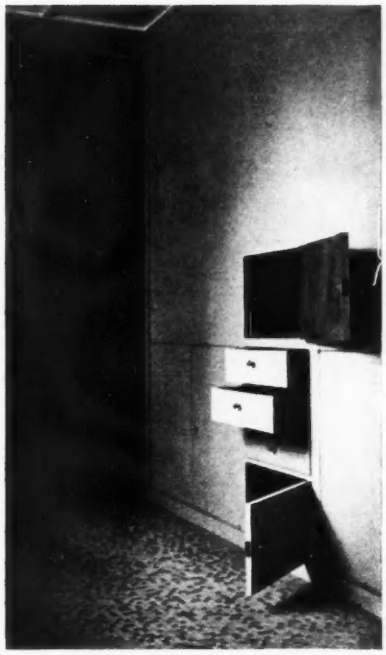


Fig. 11. Service hatch.

serious a drawback in the usual type. Further, as an adult can sit on the lip and use the spray, a considerable economy of water results.

The main water supply tanks are situated in the fifteenth storey in the centre of the look-out platform of each tower, together with the lift machinery.

Three categories of water are recognized : (1) for drinking, (2) for cooking, (3) for washing.

The entire dead load of the lift gear and water tanks is carried on an independent framing round the lift shafts. This ensures direct loading on the foundations and equality of settlement.

Not content with the provision of these delights to the housewife the architects have contrived a service hatch cupboard on the "Easiwork" principle, of extraordinary amplitude and real beauty of finish (Fig. 11). This provides in the lower half dry goods storage space in the kitchen, a hatch for the passage of food, and double service drawers. In the upper half, opening into the living room, two large cupboards fitted with sliding doors provide ample shelving for all forms of domestic requirements.

The internal doors are of an interesting form of light construction. The base is a frame filled with a light timber grille, faced with three-ply, and the painted iron lock and plates are robust and unlikely to suffer damage from heavy usage. The architrave is of sheet iron and is sprung over the partition ends.

In finish neither the interior nor exterior of the buildings fall below the high standard set, though to many the large size and cold colouring of the Carrara marble pebbles, which are vibrated into the exterior wall facing units, may prove repellent. Complete freedom of choice of finish may, however, be had from fully a dozen different materials ranging from broken glass or pottery to brick, or various stones.

The interior wall faces of the habitable rooms are finished with finely figured three-ply, nailed to the batten frames of the partition units, giving great richness of appearance. The kitchen, bathrooms, w.c. and staircases, etc., are faced with pre-cast concrete units about 12 in. on face and of room height, manufactured on the "Lap" principle. These have a dark marbled finish, much more decorative and permanent than we are accustomed to in this country.

Ceilings are of fibre board nailed to fillets bedded in the flanges of the pre-cast concrete floor units, the joints covered with wood fillets. Floor finishes for habitable rooms are of jointless "magnesite" which the French appear to be able to control satisfactorily, avoiding powdering and blistering. In the kitchen a mosaic floor of bright colours livens the general appearance and keys in with the electric blue paint used on all metal work. Staircases are finished with a medium coarse granolithic surfacing.

It is almost with trepidation that the

Fig. 12. In the foreground the steelwork of the H.B.M. flats ; the low sheds are temporary factories for the manufacture of the concrete units.

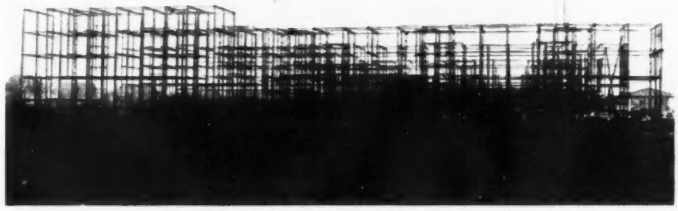


Fig. 13. The light steel skeleton erected.

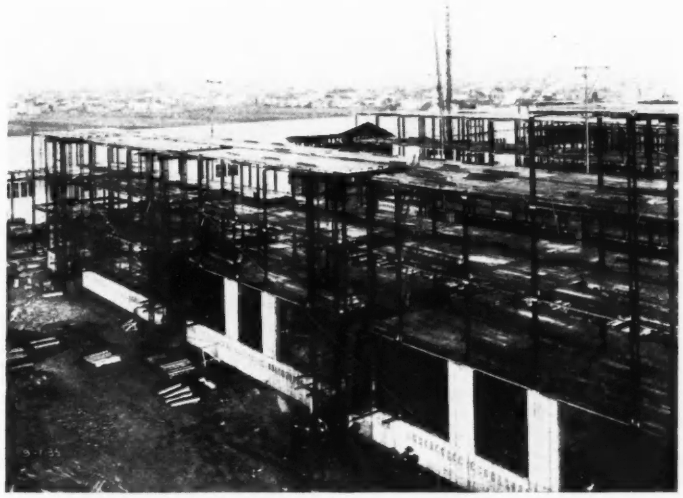


Fig. 14. The floors laid, and the beams stiffened with concrete.

question of rental is approached. Here, however, astonishment is intensified when it is discovered that the standard is very much below the best we can do, as evidenced in the following table :—

Accommodation.	Rent. H.B.M. Francs	Rent. H.B.M. "A" type. Francs
(1) 1 room, equipped kitchen, w.c. spray, balcony, drying room ..	1,044	1,944
(2) 2 rooms ,, ,, ,, ,,	1,356	2,640
(3) ,, ,, ,, ,, ,, ,,	1,632	—

Experience of relative building costs, gained in the cost of preparing prices for similar work to be executed in England, shows that a value of threepence can be given the franc. At this rate rentals range from £13 to £33 per annum, an almost unbelievably low basis.

The engineering principles underlying the unique construction are so brilliant that they merit a separate article in explanation. It is sufficient here to point out that a complete revolution in outlook was necessary on the inventor's part before the initial idea could be developed.

Though scientific structural engineering has long sought to ascertain the exact behaviour of buildings, under circumstances arising from their natural use, no satisfactory results have, so far, been obtained.

Buildings, today, are still designed on the assumption that the skeleton steel structure alone carries the load developed by the dead weight of materials and the imposed live load.

Insufficient or no account is taken of the stiffening and abutting influences of walling, floors, partitions, casing, etc. Inadequate attention has been paid to the analysis of the possible amalgamation of all these structural units into one homogeneous co-ordinated whole. Nor has the truly scientific disposition of all material, as dictated by economics and structural requirements, received sufficient attention.

The system of construction here employed accomplishes, for the first time, these hitherto impossible feats. Though the Cité de la Muette at Drancy is still under construction, buildings erected on the same system at Bagneux, on the south-east of Paris, have been inhabited for four years. These structures have been found, after close and repeated inspection, to be perfectly weatherproof and sound.

For the first time mass production has been successfully applied to building and no small portion of the economies effected result from the exceptional speed at which the buildings can be erected.

Monsieur Mopin, the inventor, works on the basis that where under normal conditions site works would occupy twelve months, by the employment of precisely standardized building units, produced either from central factories or, (if the job is large enough, as at Drancy), in workshops on the site, the disposition of time would be as follows. Six months would be spent in the elaboration of office studies and detailing of all plant, three months would be required for the preparation of the moulds, equipment and first stocks of material and its transportation to the work, and *three months only* would be occupied for actual building operations on the site. It will readily be seen what reduction in rental, mortgage interest payments and general overheads result from such time economies.

Briefly, the underlying structural principles may be summarized under four processes.

Process 1. (Fig. 13).

A skeleton of very light steelwork is erected which until it is stiffened by the addition of walls, floors, etc., is unable to carry the ultimate load. This also acts as the only scaffolding required for all subsequent erectional work—another considerable economy in outlay on plant.

Process 2. (Fig. 14).

The floors are then laid, the beams being stiffened by a minimum of concrete poured in situ. These then act as platforms on which work may proceed for the erection of the walls, etc.

Process 3.

The walls and floors are composed of T- and U-shaped pre-cast units of vibrated concrete, intimately knitted to the skeleton by a system of cramping projecting reinforcing bars. The walls are self-supporting throughout their whole height and the floor loads are carried in conjunction with the steelwork.

Process 4.

The pre-cast staircases are erected and used in place of ladders for vertical communication, and all plumbing and fittings is now fixed in standard units a storey at a time.

The obviation of all erection plant but the lightest, the employment of unskilled labour in manufacture and erection, the reduction of all material employed to an absolute minimum and the study of mass producing standardized design permitting the utmost speed in all departments, these are the secrets lying behind the economic success of the undertaking.

The æsthetic qualities may well be left to the decision of each and all. The drama of the five great towers, whether seen from the air, or the ground, standing like sentinels amidst confusion, cannot be denied. Perhaps they point to a road we all may follow to a sanity, order and beauty in urban design which may prove the salvation of future generations of town dwellers who otherwise would sink, crushed beneath the soul-destroying banality of the "Housing Estate."

L I T E R A T U R E

THE NEW SOCIAL SURVEY

[*By E. H. W. Atkinson*]

The Social Survey of Merseyside. Edited by D. Caradog Jones, the School of Social Science and Administration, University of Liverpool, with the assistance of J. E. McCrindell, H. Parker, and C. T. Saunders. Secretary, N. L. Hume. Liverpool: University Press. London: Hodder and Stoughton, Ltd. Three vols. Price 45s. (Vol. 1, 15s.; Vol. 2, 21s.; Vol. 3, 25s.).

THESE volumes are the fruit of the first work of its kind and scale undertaken outside London. It is very appropriate that the department of the University of Liverpool concerned should be under the care of the Charles Booth Professor of Social Science, and that a present-day Charles Booth, a descendant of the originator of the *Survey of London Life and Labour*, should have been on the committee which administered the fund chiefly provided by the Rockefeller Foundation of America. The extraordinarily comprehensive set of facts the survey presents is analysed with considerable resource. Cutting a revealing section through the life of one of the most important industrial areas outside London, it is complementary in a specially valuable way to the London volumes and full of material without which no picture of the life of the country can be complete, and without which also no adequate plans for the future can be laid.

Each volume can be taken separately —the first centring round the family, with discussions of housing, overcrowding and poverty, the second examining industry, employment and unemployment, and the third dealing with leisure, sub-normal elements in the population, and ending with a valuable and exhaustive chapter on differential class fertility.

In her very rapid rise to the status of a great commercial centre, Liverpool was a pioneer in many things—she had before the middle of last century, for instance, the first Medical Officer of Health in the country in Dr. Duncan, a social reformer who did as much as anyone to stimulate the authorities to deal with housing. Private local Acts, passed equally early, gave Liverpool more extensive control over housing than any other city possessed and served in many respects as a model for National Housing Acts from 1890 onwards. But she had indeed a housing and especially a slum problem of magnitude. By 1914 the Corporation had demolished 10,000 insanitary houses, mainly court houses. Besides those, something like 11,000 houses are said to have been cleared away between 1865 and 1914 by private enterprise to provide room for warehousing, industrial and business premises. The net increase of houses in the city between 1915 and 1920 was no more than 378, although the population of the city was greater by 41,000 than in 1914. There was a demand for 7,750 houses more than were actually built, no account being taken of any shortage that may have existed already in 1914. The Corporation began to take a more active hand. From 1900 to 1914 less than 9 per cent. of the total number of houses were built by the Corporation. But between 1919 and the end of 1931 the Corporation built altogether 22,192 dwellings, private enterprise bringing the total to 29,800. The Corporation owns about one-tenth of the whole area of the city and its tenants are more than one-eighth of the population. The inner areas, on which vigorous work is now being initiated, were almost neglected, most of the Corporation's efforts, so splendidly directed by Mr. L. H. Keay, being expended on the suburbs, including the creation of one, in Norris Green with 30,000 inhabits, of a size comparable to that of the city of Chester. Liverpool has now 34·5 persons to the acre, compared with London's 58·7 and the figure of 25·0 for the next twelve largest towns.

But there were still at the 1931 Census only 242,000 dwellings for 280,000 private families and from 20 to 30 per cent. of the families sampled in the survey were living two or more to a house, and 4·5 per cent. of the families sampled were found to be living four or more to a house. Of the families sampled 10·8 per cent. were found to be living in overcrowded conditions; and while extreme poverty is not often experienced in families with an adult male in regular employment and other earners, overcrowding is discovered among such families more often than is generally realized. It may be added that only 28 per cent. of homes were found to contain a bath and only 19 per cent. to have gardens.

An insignificant proportion of Corporation tenants comes from slums, the largest proportion coming from good working class streets. Families moving out to the new suburbs must probably be prepared to spend about 10s. extra a week on their houses, transport and food. Most people seemed to apply for Corporation houses because they wanted houses to themselves. And over one-third of the workers living in the new estates work in the centre of the city. So much, so far, for the self-contained suburb idea. The first volume concludes with a useful comparison of results obtained in East London and Merseyside. The median income in East London was about 67s. On Merseyside it was 64s. 3d. Unemployment in London was 4·8 per cent.; on Merseyside, 16·5 per cent. of the insured population.

Adaptability, the second volume notes, is the keynote distinguishing both the labour and the capital facilities of the area; but Merseyside has a striking problem in an estimated labour surplus, even if trade comes back to what we look upon as normal, of 26,000, or, excluding dock labourers, of 17,000, and of these one-fifth are to be found in the building and furnishing group of industries. On the building industry the survey has much that is useful to say. It points to the greater possibility of reducing housing costs by reduction of interest rates than by standardization or by economy through co-ordination among producers of building materials. Building is placed one of the lowest in order of trade recovery possibilities.

The question of Merseyside co-ordination, with all its lessons for students of administration problems, is dealt with thoroughly in the third volume, in which it is observed that, sharply defined though the area is as a social unit, no fewer than twelve separate authorities divide its administration between them, not to mention the responsibility of the County Councils of Lancashire and Cheshire. This problem will doubtless become more acute with the opening of the Mersey Tunnel, or Queensway as we are being taught to call it. The need for some co-ordinating or federating authority is the more evident when some of the other facts, which compel attention to the need for planning, are realized.

The future demand for school places is expected to drop from 137,000 this year to 111,000 in 1945. A valuable chapter on "localization of defect" shows how afflictions of one kind or another tend to group themselves in certain quarters of the city. There are the facts that the unskilled labouring class is contributing more than its fair share to the population, that a stationary or declining population is to be anticipated in the Merseyside boroughs, and that there is in their midst a definite "social problem group" from which the majority of criminals and paupers, unemployables and defectives of all kinds are recruited. This volume, with its complete treatment of the subject of leisure and of the problem of "Time to Spare," its note that under 20 per cent. of the population of Liverpool attends its 440 churches, its statement that one-sixth of the working-class families are broken—that is, they have no adult male wage-earner—and they account for about one-third of the problem of urgent poverty, is possibly the most seminal of ideas of all the three.

AUSTRALIAN COLONIAL ARCHITECTURE

A SERIES OF MEASURED DRAWINGS

3 : St. Matthew's Church, Windsor, N.S.W.

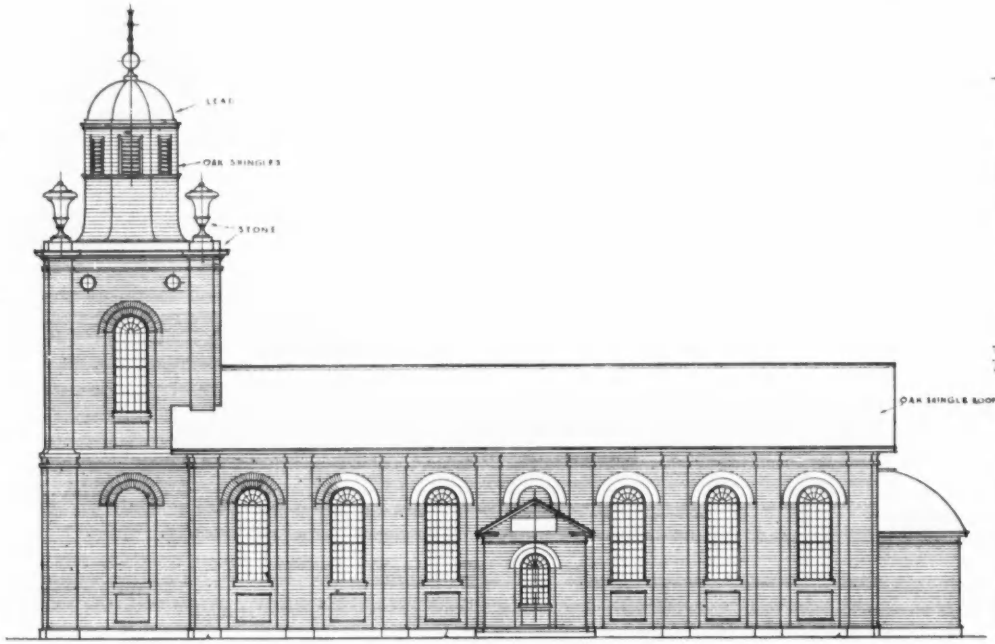
ST. MATTHEW'S is one of a group known as the "Macquarie Churches," so called because they were erected by Lachlan Macquarie, Governor of New South Wales from 1810 to 1823, a man whose great activity earned him the title of "the building Governor."

On his arrival in Australia, he found that the colony was but a narrow strip some 30 miles wide, hemmed in by the sea on one side and the mountains on the other, with a vast unexplored continent beyond. Macquarie pushed a way across the hitherto impassable Blue Mountains, built roads and bridges, founded towns, erected churches, courthouses, barracks, surveyed the coast and set up lighthouses.

To help him in this work he appointed as Architect to the State, Francis Howard Greenway, who in this way was responsible for a large number of the early buildings. Of these St. Matthew's Church at Windsor is one of his most notable achievements. Commenced in 1819 and finished in 1822, this church is of brick construction with sandstone trimmings, and, as in most Colonial work, the materials are extremely pleasant. The brick here is of a soft texture and ranges in colour from an orange through red to salmon-pink. The roof blends both in texture and colour as it is covered with wood shingles, split with an adze, of native oak which weathers to a most beautiful silver grey. The sides of the belfry are also covered with shingles.

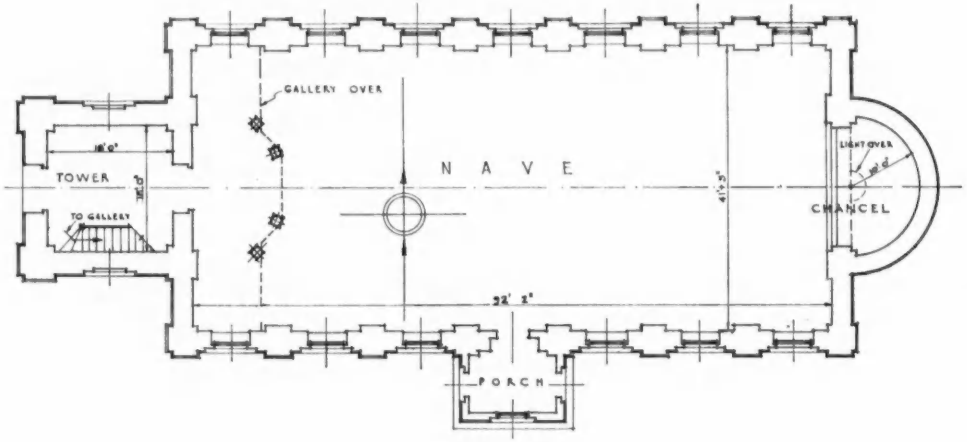
The extreme simplicity of the plan is characteristic of the early churches, and the plain white plaster of the interior is relieved by the beamed ceiling and some colour within the chancel. The tower, with its carefully designed top and fine sandstone urns, shows something of the simplicity coupled with grace and elegance that characterize this architect's work, and it is perhaps significant in this regard that Greenway at one time practised at Bath.

S T. M A T T H E W'S C H U R C H, W I N D S O R, N.S.W.



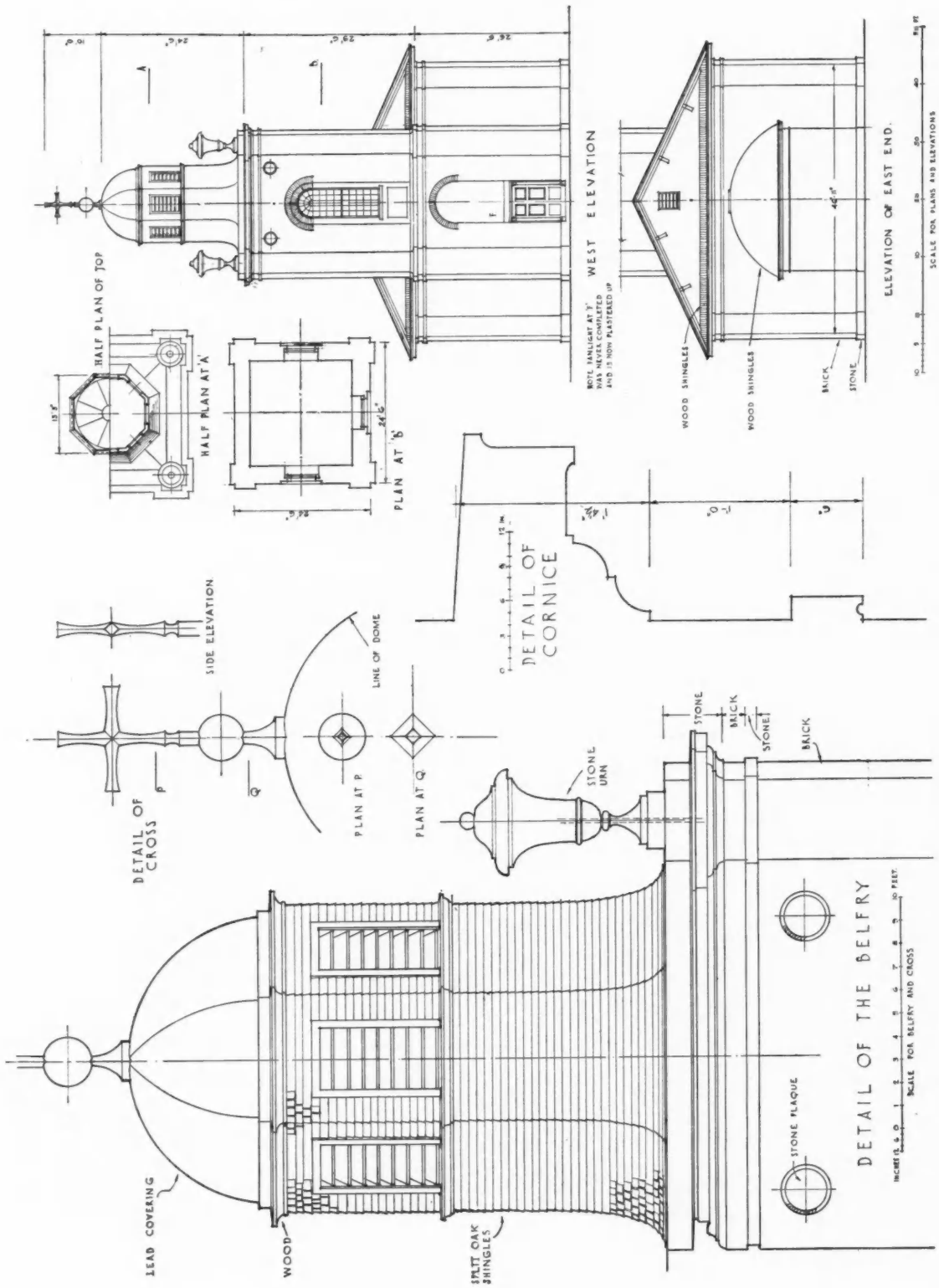
SOUTH ELEVATION

SECTION LOOKING WEST

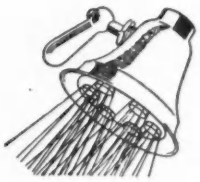


SAINT MATTHEW'S CHURCH
WINDSOR · NEW SOUTH WALES
FRANCIS GREENWAY · ARCHITECT · 1819

SCALE OF FEET



Measured and drawn by M. E. Herman



Needle Spray.

Normal Shower.

Cleaning.

TRADE NOTES

[BY F. R. S. YORKE, A.R.I.B.A.]

An Adjustable Shower Head

AS far as I can make out the shower seems to be as much a universal fitting in the American bathroom as the bath itself, and competition between manufacturers has led to refinements in the shower heads themselves and in their subsidiary mixing valves, many of which are now thermostatically controlled.

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In this country we are not accustomed to anything more elaborate than the usual overgrown watering-can rose, pierced with innumerable tiny holes which inevitably get stopped up. I am therefore delighted to find that one of the best American shower heads is now being made under licence in this country by Messrs. Dent and Hellyer, Ltd.

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The method of operation of this shower is interesting, as the spray is adjustable and the head is at the same time self-cleaning. Instead of the usual small holes there are six adjustable plungers : these plungers are tapered and have shaped slots cut in their sides. Water is forced through these slots and the further the plungers are moved into the head, the finer will be the shower. Pushed right out, the plungers allow a flood of water which washes away all accumulated sediment and prevents the shower from getting stopped up.

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The illustrations at the head of these notes show the various types of shower stream available. Fixing is simple and the shower will work on any water pressure above 10 lb. per sq. in.

A Simple Grease Trap

I came across the other day an ingenious and effective method of trapping grease from sinks, which I think should be very suitable for hotels and restaurants, where washing-up is almost continuous and the amount of grease to be trapped is considerable.

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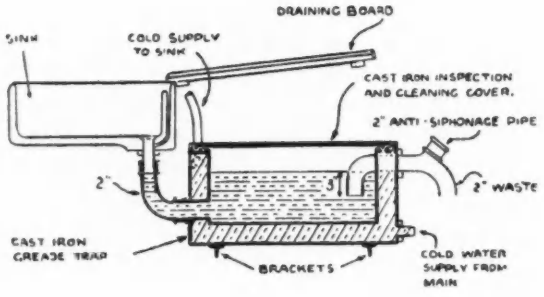
The system is shown in a diagrammatic sketch on this page, and the whole idea is so simple that it scarcely requires any explanation. Briefly, the sink waste is led to a secondary cast-iron tank holding about 4 gallons ; this tank is fitted with a cold water jacket, through which passes the main cold supply to the sink tap. The grease-laden waste water is chilled by coming into contact with the cold walls of the tank and the grease congeals and floats to the surface, where it can be easily removed through the inspection cover.



A simple method of trapping grease, suitable for hotels and restaurants.

Dimmer Switches

Dimming devices for ordinary house (as opposed to stage) lighting generally consist of a fine wire resistance. This system works well enough, but with much use there is a possibility of the wire deteriorating.

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A dimmer recently introduced by Messrs. Ward and Goldstone employs a condenser instead of the usual wire resistance. The device consists of a suitable switch having three positions—off, dim, and full on, so arranged that the condenser is either in or out of circuit. Fixing may be done without any alterations to existing wiring, and the switch only projects about ¾ in. more than the standard tumbler.

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In answer to my complaint that this switch is only suitable for alternating current supplies, the manufacturers reply, with some reason, that the conversion to a.c. of existing d.c. supplies is proceeding pretty steadily all over the country, and that there is little demand for new d.c. apparatus. The price is 6s. 6d.

"Anyspray" adjustable shower head.

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HOUSING

Speaking on July 30 at the University College, Southampton, on "How Britain is Solving the Housing Problem," Mr. B. S. Townroe said that no other country in the world had made so much progress since the war in providing new homes. The occasion was a visit paid by over 100 French professors of English and 300 English teachers.

Mr. Townroe gave the French visitors some idea of the achievements of British municipalities and of private builders. He said that two and a half million new dwellings had been provided in Great Britain since the war. In the year 1934-35 new flats and houses were being erected, partly by local authorities and partly by private enterprise, at the rate of at least 300,000 in

the year. Of these, at least 150,000 were low rented houses mainly to let.

These figures did not represent, said Mr. Townroe, the peak of the Government's housing effort. Municipalities were well advanced with their slum clearance programmes and there were many signs that over 1,000,000 persons now living in slums would be rehoused by 1938.

ROYAL EMPIRE SOCIETY

On July 26 the Royal Empire Society vacated the premises in Northumberland Avenue, W.C., which it had occupied for the past 68 years. The present building is to be pulled down in October in readiness for the erection of new headquarters designed by Sir Herbert Baker, R.A.

ROYAL SOCIETY OF BRITISH SCULPTORS

The annual medal for a work of outstanding merit has been awarded to Mr. Paul R. Montford, F.R.B.S., of Melbourne, for his statue of Adam Lindsay Gordon, now on exhibition at the Royal Academy.

ARCHITECTS' REGISTRATION ACT

The Royal Assent has been given to the Bill to amend the Architects' (Registration) Act.

RICHARDS TILES LTD.'S NEW BUILDING

On July 31 the new factory erected at Tunstall by Messrs Richards Tiles, Ltd., was officially opened by Mrs. Corn, a Director of the firm and wife of the Chairman of Directors (Mr. Edmund R. Corn). Those present at the opening ceremony included a party of architects, representatives of the building trades and press ; the party travelled by aeroplane from London to the Potteries.

Following the tour of inspection, a luncheon was held at the George Hotel, Burslem. Mr. Eric Bird, A.R.I.B.A., who replied to the chairman's speech, referred to the remarkable organization which had made possible the completion of the factory in such a comparatively short time and to the excellence of the provision which had been made for manufacturing according to the latest discovered methods, as well as for such expansions as might—and, as he hoped, would—in the future become necessary.

The architects for the new building are Messrs. Wood and Goldstraw, A.R.I.B.A., of Tunstall.

THE CHARTERED SURVEYORS' INSTITUTION

The Chartered Surveyors' Institution, the Land Agents' Society, the Auctioneers' and Estate Agents' Institute and the Incorporated Society of Auctioneers and Landed Property Agents have recently adopted a Joint Code of Conduct.

PLANNING SCHEMES

[By T. J. Sophian]

THE case of Barnes *v.* Hett (reported in THE ARCHITECTS' JOURNAL for May 10, 1933, p. 632) emphasizes the importance of the making of thorough searches and inquiries, when any dealings or at any rate substantial dealings (such as conveyances, mortgages, leases, etc.) of land are contemplated, with a view to ascertaining whether the land in question is or is likely to be comprised in a planning scheme under the Town and Country Planning Act, 1932. For, if such land is affected by a scheme, then it may be subject to all manner of restrictions, in the matter of development and the like, and the purchaser might ultimately find that he has made a very bad bargain.

In such cases, the principle of *caveat emptor* would appear to apply, and the purchaser would be put on the strictest inquiry, if he was desirous of safeguarding himself against possible loss of the kind referred to.

The reason for this state of affairs is to be found in S. 15 (7) of the Land Charges Act, 1925 (as subsequently amended by the Law of Property Amendment Act 1926) and the decision of the Courts in the leading case of *in re Forsey and Hollebone's Contract, 1927, 2 Ch. 379.*

S. 15 (7) of the Land Charges Act, 1925, provides *inter alia* for the registration, of *resolutions* to prepare or adopt town planning schemes, and of *town planning schemes*, and of prohibitions of or restrictions on the user or mode of user of land or buildings.

And here it may be pointed out that a scheme has to go through a large number of stages before it can finally become operative, and accordingly a considerable time might elapse between the first and final stages. The first stage, of course, is the passing of the necessary resolution to prepare or adopt a scheme by the planning authority, and the final stage is the laying of the scheme before Parliament and the publication of the notice in the Press that the scheme has been laid before Parliament and is capable of coming into operation. Even then a period of at least three weeks must elapse from the date of the publication of the notice, before the scheme can become finally and absolutely operative.

With the above statutory provision it is necessary to read also S. 198 of the Law of Property Act, 1925, which provides that the registration of any instrument or matter required or authorized to be registered under the Land Charges Act, 1925, in any register kept at the Land Registry or elsewhere must be deemed to constitute actual notice of such registration to all persons and for all purposes connected with the land affected as from the date of registration and so long as the registration continues in force.

In order to appreciate the decision of the Courts in *in re Forsey and Hollebone's Contract*, it is necessary to understand what is the effect of a resolution to prepare or adopt a scheme on land comprised in such a scheme.

Briefly put, it may be said that the effect of such a resolution is merely to saddle land with restrictions that may or may not come into existence in future ; since nothing can be definite until the scheme has come into force ; for in the meantime the resolution might be revoked, or the potential scheme might at some time or other fail to pass through one or other of the necessary steps through which it must pass, and might accordingly be ultimately abandoned.

The Court accordingly held in *in re Forsey and Hollebone's Contract* that land, subject to the possible restrictions of a scheme in course of preparation, could not be regarded as being land subject to any *incumbrance*, since there was at that stage merely a potential interference with the enjoyment of the land, and until that potentiality had ripened into an actual interference—which of course it might never do—the land could not in any sense be regarded as being subject to any incumbrance. They accordingly held that a vendor, even though he sold "free from incumbrances" did not fail to make a proper title to the land, merely because the land was subject to a potential scheme, in respect of which a resolution to prepare or adopt had been passed.

But Mr. Justice Eve in the Court below went even a step further, since he considered that even if the land was to be regarded as being subject to an incumbrance in such circumstances, the purchaser must be deemed to have had notice thereof, by reason of the registration (in accordance with S. 198 of the Law of Property Act, 1925) and could not accordingly be heard to complain. He was entitled to no redress in such circumstances even though there was complete ignorance on his part of the existence of any such resolution. The moral to be drawn,

therefore, is that the purchaser must look after himself in these respects, and the burden of making the necessary inquiries and searches rests on him.

Before concluding it may be of interest to refer to a contention that has been put forward in some quarters, that even though this may be the correct position of things under the 1925 Act, it is not so under the 1932 Town and Country Planning Act; the argument being that S. 15 (7) of the Land Charges Act, 1925, to which statutory provision this unfortunate position of the purchaser is to be ascribed, refers only to "town planning schemes," whereas there is no such thing as a "town planning scheme" under the 1932 Act, which refers throughout only to "planning" schemes, and applies equally to the planning of "country" areas. However interesting the legal problem may be, the only practical advice to be given to the layman, is not to rely on any possible distinction that might be drawn by the Courts between schemes under the 1925 Act and schemes under the 1932 Act and to assume that the position in this respect is the same under the 1932 Act as it was under the 1925 Town Planning Act.

LAW REPORT

ALLEGED BREACH OF COVENANT AND NEGLIGENCE

Emms, Ltd. v. *H. Huntsman, Ltd.—King's Bench Division. Before Mr. Justice Swift.*

THIS case raised points of interest in regard to a claim for damages for alleged negligence and breach of covenant for quiet enjoyment. Messrs. Emms, Ltd., are tailors, of 11, Savile Row, W., and defendants, Messrs. Huntsman, Ltd., are also tailors, and the plaintiff's landlords. Plaintiffs occupied the basement floor below the defendants and the plaintiffs' complaint was that on August 1, 1932, their premises were flooded by water which came from the defendants' premises, which damaged goods of plaintiffs.

Mr. Elliot Gorst, for the plaintiffs, said his clients found on going to their premises on August 1, the ceilings dripping with water and that the whole place was wet through. With regard to the alleged breach of covenant for quiet enjoyment, counsel said his case was that it arose from the alleged interference by the defendants with a ventilating shaft which led from plaintiffs' premises through those of defendants. The defendants had carried out some reconstruction work and plaintiffs said that in the course of the work they had blocked up the shaft, and deprived them of the rights of ventilation to the basement.

Plaintiffs called evidence in support of their case.

Mr. Graham Mould, for the defendants, said his clients denied negligence or that there had been any breach of covenant. What happened with regard to the flooding was the result of very heavy rain. As to the question of the ventilator his case was that what was done was carried out with the express or implied consent of the plaintiffs. He denied that plaintiffs had been deprived of any ventilation and in any case he submitted that the plaintiffs' complaint had been greatly exaggerated.

His lordship, after hearing the defendants' evidence, said it appeared that the defendants had converted one or two vertical air shafts so that it was an entirely different shaft from the original one. He was satisfied on the evidence he had heard that the ventilation of the plaintiffs' premises was materially affected and that they were nothing like as good as they were before the alteration was made. Under these circumstances he came to the conclusion that plaintiffs were entitled to recover and he fixed the amount at £68. There was another issue in the action and that was the damage due to the flooding. There was a flood on August 1, with the result that water accumulated in the defendants' gutters and percolated through to the plaintiffs' premises. The damage to the goods was agreed at £45. Then there was the damage to the basement, and to his mind a fair figure to allow for that was £10. He thought there was a clear case of negligence made out. The result was that the plaintiffs would recover a total of £123, with the usual costs, and he entered judgment accordingly.

Manufacturers' Items

The Sirocco mechanical draft plant (which also incorporates complete equipment for flue dust collection, together with the Sirocco engine room ventilating plant) at the New 50-cycle Power Station, Dunston, is the subject of a brochure recently issued by Messrs. Davidson & Co., Ltd., engineers and ironfounders, of the Sirocco Engineering Works, Belfast.

The booklet is copiously illustrated by means of drawings and photographs; copies are obtainable on application to the firm. The Dunston Power Station, it will be recalled, was illustrated in THE ARCHITECTS' JOURNAL for January 11 last.

*

Messrs. John Line and Sons, Ltd., of 213-216 Tottenham Court Road, W.C., have sent us a set of their "Useful Details Series." This series, which is obtainable on application to the firm, comprises a number of reprints of their advertisements in the technical journals.

*

Aluminium Sheet Metal Work is the title of a brochure just issued by the British Aluminium Co., Ltd., of Adelaide House, King William Street, E.C.4. In the foreword to the booklet, under the heading "Aluminium Sheet Metal," it is pointed out that "in the electrical industry the lightness of aluminium sheet is a distinctly economic factor, simply by reason of its low price for a given bulk of metal. Thus it serves for meter cases, wireless set panels and screens, condenser vanes, light and heat reflectors and a variety of other uses. The fact that aluminium is non-magnetic and of high electrical conductivity has resulted in its use in many special applications in place of brass and iron in electrical plant and machinery. Aluminium is unattacked by the products of gas combustion; therefore it is used for gas-lamp bodies, reflectors, globe galleries and deflectors, parts of gas cookers and canopies as well as for gas-fire surrounds and heat reflectors.

"In any application where greater strength is required than can be given by pure aluminium, sheets of aluminium alloy are employed. Aluminium-silicon or aluminium-manganese alloy sheet is largely used for work which requires a combination of medium strength with special resistance to corrosion. Still higher strength is provided by either Duralumin sheet, which is so largely used in aircraft construction or by one of the new aluminium-magnesium alloys. It may be emphasized that these alloys, though so much stronger than pure aluminium, are not substantially heavier. Indeed, the aluminium-silicon alloy is somewhat lighter. Naturally the alloys are not so easily worked as pure aluminium, but while they harden rapidly under cold work, they are susceptible to a softening process and, where necessary, parts of complicated shape can be manufactured from them by the adoption of intermediate annealing."

*

On Wednesday, July 25, Mr. George Guest, B.SC., LL.B., Deputy Director of Education for the City of Manchester, visited the school conducted at Park Works for the education of apprentices employed by Mather and Platt, Ltd., to address the boys on the occasion of the annual distribution of prizes.

The Chairman of the Company, Mr. L. E. Mather, introducing Mr. Guest, gave a brief résumé of the work of the school, which is probably unique in that the teaching—carried on during working hours—is non-vocational in character throughout the early years of a boy's apprenticeship and only assumes a technical nature after boys gain practical experience in the technical works and approach the stage of definite technical education or examination for an engineering degree. On entering Park Works the boys continue their ordinary studies in school premises provided by their employers, while the teaching staff is under the control of the Manchester Education Authority.

Three prizes—all provided by directors of the company—are given for each "year" in addition to a special prize for English and the "Mather" prize for all-round progress. Prizewinners this year came from the electrical, pump, textile and fire engineering shops, while the "Mather" Prize was secured by one of the boys employed at Salford Ironworks—the original headquarters of the firm.

*

The London Warming Co., Ltd., of 2 Percy Street, Rathbone Place, W.1, inform us that they are having their showrooms extended, modernized, and redecorated during this month. Meanwhile, a temporary showroom has been opened in their basement, so that business can be carried on without interruption.

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

Following are the names of the specialists, general contractors and some of the sub-contractors for the buildings illustrated in this issue.

The Ship Hotel, Skegness (pages 186-187). General contractors, Bernard Pumfrey, Ltd. Sub-contractors: George Sands and Sons, steelwork; The Rapid Floor Co., precast floors; J. and S. Farr, Ltd., electricians; Mumford, Bailey and Preston, Ltd., heating engineers; James Gibbons, Ltd., ironmongery; Korkoid Decorative Floors, Ltd., Korkoid floors; British Reinforced Concrete Engineering Co., reinforced concrete; Rusts Vitreous Mosaic and Tile Co., mosaic tiles; Gaskell and Chambers, bar fittings; D. Anderson and Son, Ltd., roofs; Henry Hope and Sons, steel casements; Pilkington Bros., Ltd., Vita glass; Limmer and Trinidad Lake Asphalt Co., asphalting; J. Nixon Hough, Ltd., furnishing; Doulton & Co., sanitary goods; James Latham, Ltd., hardwoods; Gent & Co., electric clocks; Jenson and Nicholson, Ltd., paints, enamels, varnishes, etc.; Carter & Co., wall tiling; Stourbridge Glazed Brick Co., faience; Wheatly & Co., floor tiling; Hollis Bros., Hull, hardwood floor; J. A. King & Co., Ltd., roof lights; G. and T. Earle, Ltd., coloured cements; Callender's Cable & Construction Co., Ltd., cables.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

DEPTFORD. *Tenements.* The L.C.C. is to erect 180 tenements on the Speedwell St. area, Deptford, at a cost of £70,000.

LAMBETH. *Fire Brigade building.* The L.C.C. recommends the preparation of a scheme, estimated to cost £250,000, for the provision of central headquarters for the Fire Brigade on the site recently acquired on the Albert Embankment.

MOTTINGHAM. *Houses and Shops.* The L.C.C. is to proceed with the erection of houses and shops on the first section of the new housing estate at Mottingham, at a cost of £156,000.

POPLAR. *Tenements.* The L.C.C. is to erect 87 tenements on the Oban Street site, Poplar, at a cost of £35,000.

TOTTENHAM. *Extensions, etc.* Plans passed by the U.D.C. : Timber wharf extensions, Messrs. L. Bamberger and Son ; revised type 3-bedroom house, Markfield estate, for Messrs. S. and A. Foux ; factory extensions, West Road, for Pearlite Box Co., Ltd. ; alterations, Earlsmead Methodist Church, High Road, for the trustees ; factory and block of offices, Park View Road, for House Property and Investment Co. ; alterations, High Road, for Mr. H. Stanley ; nine houses, Boundary Road and Crawley Road, for Mr. E. W. Allen.

TOTTENHAM. *Swimming Bath.* The U.D.C. has obtained loan sanction for the construction of an open air swimming bath in the Lordship recreation ground and is now to obtain tenders for the work.

WANSTEAD AND WOODFORD. *Houses.* Plans passed by the U.D.C. : 62 houses, Uplands Estate ; 15 houses, Milkwell Close ; 11 bungalows, Cadogan Gardens.

WESTMINSTER. *Hospital.* The Westminster City Council reports in favour of a scheme of the Westminster hospital authorities for building on the west side of St. John's Gardens.

WESTMINSTER. *Reconstruction.* Messrs. Wallis, Gilbert and Partners, architects, on behalf of the Art Metal Construction Co., are to construct a new building and alter the existing buildings at 199-203 Buckingham Palace Road, Westminster.

WESTMINSTER. *Flats and Shops.* The Housing Committee of the Westminster City Council has now considered the tenders submitted for the erection of 96 flats, and three shops, comprising Block "C" (Bennett House), being the seventh and last block of the Grosvenor housing scheme to be erected, and recommends the tender, £54,200, of Messrs. Gee, Walker and Slater, Ltd., for the work. The Committee reports that the Duke of Westminster will contribute approximately £16,350 towards this cost, making his total contribution £113,650. The total cost of the whole scheme will be well within the estimate of £431,600 submitted to Parliament.

SOUTHERN COUNTIES

BOURNEMOUTH. *Flats, etc.* Plans passed by the Corporation : Flats, Capstone Road, for Messrs. G. P. and F. A. Oliver ; bakehouse, Southbourne Road, for Messrs. H. Whiting and Sons ; extensions, Christchurch Road, for Mr. J. M. Ekins ; bungalow, Muscliffe Lane, for Mr. E. Jones ; church hall, Braidley Road, for St. Stephen's Parochial Church Council ; nine flats, Belle Vue Road, for Messrs. H. Whiting and Sons ; bungalow, Denmead Road, for Messrs. Short and Waugh ; house, Solent Road, for Messrs. Rosser and Sturman ; 30 houses, Broughton Avenue, for Mr. E. W. Lancaster ; bungalow, Kinson Road, for Miss E. Loader ; additions, Wimborne Road, for Mr. E. Ridout ; two houses, Carbery Avenue, for Mr. E. W. Patrick ; flats, Lowther Road, for Mrs. Stroud ; flats, Hawkwood Road, for Mr. C. A. Balcombe ; two houses, Fernheath Road, for Mr. J. E. Verrier.

BRIGHTON. *Houses, etc.* Plans passed by the Corporation : Four shops, Beaconsfield Road, for Mr. G. T. Poole ; alterations, Grand Hotel, King's Road, for the proprietors ; alterations, North Street, for Mr. H. Ledger ; two houses, Bavant Road, for Mr. H. B. Nixon ; flats, Bedford Place, for Miss C. Whitehead ; extensions, Pavilion Buildings, for Brighton Herald, Ltd. ; 27 bungalows, Thornhill Avenue, and bungalow, Vale Avenue, Patcham for Ladies Mile Estate, Ltd. ; three houses, Bevendean Avenue, for Saltdean Estates, Ltd. ; house and shop, Lustrells Avenue, Saltdean, for Miss M. Foulger ; two houses, Beechwood Avenue, for Mr. R. D. Comber ; 24 houses, Wilmington Way, Patcham, for Varndean Estates, Ltd. ; two houses, South Road, Preston Park, for Lt.-Col. J. Benett-Stanford. Plans submitted : Five houses, Valley Close, Patcham, for Mr. T. R. Braybon ; shops, flats and showrooms, St. George's Road and Paston Place, for Mr. H. V. Chew ; four houses, Mackie Avenue, for Ladies Mile Estate Co. ; house, Lustrells Crescent, Saltdean, for Mr. F. Griffith.

EASTBOURNE. *Branch Library.* The Corporation proposes to erect a branch library at the junction of Victoria Drive and The Crescent.

EASTBOURNE. *Houses, etc.* Plans passed by the Corporation : Two houses, Dillingburgh Road, for Messrs. M. Hookham, Ltd. ; four houses, Seaside, two flats, Ringwood Road, flat, Moatcroft Road, house, Fairfield Road, alterations, Baldwin Avenue, four houses, Queen's Road, and flats, Carlisle Road, for Mr. A. Ford ; electricity depot, stores, etc., Cavendish Place, for Eastbourne Corporation ; alterations and additions, Methodist Church, Greenfield Road, for Mr. T. F. Sayer, on behalf of church trustees ; workshops, garages, etc., Bakers Road, for Mr. A. Ford, on behalf of Star Brewery Co., Ltd. ; 45 houses, the Lawn estate, Old Town, for Mr. A. F. de P. Worsfield, on behalf of Messrs. Haywards (Brighton), Ltd.

MIDLAND COUNTIES

BIRMINGHAM. *School.* The Education Committee is to proceed with the erection of an elementary school at Lakey Lane, Hall Green, at a cost of £15,800.

BIRMINGHAM. *Houses.* The Corporation is to erect 50 houses at Cock Lane, Northfield, at a cost of £15,631, 78 at Varnish Lane, Erdington, at a cost of £28,148, and 11 at Short Heath Road at a cost of £3,157. The Corporation is also to undertake clearance schemes involving the erection of 286 new houses.

BIRMINGHAM. *Additions to Sanatorium.* The Corporation is to provide additional accommodation at the Yardley Green Sanatorium at a cost of £30,441.

BIRMINGHAM. *Maternity Block.* The Corporation is to extend the Dudley Road Hospital by the erection of a maternity block at a cost of £71,566, provide operating theatres at a cost of £31,050, and improve water supply and mechanical stoking plant, at a cost of £6,200.

COVENTRY. *School.* The Education Committee has acquired a site on the Coundon estate for the erection of an elementary school.

NORTHERN COUNTIES

BOLTON. *Reconstruction.* The Bolton Corporation is, by direct labour, to reconstruct 98 steel houses on the Union Road estate at an estimated cost of £14,700.

BOLTON. *Houses, etc.* Plans passed by the Corporation : 12 houses, Newport Road, for Mr. J. G. Holland ; two houses, Barrow Bridge Road, for Messrs. George and Beddows ; 12 houses, Orwell Road, for Messrs. Leigh Bros., Ltd. : five houses, off Moss Lane, for Mr. A. S. Woods ; four houses, Mackenzie Street, for Mr. W. Parker ; two houses, Strawberry Hill Road, for Mr. J. Morris ; 24 houses, Crescent Road, for Mr. Wm. Jones ; four houses, Kingsbury Avenue, for Messrs. Price and Groves ; six houses, Lever Edge Lane, for Mr. G. Hardman.

LANCASTER. *School.* The Corporation is to erect an elementary school for 400 in the Marsh district.

LEEDS. *Shops.* Mr. Simon Newman is to develop land at the junction of Old Lane and Dewsbury Road by the erection of shops.

SOUTH SHIELDS. *School Reconstruction.* South Shields Education Committee has approved plans for reconstructing Stanhope Road senior school, such work being rendered necessary by reason of the recent fire. The cost of reconditioning the existing building is £12,000, while additions are proposed at an estimated cost of £8,235, making a total sum of £20,235. Draft plans and estimates have been forwarded to the Board of Education for approval.

STALYBRIDGE. *Houses.* Plans passed by the Corporation : Two houses, Mottram Old Road, for Mr. T. Mason ; two houses, Forrester Street, for Messrs. Leigh and Harrison ; four shops and 10 houses, Heyrod Hall estate, for Mr. W. T. Crossman.

WAKEFIELD. *Houses and Streets.* Plans passed by the Corporation : Two houses in Leeds Road and two in Oxford Road, for Mr. J. R. Lister ; new street off Dewsbury Road, for Mr. G. A. Hopkinson ; two houses, Eden Avenue, for Mr. W. H. Ogden ; 10 houses, Holmfield Avenue, for Messrs. Kay and Lunan ; four houses, Balne Lane, for Mr. C. Armitage ; new street off Eden Avenue, for Mr. A. Hampshire Lee.

WAKEFIELD. *Houses.* At the Housing and Town Planning Committee of the Corporation, a provisional layout of land between Cross Lane and Horbury Road was approved, and it was decided to recommend the carrying out of the preliminary road works and sewers, and to obtain tenders for the erection of 50 houses on the site.

WARRINGTON. *Houses, etc.* Plans passed by the Corporation : Four shops and houses, Norris Street, for Messrs. R. and S. Smith ; works extensions, Dallam Lane, for Whymen's Foundry Co., Ltd. ; reconditioning premises, Gorsey Lane, for Warrington Co-operative Society, Ltd. ; warehouse, mill and silo for Manchester and District Farmers, Ltd.

WARRINGTON. *Cinema.* Plans have been submitted to the Corporation by Mr. Cyril Bradshaw, architect, on behalf of Mr. R. K. Proudfoot, for the proposed erection of a cinema in Buttermarket Street.

YORK. *Houses, etc.* Plans passed by the Corporation : Six houses, Lumley Road, for Mr. A. Temple ; 22 houses, Crosslands Road, for Messrs. J. Allison and Sons ; additions, Grand cinema, Clarence Street, and four houses, Towton Avenue, for Messrs. R. J. Pulleyn and Sons ; two houses, Pulford Road, for Mr. H. Atkin ; seven houses, Thord Avenue, for Mr. H. Williamson ; 14 houses, Burnholm Avenue, for Mr. J. N. Dunn ; eight houses, Somerset Road, for Messrs. Culliford and Tindall.

WALES

SWANSEA. *Houses and Flats.* Plans passed by the Corporation : 64 flats, Walter Road, for Estateways Builders, Ltd. ; two houses, Midland Place, for Messrs. Wm. Bater and Sons ; five houses, Heol-fach, Treboeth, for Mr. L. H. Samuel ; house, Fall Street, for Mr. T. Joseph ; four houses, Mynydd-garnlwyd Road, for Messrs. Thomas and Jones ; two houses, Llangyfelach Road, for Mr. D. A. Rosser ; alterations, Eaton Crescent, for Mr. W. Thomas ; rebuilding premises, Fabian Street, for Swansea and District Co-operative Society, Ltd. ; four houses, Rock Terrace, and two houses, Bath Road, for Messrs. Walters and Johns ; 10 houses, Sketty Park Drive, for Mr. Syd Davies ; four houses, Glanmor Road, for Modern Builders and Decorators Co. ; two houses, Lon Cedwyn, for Mr. H. Strawbridge ; two houses, Goitre-fawr Road, for Mr. M. Davies ; two houses, Lilliput Road, for Mr. L. H. Samuel ; two houses, Lon Gwynfryn, for Mr. G. Mogridge ; house, New Street, for Mr. E. H. Davies. The Corporation has leased land at west of Lon Ger-Y-Coed to Mr. A. E. Wright for 99 years for the erection of 20 houses ; and has leased land at Townhill Road, Sketty, to Mr. Syd Davies, for the erection of 28 houses.

D

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A_1	Abergavenny ..	S Wales & M.	1 5	1 0½
A_2	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A_2	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie ..	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B_2	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
A_2	Atherstone ..	Mid. Counties	1 4	1 0
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry ..	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_1	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_2	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham	Mid. Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth ..	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton ..	N.W. Counties	1 5½	1 1½
A_2	Boston ..	Mid. Counties	1 4	1 0
A_2	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A	Brighton ..	S. Counties	1 4	1 0
A	Bristol ..	S.W. Counties	1 5½	1 1½
B_2	Brixham ..	S.W. Counties	1 2½	11
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B_2	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
	Burslem ..	Mid. Counties	1 5½	1 1½
	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury ..	N.W. Counties	1 5½	1 1½
A	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff ..	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A_2	Chelmsford ..	E. Counties	1 4	1 0
A_2	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester ..	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley ..	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A_2	Colchester ..	E. Counties	1 4	1 0
A	Colne ..	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby ..	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorchester ..	S.W. Counties	1 2½	11
A	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N.E. Coast	1 5½	1 1½
A_2	FASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorgan-shire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE	E. Counties	1 4	1 0
A_2	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S.W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole ..	Yorkshire	1 4½	1 0½
A_2	Gosport ..	S. Counties	1 4½	1 0½
A_2	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull ..	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B_2	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A_2	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLES-FIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_2	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson ..	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid. Counties	1 5½	1 1½
A_2	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford ..	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth ..	Scotland	*1 5½	1 1½
A_2	Peterborough ..	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A_2	Retford ..	Mid. Counties	1 4	1 0
A_2	Rhondda Valley	S. Wales & M.	1 5	1 0½
A_2	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby ..	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	Slough ..	S. Counties	1 4½	1 0½
A_1	Solihull ..	Mid. Counties	1 5	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud ..	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swadlincote ..	Mid. Counties	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A_2	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist. ..	N.E. Counties	1 5½	1 1½
A_2	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay ..	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall ..	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick ..	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid. Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby ..	Yorkshire	1 4½	1 0½
A	Widnes ..	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor ..	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A_2	Wycombe ..	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 8
Mason (Banker) . . . . . ,,	1 7
,, (Fixer) . . . . . ,,	1 8
Plumber . . . . . ,,	1 7
Painter . . . . . ,,	1 6
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 7
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 3
Timberman . . . . . ,,	1 3
Navvy . . . . . ,,	1 2½
General Labourer . . . . . ,,	1 2½
Lorryman . . . . . ,,	1 5
Crane Driver . . . . . ,,	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . . per ton	2 2 0
Blue Lias Lime . . . . . ,,	1 16 6
Hydrated Lime . . . . . ,,	3 0 9
Portland Cement, in 4 ton lots (d/d site, including Paper Bags) . ,,	1 18 0
Rapid Hardening Cement, in 4 ton lots (d/d site, including Paper Bags) ,,	2 5 6
White Portland Cement, in 1 ton lots ,,	8 15 0
Thames Ballast . . . . . per Y.C.	6 3
¾" Crushed Ballast . . . . ,,	6 9
Building Sand . . . . . ,,	7 3
Washed Sand . . . . . ,,	8 3
2" Broken Brick . . . . . ,,	8 0
½" ,, ,, ... ,,	10 0 3
Pan Breeze . . . . . ,,	6 6
Coke Breeze . . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

		4" s. d.	6" s. d.
Straight Pipes	per F.R	0 9	1 1
Bends	each	1 9	2 6
Taper Bends	,,	3 6	5 3
Rest Bends	,,	4 3	6 3
Single junctions	,,	3 6	5 3
Double ,,	,,	4 9	6 6
Straight channels	per F.R.	1 6	2 6
½" Channel bends	each	2 9	4 0
Channel junctions	,,	4 6	6 6
Channel tapers	,,	2 9	4 0
Yard gullies	,,	6 9	8 9
Interceptors	,,	16 0	19 6
IRON DRAINS:			
Iron drain pipe	per F.R.	1 6	2 6
Bends	each	5 0	10 6
Inspection bends	,,	9 0	15 0
Single junctions	,,	8 9	18 0
Double junctions	,,	13 6	30 0
Lead wool	lb.	6	—
Gaskin	,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . . per M.	2 18 0
Grooved do. . . . . ,,	3 0 0
Phorpres bricks . . . . . ,,	2 17 3
Phorpres Cellular bricks . . . ,,	2 17 3
Stocks, 1st quality . . . . ,,	4 11 0
,, and ,, ... ,,	4 2 6
Blue Bricks, Pressed . . . . ,,	8 17 6
,, Wirecuts . . . . ,,	7 17 6
,, Brindles . . . . ,,	7 0 0
,, Bullnose . . . . ,,	9 0 0
Red Sand-faced Facings . . . ,,	6 18 6
Red Rubbers for Arches . . . ,,	12 0 0
Multicoloured Facings . . .	7 10 0
Luton Facings . . . . . ,,	7 10 0
Phorpres White Facings . . . ,,	3 17 3
Phorpres Rustic Facings . . . ,,	3 12 3
Midhurst White Facings . . . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . . ,,	21 0 0
Headers . . . . . ,,	20 10 0
Bullnose . . . . . ,,	27 10 0
Double Stretchers . . . . ,,	29 10 0
Double Headers . . . . ,,	26 10 0
Glazed Second Quality, *Less* . ,,	1 0 0
,, Buffs and Creams, *Add* ,,	2 0 0
,, Other Colours . . ,,	5 10 0
2" Breeze Partition Blocks . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 10
3" ,, ,, ,, . .	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

	s. d.
The following d/d F.O.R. at Nine Elms:	
Portland stone, Whitbed . . F.C.	4 4½
,, Basebed . . ,,	4 9
Bath stone . . . . . ,,	2 11
York stone . . . . . ,,	6 6
,, ,, Sawn templates . . ,,	7 6
,, ,, Paving, 2" . . . F.S.	1 8
,, ,, ,, 3" . . . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . . per M.	28 17 6
22" × 12" Marchionesses . . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . . ,,	15 10 0
18" × 9" Ladies . . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, green ,, ,,	24 7 4
Best machine roofing tiles . . ,,	4 10 0
Best hand-made do. . . . ,,	5 0 0
Hips and valleys . . . . each	9½
,, hand-made . . . ,,	10
Nails, compo . . . . lb.	1 4
,, copper . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . as 1" F.S.	9
Deal, Joiner's . . . ,, ,,	5
,, ,, 2nds . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . ,, ,,	4
Teak, Moulmein . . ,, ,,	1 3
,, Burma . . . ,, ,,	1 2
Walnut, American . . ,, ,,	2 3
,, French . . ,, ,,	2 3
Whitewood, American . ,, ,,	1 1

Deal floorings,	½"	¾"	1"	1½"	2"
			Sq.		18 6
,,	¾"	,,	,,	1 1 6	
,,	1"	,,	,,	1 2 0	
,,	1½"	,,	,,	1 5 0	
,,	2"	,,	,,	1 10 0	
Deal matchings	¾"	,,	,,	14 0	
,,	1"	,,	,,	15 6	
Rough boarding	¾"	,,	,,	1 4 0	
,,	1"	,,	,,	16 0	
,,	1½"	,,	,,	18 0	
Plywood, per ft. sup.				1 6 0	

Thickness	¼"	½"	¾"	1"
Qualities	AA. A. B.	AA. A. B.	AA. A. B.	AA. A. B.
	d. d. d.	d. d. d.	d. d. d.	d. d. d.
Birch	4 3 2	5 4 3	7½ 6 4½	8½ 7 6
Alder	3½ 3 2	5 4 3	6½ 5½ 4½	8 7 6
Gaboon Mahogany	4 3 3	6½ 5½ 4½	9½ 7½ –	1/0½ 10 –
Figured Oak 1 side	8½ 7 –	10 8 –	11½ – –	1/6 – –
Plain Oak 1 side	6½ 6 –	7½ 7 –	9½ – –	1/– – –
Oregon Pine	5 4 –	5½ 5 –	6 – –	– – –

	d.
Scotch glue . . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:

(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	½"	¾"	1"	1½"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
,, 3'-11½" long ,,	7	9	1/3	1/8	3/–
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3
,, ,, 3'M-½" long ,,	8	10	1/5	1/11	3/6
Bends . . . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . . . ,,	1/–	1/8	1/10	2/6	5/1
Crosses . . . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/–	2/–
Flanges . . . . ,,	9	1/–	1/4	1/9	2/9
Caps . . . . . ,,	3½	5	8	1/–	2/–
Backnuts . . . . ,,	2	3	5	6	1/1
Iron main cocks . . ,,	1/6	2/3	4/2	5/4	11/6
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–

Discounts:

TUBES.

	Per cent.		Per cent.
Gas	65	Galvanized gas	52½
Water	61½	,, water	47½
Steam	57½	,, steam	42½

FITTINGS.

Gas	57½	Galvanized gas	47½
Water	52½	,, water	42½
Steam	47½	,, steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ½" . . ,,	8 6
,, ,, ⅝" . . ,,	8 3
,, ,, ¾" . . ,,	8 0
,, ,, ⅞" . . ,,	7 6
,, ,, 1" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1½" . . ,,	7 6
,, ,, 1¾" . . ,,	7 6

Cast-iron rain-water pipes of ordinary thickness metal .	3" s. d.	4" s. d.
	F.R	8 10
Shoes	each	2 0 3 0
Anti-splash shoes . . . ,,	4 6	5 0
Boots . . . . ,,	3 0	4 0
Bends . . . . ,,	2 7	3 9
,, with access door . . ,,	—	6 3
Heads . . . . ,,	4 0	5 0
Swan-necks up to 9" offsets . ,,	3 9	6 0
Plinth bends, 4½" to 6" . ,,	3 9	5 3

Half-round rain-water gutters of ordinary thickness metal .	4" s. d.	6" s. d.
	F.R.	5 6
Stop ends	each	6 6
Angles . . . . ,,	1 7	1 11
Obtuse angles . . . ,,	2 0	2 6
Outlets . . . . ,,	1 9	2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	18 6
,, drawn pipes . . . ,,	17 0
,, soil pipe . . . ,,	18 6
,, scrap . . . ,,	10 6
Solder, plumbers' . . . lb.	9½
,, fine do. . . . ,,	1 0
Copper, sheet . . . ,,	8½
,, tubes . . . ,,	11

L.C.C soil and waste pipes:	3"	4"	6"
Plain cast	F.R. 1 0	1 2	2 8
Coated	,, 1 1	1 3	2 8
Galvanized	,, 2 0	2 6	4 6
Holderbats	each 3 10	4 0	4 9
Bends	,, 3 9	5 3	10 3
Shoes	,, 2 10	4 4	9 6
Heads	,, 4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . . per ton	2 5 0
Plaster, coarse . . . . ,,	2 10 0
,, fine . . . . ,,	4 15 0
Hydrated lime . . . . ,,	3 0 9
Sirapite . . . . ,,	3 6 0
Keene's cement . . . . ,,	5 0 0
Sand, washed . . . . Y.C.	11 6
Hair . . . . . lb.	6
Laths, sawn . . . . bundle	2 4
,, rent . . . . ,,	3 9
Lath nails . . . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft.	s. F.S.	2½
,, ,, 26 oz. ,, ,, ,,		3
Flemish, Arctic, Figured (white)* ,,		7
Blazoned glasses . . . ,,		2 6
Reeded; Cross Reeded ,,		11
Cathedrals: eleven varieties (white)* ,,		6½
Crown sheet glass (n/e 12 in. x 10 in), ,,		2 0
Flashed opals (white and coloured) ,,	1 0 and 2	0
¼" rough cast; rolled plate . . ,,		7
¼" wired cast; wired rolled . . ,,		10
¼" Georgian wired cast . . ,,		11
¼" Polished plate, n/e 1 ft. . . ,,	†10 to ‡1	1
,, ,, 2 . . ,,	†1 2 ,, ‡1	4
,, ,, 4 . . ,,	†2 3 ,, ‡2	6
,, ,, 8 . . ,,	†2 9 ,, ‡3	2
,, ,, 20 . . ,,	†3 7 ,, ‡4	2
,, ,, 45 . . ,,	†3 11 ,, ‡4	7
,, ,, 100 . . ,,	†5 0 ,, ‡5	7
Vita glass, sheet, n/e 2 ft. . . ,,		1 3
,, ,, over 2 . . ,,		1 9
,, ,, plate, n/e 2 ft. . . ,,		3 0
,, ,, ,, 15 . . ,,		5 0
,, ,, ,, over 15 . . ,,		6 0
"Calorex" sheet 21 oz., and 32 oz. ,,	2 6 and 3	6
rough cast ¼" and ⅜" ,,	8½ ,, 1	0
Putty, linseed oil . . . lb.		3

*Colours 1d. F.S. extra.

†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s. d.
White lead in 1 cwt. casks . . cwt.	2 6 0
Linseed oil . . . . . gall.	2 2½
Boiled oil . . . . . ,,	2 4½
Turpentine . . . . . ,,	4 1½
Patent knotting . . . . . ,,	14 0
Distemper, washable . . . . cwt.	2 6 0
,, ordinary . . . . ,,	2 0 0
Whitening . . . . . ,,	4 0
Size, double . . . . . firkin	3 0
Copal varnish . . . . . gall.	13 0
Flat varnish . . . . . ,,	14 0
Outside varnish . . . . . ,,	16 0
White enamel . . . . . ,,	1 15 0
Ready-mixed paint . . . . ,,	13 6
Brunswick black . . . . ,,	7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR

		£ s. d.
Digging over surface n/e 12" deep and cart away	Y.S.	2 9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.	8 6
" to form basement n/e 5' 0" deep and cart away	"	9 0
" " 10' 0" deep and cart away	"	9 6
" " 15' 0" deep and cart away	"	10 0
If in stiff clay	add	6
If in underpinning	"	4 0
Planking and strutting to sides of excavation	F.S.	1 0
" " to pier holes	"	5
" " to trenches	"	5
" " extra, only if left in	"	3
Hardcore, filled in and rammed	Y.C.	10 0
Portland cement concrete in foundations (6-1)	"	1 6 0
" " (4-2-1)	"	1 12 6
" " underpinning	"	1 16 0
Finishing surface of concrete, spade face	Y.S.	7

DRAINLAYER

		4" s. d.	6" s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
" junctions		3 9	4 6
Gullies and gratings	"	16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER

		£ s. d.
Brickwork, Flettons in lime mortar	Per Rod	27 10 0
" " in cement	"	28 15 0
" Stocks in cement	"	35 0 0
" Blues in cement	"	52 0 0
Extra only for circular on plan	"	2 0 0
" backing to masonry	"	1 10 0
" raising on old walls	"	2 0 0
" underpinning	"	5 10 0
Fair Face and pointing internally	F.S.	1½
Extra over flettton brickwork for picked stock facings and pointing	"	8½
" " " red brick facings and pointing	"	11
" " " blue brick facings and pointing	"	1 4
" " " glazed brick facings and pointing	"	3 6
Tuck pointing	"	7
Weather pointing in cement	"	3½
Slate dampcourse	"	10
Vertical dampcourse	"	1 1

ASPHALTER

		s. d.
½" Horizontal dampcourse	Y.S.	4 6
½" Vertical dampcourse	"	6 9
½" paving or flat	"	4 0
1" paving or flat	"	5 6
1" × 6" skirting	F.R.	1 0
Angle fillet	"	2
Rounded angle	"	2
Cesspools	Each	5 0

MASON

		s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17 9
Bath stone and do., all as last	"	13 6
Artificial stone and do.	"	13 0
York stone templates, fixed complete	"	10 6
" thresholds	"	13 6
" sills	"	1 0 6

SLATER AND TILER

		£ s. d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr.	3 10 0
Do., 18" × 9"	"	3 7 0
Do., 24" × 12"	"	3 17 0
Westmorland slating, laid with diminished courses	"	6 0 0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3 0 0
Do., all as last, but of machine-made tiles	"	2 16 0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	"	4 6 0
" " " " " " (green)	"	4 15 0

CARPENTER AND JOINER

		£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2 5 0
Shuttering to sides and soffits of beams	F.S.	8
" to stanchions	"	8
" to staircases	"	1 8
Fir and fixing in wall plates, lintols, etc.	F.C.	3 9
Fir framed in floors	"	4 6
" " roofs	"	6 6
" " trusses	"	7 6
" " partitions	"	8 6
⅞" deal sawn boarding and fixing to joists	Sqr.	1 14 6
1" " " " "	"	1 17 6
1½" " " " "	"	2 3 0
3" × 2" fir battening for Countess slating	"	9 6
Do. for 4" gauge tiling	"	12 0
Stout feather-edged tilting fillet	F.R.	4½
Patent inodorous felt, 1 ply	Y.S.	2 3
" " " 2 "	"	2 9
" " " 3 "	"	3 3
Stout herringbone strutting to 9" joists	F.R.	10½
1" deal gutter boards and bearers	F.S.	1 2
1½" " " "	"	1 6
2" deal wrought rounded roll	F.R.	8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2 1 0
1¼" do.	"	2 10 0
1½" do.	"	2 17 0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S.	1 6
1¼" do	"	1 9

CARPENTER AND JOINER—*continued*

		s. d.
1½" deal moulded sashes of average size	F.S.	1 9½
2" " " "	"	1 11½
1½" deal cased frames double hung, of 6" × 3" oak sills, 1½" pulley stiles, 1¼" heads, 1" inside and outside linings, ¾" parting beads, and with brass faced axle pulleys, etc., fixed complete	"	3 7
2" " " "	"	3 10
Extra only for moulded horns	Each	6
1½" deal four-panel square, both sides, door	F.S.	2 0
2" " " "	"	2 8
1½" " but moulded both sides	"	2 4
2" " " "	"	3 0
4" × 3" deal, rebated and moulded frames	F.R.	1 0
4½" × 3½" " " "	"	1 4
1½" deal tongued and moulded window board, on and including deal bearers	F.S.	1 9
1½" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2 6
1½" deal moulded wall strings	"	2 1
1½" " outer strings	"	2 4
Ends of treads and risers housed to string	Each	1 9
3" × 2" deal moulded handrail	F.R.	1 3
1" × 1" deal balusters and housing each end	Each	2 0
1½" × 1½" " " " "	"	2 9
3" × 3" deal wrought framed newels	F.R.	1 3
Extra only for newel caps	Each	6 0
Do., pendants	"	6 0

SMITH AND FOUNDER

		£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.	15 6
Riveted plate or compound girders, and hoisting and fixing in position	"	19 6
Do. stanchions with riveted caps and bases and do.	"	19 0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	"	17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.	11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1 10 0

PLUMBER

		£ s. d.
Milled lead and labour in flats	cwt.	1 12 0
Do. in flashings	"	1 15 6
Do. in covering to turrets	"	2 3 0
Do. in soakers	"	1 7 6
Labour to welted edge	F.R.	3½
Open copper nailing	"	3
Close " "	"	4

Lead service pipe and fixing with pipe hooks	½" s. d. F.R. 10	¾" s. d. 1 0	1" s. d. 1 3	1¼" s. d. 2 0	2" s. d. 2 10	4" s. d. —
Do. soil pipe and fixing with cast lead tacks	—	—	—	—	—	5 6
Extra, only to bends	Each —	—	—	—	2 0	6 9
Do. to stop ends	" 6½	8	9	11	1 0	—
Boiler screws and unions	" 3 3	3 9	5 0	8 0	—	—
Lead traps	" —	—	—	6 3	8 9	—
Screw down bib valves	" 6 9	9 6	11 0	—	—	—
Do. stop cocks	" 7 0	9 6	12 6	—	—	—

		£ s. d.
4" cast-iron ½-rd. gutter and fixing	F.R.	1 0
Extra, only stop ends	Each	1 0
Do. angles	"	1 6
Do. outlets	"	2 9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.	1 2
Extra, only for shoes	Each	1 3
Do. for plain heads	"	5 6

PLASTERER AND TILING

		s. d.
Expanded metal lathing, small mesh	Y.S.	2 0
Do. in n/w to beams, stanchions, etc.	"	2 9
Lathing with sawn laths to ceilings	"	1 3
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	"	1 5
Do. vertical	"	1 7
Rough render on walls	"	1 2½
Render, float and set in lime and hair	"	1 9
Render and set in Sirapite	"	1 11
Render, backing in cement and sand, and set in Keene's cement	"	2 9
Extra, only if on lathing	"	4
Keene's cement, angle and arris	F.R.	6
Arris	"	1½
Rounded angle, small	"	3
Plain cornices in plaster, including dubbing out, per 1" girth	"	1½
1" granolithic pavings	Y.S.	3 6
1½" "	"	4 6
6" × 6" white glazed wall tiling and fixing on prepared screed	"	17 6
9" × 3" " " "	"	1 2 6
Extra, only for small quadrant angle	F.R.	8

GLAZIER

		s. d.
21 oz. sheet glass and glazing with putty	F.S.	7½
26 oz. do. and do.	"	8½
Flemish, Arctic, Figured (white) and glazing with putty	"	1 1
Cathedral glass and do.	"	1 2
Glazing only, British polished plate	"	7
Extra, only if in beads	"	2
Washleather	F.R.	4

PAINTER

		s. d.
Clearcolle and whiten ceilings	Y.S.	6
Do. and distemper walls	"	9
Do. with washable distemper	"	1 1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	"	3 3
Do. on woodwork	"	3 6
Do. on steelwork	"	3 0
Do. and brush grain and twice varnish	"	5 6
Stain and twice varnish woodwork	"	1 11
Stain and wax-polish woodwork	"	4 0
French polishing	F.S.	1 2
Stripping off old paper	Piece	2 6
Hanging ordinary paper from	"	2 9

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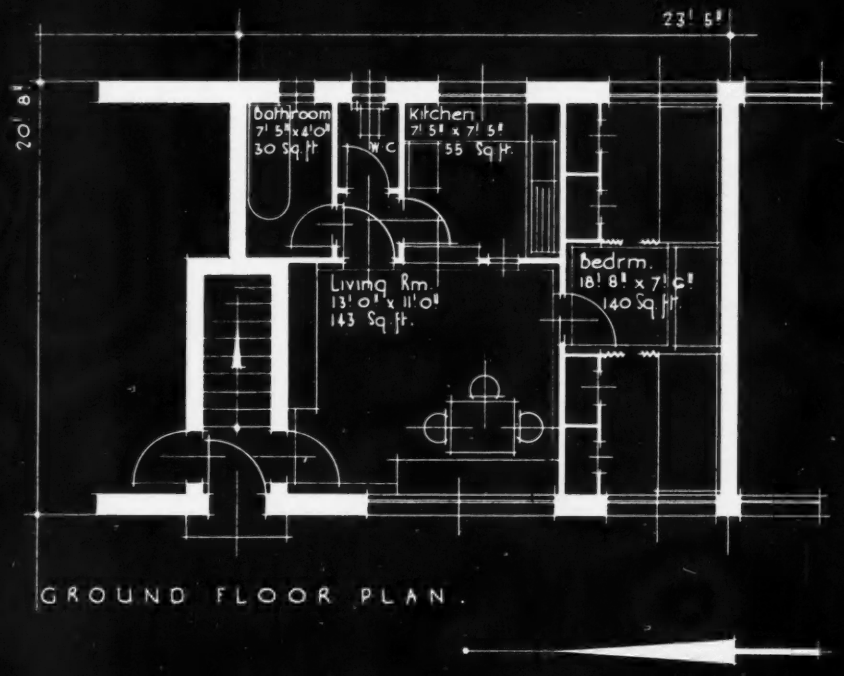
TYPES OF FLAT UNIT : BUDAPEST.

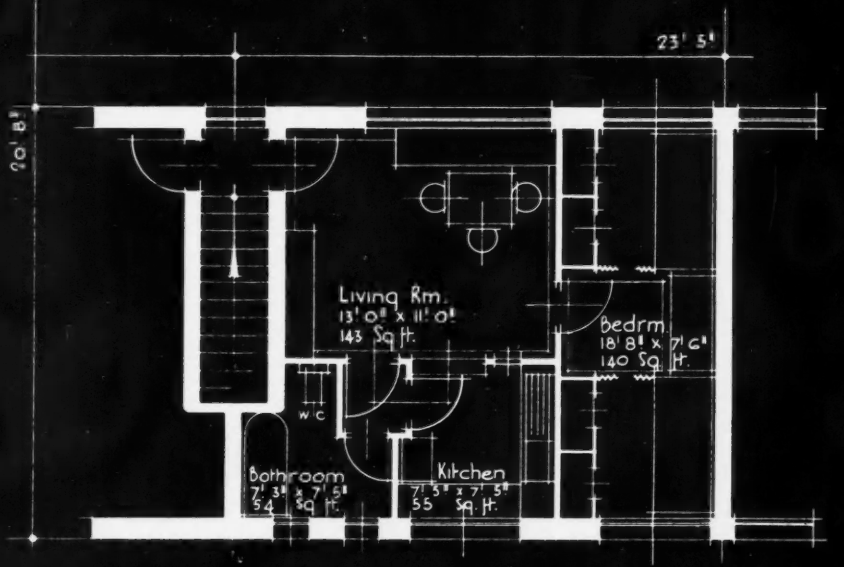
ACCESS : Internal Staircase.
TYPE : 2-room, bathroom & kitchen.
2-Storey only.



GROUND FLOOR PLAN.

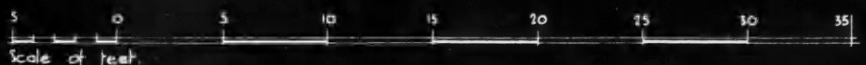
Total area of unit : 485 Sq. Ft.
Service area: 123 Sq. Ft.
Habitable area : 283 Sq. Ft.

UPPER FLOOR PLAN.



Total areas given include : the external walls, half the division walls between flats, half the area of the stair.

Total area of unit : 485 Sq. Ft.
Service area : 123 Sq. Ft.
Habitable area : 283 Sq. Ft.



INFORMATION SHEET : INDUSTRIAL HOUSING 4.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1

Supplement to THE ARCHITECTS' JOURNAL for August 9, 1934

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INFORMATION SHEET

• 133 •

INDUSTRIAL HOUSING—IV

(BUDAPEST)

THE units given on this Sheet are the ground and first floors of a 2-storey block. Being only a 2-storeyed block an unusually economical stair arrangement is achieved.

Each unit gives accommodation for probably two persons, the plans being nearly identical but reversed, giving the living rooms opposite aspects. This arrangement determines the aspect of the block, the length of which runs north and south.

In the analysis of areas given the total area of the unit is taken from the centre line of the division walls, and includes the thickness of the external wall, approximately one foot.

The service area includes all the space which is not used as living accommodation for the occupants, i.e., kitchen, wardrobes, w.c., lobby and bath or shower.

Previous Sheets dealing with housing (Nos. 124, 128 and 132) were presented with our issues for July 5, July 19 and August 2.

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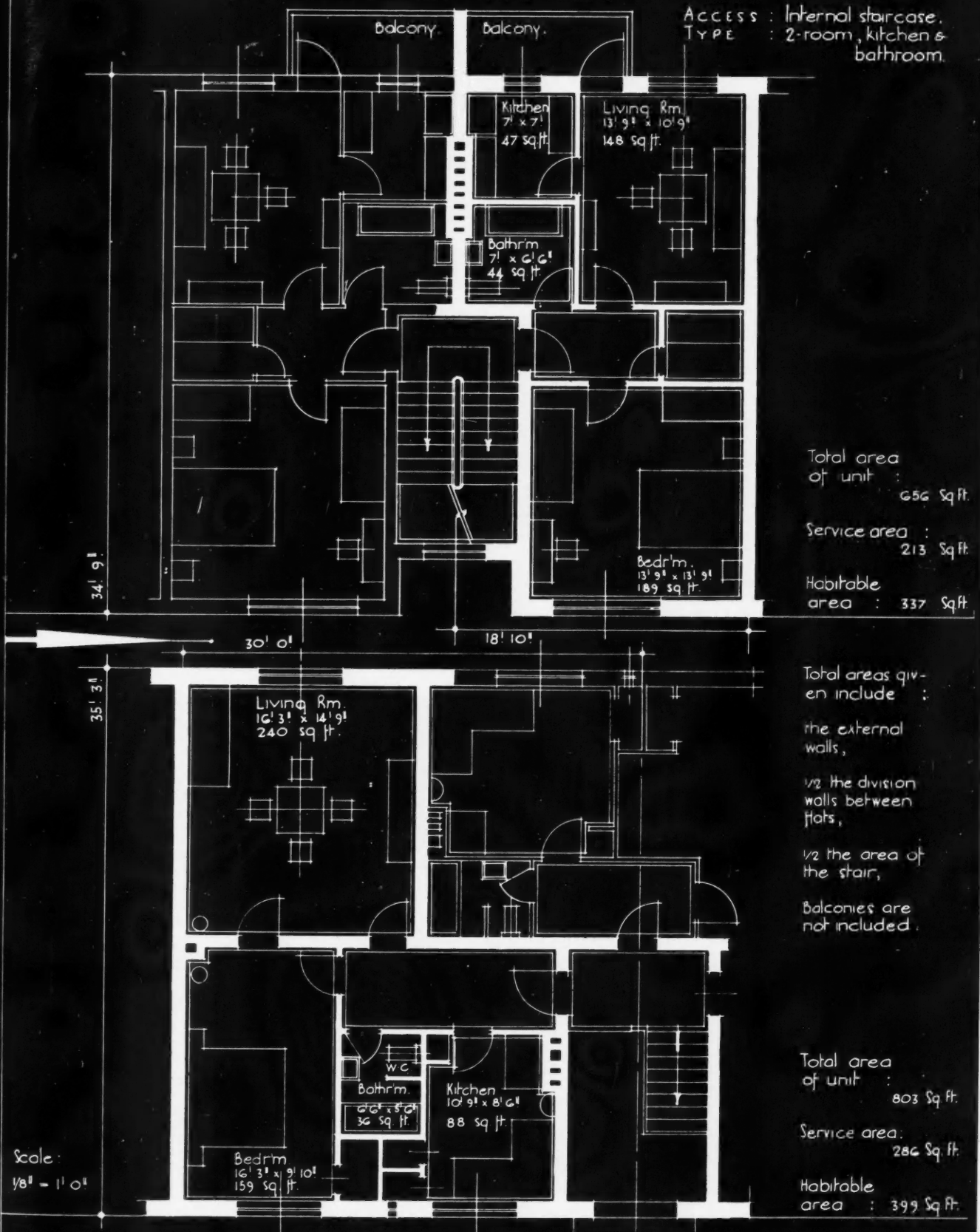
TYPES OF FLAT UNIT : OSLO, NORWAY :



ACCESS : Internal staircase.
TYPE : 2-room, kitchen & bathroom.

Total area of unit : 656 Sq.Ft.

Service area : 213 Sq.Ft.

Habitable area : 337 Sq.Ft.

Total areas given include :

the external walls,

1/2 the division walls between flats,

1/2 the area of the stair,

Balconies are not included.

Total area of unit : 803 Sq.Ft.

Service area : 286 Sq.Ft.

Habitable area : 399 Sq.Ft.

INFORMATION SHEET : INDUSTRIAL HOUSING 5.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1

Supplement to THE ARCHITECTS' JOURNAL for August 9, 1934

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INFORMATION SHEET

• 134 •

INDUSTRIAL HOUSING—V (OSLO)

THIS Sheet illustrates two arrangements of flat units built in Norway. Both are of the internal staircase type with two rooms, kitchen and bathroom, the latter room being placed internally without direct light or ventilation. Service installation and piping throughout is kept within the flat, being accommodated in ducts adjoining the main flue stack. The bed and sitting rooms of the upper plan may be reversed to suit different orientation of the main block. A spacious cupboard opening on to the corridor provides both wardrobe and box-room space.

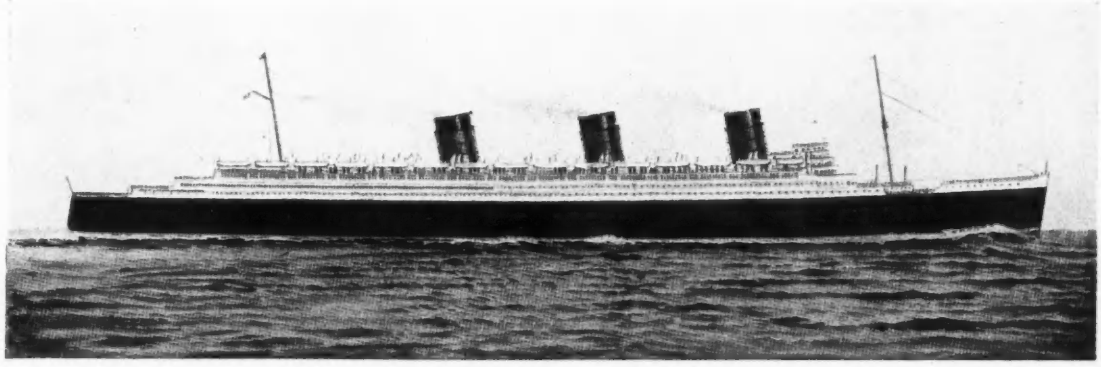
The lower plan is of the overlapping style of unit with the consequent insertion of a smaller flat behind each staircase, comprising a bed-living room of the same size as for the two-roomed flats, but with increased kitchen accommodation. In both flats the bathroom and w.c.'s require borrowed light and ventilation.

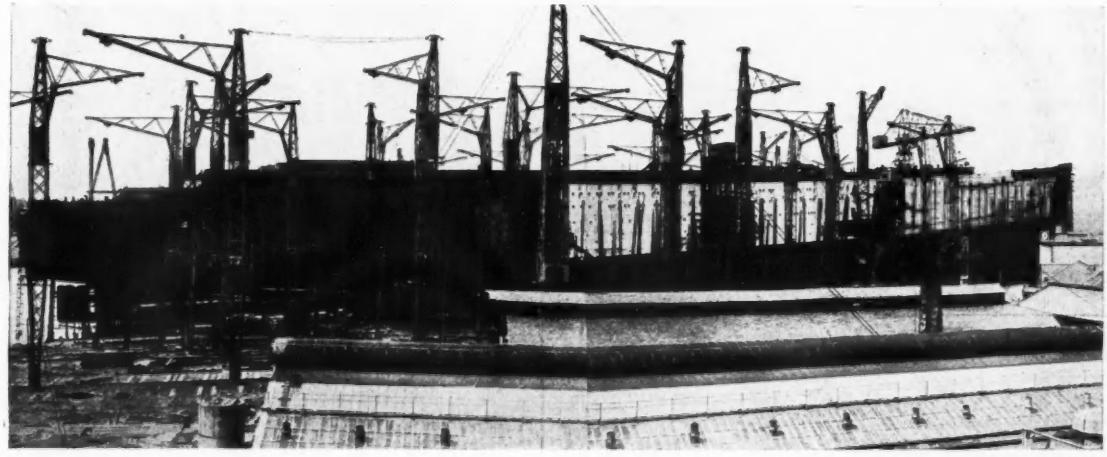
The service area includes all that space which is not used as living accommodation for the occupants, i.e., service area includes kitchenette, wardrobe, shower, w.c. and lobby. Where bathrooms occur they are also included. In the lower plans a large balcony is included in the habitable area.

Previous Sheets dealing with Housing (Nos. 124, 128 and 132) were presented with our issues for July 5, July 19 and August 2.

CUNARDER : 1905 OR 1934?

TO BE LAUNCHED ON SEPTEMBER 26





TOPICAL PRESS

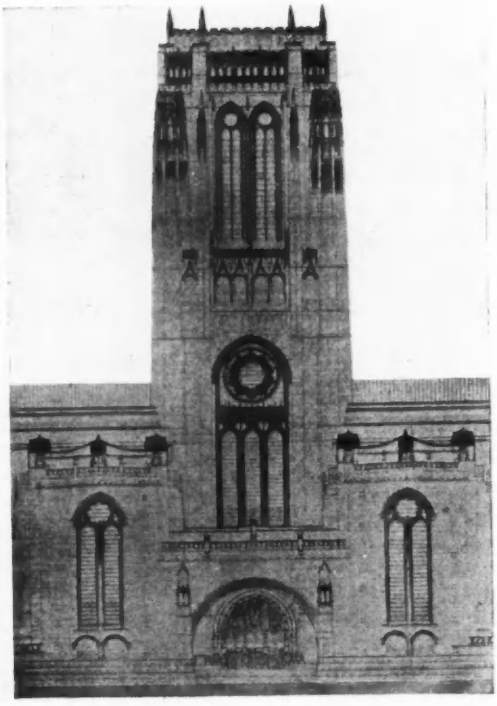
WHILE the structure of the new Cunard liner number 534 is nearly finished there will still be eighteen months' work needed after launching before she is completed. This will include all the interior fitting out, and the public is particularly anxious that this part should be as worthy of her leadership of the English passenger fleet as her construction and her machinery certainly will be. Will she contain the usual reconstruction of an Edwardian hotel or will she be really representative of the year to which she belongs. No details of her proposed interior have been published, but the following paragraphs appeared in last Tuesday's "Daily Telegraph" in an article by that paper's Glasgow correspondent :—

"Designs for the interior decorations have not yet been finally chosen, but experts are experimenting with tiny scale models of the various types of cabins and public rooms. Rare woods are being brought from all parts of the Empire for their inspection, and samples of costly fabrics and hangings are being offered by the best-known firms in the country. There has been some discussion as to how far modernistic tendencies will be incorporated in the decorative scheme. I understand that while due regard will be given to the latest and most hygienic type of furnishings, there will be no attempt to shock with the bizarre.

"In a ship of the size of '534' there is room for as much variety as in a large hotel. The latest rubber and glass materials, for instance, will probably be seen in the bathrooms, while something more conventional will be used in the dining-rooms. But the designers, I gather, will avoid making the ship a museum of periods." We hope there is still time to avoid the kind of compromise with "something more conventional" that this report suggests.

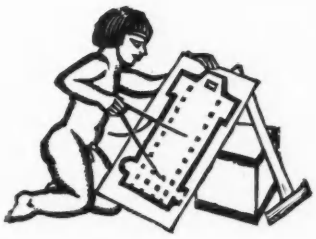
The launching by H.M. the Queen is to take place on September 26. The illustrations above show a sketch of the liner as she will appear when finished and a photograph, taken a few days ago, of the shell on the stocks on Clydebank being painted white in preparation for the launching ceremony.

C. J. BENNETT



PROGRESS: LIVERPOOL'S ANGLICAN CATHEDRAL

Some four months ago the Liverpool Cathedral Executive Committee announced that Lord Vestey and Sir Edmund Vestey had arranged to give to the building fund amounts which would enable the Committee to erect the great central tower of the cathedral at a cost of about £220,000. The above photograph shows work in progress. A drawing of the tower is reproduced on the left. Sir Giles Gilbert Scott, R.A., P.R.I.B.A., is the architect.



AN OPEN LETTER TO MR. HERBERT MORRISON

WHEN the party, Sir, of which you are the leader, was elected to a majority in the London County Council we welcomed the advent of a governing body whose programme included a specific intention to direct London's development on a long-sighted basis. We were at the beginning, we felt, of a great step forward from the hand-to-mouth methods of bureaucratic *laissez-faire* that had characterized the policy of so many of your predecessors. Now that you have the opportunity the whole city is watching your attempts to live up to your election programme.

With your attitude to Waterloo Bridge we must say we were gravely disappointed. You reversed your predecessors' decision to adopt the compromise of reconditioning, without substituting for it any general plan for an area in which the bridge is but an incident. However, on this question further discussion is of little value: the bridge is in the demolisher's hands, and you have at least asserted your own power and demonstrated that when your party decides that something ought to be done it *is* done. Having succeeded in that, you now turn, quite rightly, to the next example of London's haphazard growth that needs the application of your powers—the South Bank. You are considering the acquisition of the property in order to put it to a use more worthy of this capital city and the river's position at the heart of it. In this case we do not dispute the rightness of your intention (though we would rather you had treated this problem as one with the problem of the bridges). No one would demand the preservation of the south bank of the Thames in its present state, though some amongst us think it has its beauties. What we would ask you very carefully to consider is what exactly " development " means.

Carried out by private speculators it generally means exploitation: by public bodies such as yours, monumental planning—with the emphasis on the monumental. We would suggest to you, Sir, that monumental planning can be as vile as private unplanning; and if you ask us for proof, we can point to those miles of promenades and ornamental gardens with lavatories and cast iron lamp standards, that are perpetrated in the name of improvement by countless well-intentioned municipal authorities. May we, since we have referred to the South Bank, take that as a case in point?

References have been made in the popular and other press to the anticipated line of development; comprising, for instance, a wide avenue along the river front to match the Victoria Embankment on the other side (with airy comparisons with the Paris quays or Michigan Boulevard in Chicago) to " open up the river " and serve as an artery for fast-flowing traffic. May we implore you not to be carried away by such dreams as these of metropolitan splendour, but to seek instead increased health, amenities and communal convenience for London, rather than to enter into competiton with Buenos Aires. Promenade, embankment and boulevard are resounding names, but under modern conditions they are simply other names for a traffic artery, and that is the last thing wanted on the river bank, which should be available for peaceful enjoyment.

London is not a formal capital planned on axial lines; its natural character might better be described as a kind of progressive asymmetry, and the grand sweep of the river would only gain a bogus continental effect from an avenue for motor cars on either side. The sensible utilization of the magnificent frontage would provide a terrace of finely situated buildings with nothing but gardens, perhaps, and a public walk between them and the river, and piling up in perspective round the curve like those noble warehouses further down on the other side. The road should be relegated to its proper place behind them. These could be restaurants, offices and flats, with open air cafés at the water's edge. They would have the benefit of the open space the river provides, and the sunlight and fresh air uncontaminated by the fumes or spoilt by the noise of traffic. There is at present almost no place in the middle of London where you can find an uninterrupted river view, except the glimpse you get through trees and over monuments and trams from the buildings below the Strand; and no place where you can have tea overlooking the river unless you are either a Member of Parliament (which we trust you will become again before long) or an inmate of St. Thomas's Hospital (which it is as well to avoid). The general public has no opportunity of contemplating its own river in comfort.

In the eighteenth century Somerset House set an example of sensible riverside planning, that was only shorn of half its purpose by the construction by our grandparents of the Victoria Embankment. May we ask you, Sir, in examining the possibilities of this new development you have in mind to consider which is the more civilized model to follow: the Victorian pomposity of a processional way copied without intelligence, in a spirit of vulgar imitation of the monumental, from Barcelona and Buenos Aires; or the civilized English eighteenth-century idea of development, which is conceived in a more subtle spirit of planning, and knows how to lay out an area with a proper sense of its contours, its character and the collective benefit of its inhabitants.

The Architects' Journal
Westminster, S.W.1
Telephones: Victoria
9212-7
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London

NOTES & TOPICS

MERSEY TUNNEL ENTRANCE

OVER a year ago I mentioned my misgivings about the Mersey Tunnel entrance and hoped that the city fathers of Liverpool would grasp the opportunity for some decent planning, and now I see that Professors C. H. Reilly and Budden are complaining about the unfortunate and mean muddling which has been done.

*

In a letter to *The Liverpool Post and Mercury*, Professor Reilly says " the whole of the triangular piece of land in which the tunnel emerges is a mess. It is of no particular shape, and the throwing of it open has spoilt entirely the setting of St. George's Hall."

*

He suggests that this piece of land should be the site of some public building " enclosing and emphasizing the entrance to the tunnel and giving it dignity." He contends that Mr. Rowse was given an impossible task when he was desired to decorate " a hole in an oddly-shaped piece of ground."

*

With the removal of the structure which was erected for the opening ceremony, all that is left are " two little triumphal arches for foot-passengers, who are not allowed down the tunnel, a Lyons marble column, and a mixture of pay-boxes, lamp posts and parking grounds no one uses."

*

Architects and architectural critics are sometimes accused of habitual pessimism, but surely there is some justification for pessimism when in enormous undertakings like the Mersey tunnel the architect is not brought in until the engineer has done the planning.

*

Professor Reilly adds : " The sooner Liverpool lets Mr. Rowse take away his toys, and erect on the site a fine building, covering from view once more the rubbishy buildings, old and new, which have been exposed and which gave Liverpool away in every newspaper in the country as a half-baked sort of place, the better."

MR. ROBERT ATKINSON AND LINCOLN

In order to carry out schemes of slum clearance and street widening without interfering with a rich inheritance of fine buildings, the Lincoln City Council has appointed Mr. Robert Atkinson as advisory architect for a period of five years. Here is an example of preservation arising out of planning, for one of Mr. Atkinson's tasks is the preparation of a report which will act as a guide for the future development of the city.

*

Mr. Atkinson is well qualified for such a complex and fascinating piece of work. His profound scholarship has always been allied with a grasp of the realities of the machine age. He is not one of the escapist antiquarians. He has a mind that moves in this century, and he doesn't mind speaking his mind.

*

I wish more professional men did speak their minds. Mr. Atkinson has completely mastered the technique of the cold douche. I have heard him apply it to more than one piece of architectural idiocy that lesser men were discussing without perceiving what he immediately apprehended : that the subject wasn't worth discussing at all.

*

His influence upon architectural education when he was Director at the A.A. was far-reaching, and the Association still derives benefit from the vigour and intellectual quality of his *régime*, though it is some years since he was actively concerned with teaching.

*

Lincoln is lucky. I should like to append a list of other cities and towns and advise them to behave in an equally civilized way.

THE STATE AND RIBBON DEVELOPMENT

The Minister of Health is consulting with the Minister of Transport regarding ways and means of checking ribbon development, so that there shall be some limit to the growth of these long, thin, unlovely towns.

*

A writer in *The Building Societies Gazette* hints that even in this hard-boiled field of business, it may pay to preserve some amenties, although " it is true that Building Societies, as such, are not directly concerned with this matter . . ."

*

A plea is made that " we (the Building Societies) should not take too narrow a view of our obligations in matters affecting the general welfare, and that our moral support, for what it is worth, should be given to any effort designed to impart order and form to the development of building land."

*

" Unhappily," he goes on, " the epidemic of unrestricted building has run such a long and uninterrupted course that it has placed an enduring blot on ' England's green and

In the city of Hyderabad: a view looking across the River Musi towards the Osmania General Hospital and the High Courts.

pleasant land,' but even a belated endeavour to stay the rising tide of disfigurement should be worth while."

*

The exciting thing about this is that it is written by a member of a Building Society and published in *The Building Societies Gazette*. We all know the Building Societies are "not directly concerned" in a business sense. But their moral support in the war on unplanning would be incalculable. I believe there are men in the Building Society movement who realize the responsibility. They are the men who will lead the movement out of the irresponsible Victorian phase into a position where it will be prepared to exert a decisive influence on contemporary life. The full quotation is given on another page.

MONTROSE HOUSE, PETERSHAM

Petersham was a little week-end village for tired and debauched eighteenth-century aristocrats. After the fatigues of a week in London: balls, routs, card-playing until dawn, women, wine, and all the trimmings of Georgian self-indulgence, the practitioners of these pleasures would retire to large, well-appointed houses in the rural serenities of Petersham and there recover strength in country air.

*

The miracle is that Petersham has remained intact. The traffic of today winds slowly between the high garden walls of those exquisite Georgian houses, and from the gate of Petersham Park to the entrance gateway of Ham House, one can step back into the eighteenth century. But now Montrose House, which is on the corner, midway through this colony of big houses, is for sale. I see the word "development" is mentioned.

*

Early last April in discussing the rebuilding of Richmond and the possible demolition of fine buildings in Petersham and Ham, I asked: Is there a proper development plan for this area, and is it being followed?

*

Now the threat to the unity and charm of Petersham is tangible, I may be forgiven for repeating the question.

ARCHITECTS AND THE NEXT WAR

The press is now waking up to the complete defencelessness of the civilian in a modern air war. I have touched on the almost inevitable development of the "funk hole" motive in architecture once or twice lately, because the strengthening of the Air Force with the full knowledge that aeroplanes can't protect cities brings the architect rather than the soldier into the picture.

*

Eight years ago THE ARCHITECTS' JOURNAL was envisaging the situation that now appears to be developing, and published during January, 1926, two articles on "Architects and the Next War," by Mr. Henry W. Nevinson. Some extracts from those prophetic articles are reprinted in this issue.

*

I hear that a building scheme at Ashford, Middlesex, includes a gas-proof, bomb-proof dug-out, for the benefit of residents. Mr. Nevinson's suggestion that architects should study the technique of anti-gas defensive measures is more forcible today than it was in 1926, for then Europe seemed committed to civilization.

ENLIGHTENED ASIA

We like to think of ourselves as altruistically instilling the enlightened order of the West into India's traditional confusion, but some notes about the city of Hyderabad which I have received from a correspondent show that we are by no means always in the lead.

*

This progressive city, under His Exalted Highness the Nizam of Hyderabad, adopted the town planning of built-up areas nearly 20 years before Great Britain decided to be so adventurous. In 1914 the Hyderabad City Improvement Board was formed and was given the necessary powers to plan out in advance improvements to the banks of the River Musi by removing all slums and by constructing retaining walls and paths. Although this and other schemes were held up during the war, many of them have now been carried out in accordance with modern ideas of town planning.

*

In fact, the city of Hyderabad sets an example to the London County Council in methods of dealing with the banks of the river, and with slum clearances. A photograph is reproduced on this page which gives some idea of the way the city of Hyderabad has laid out the embankments of the river. In the foreground are gardens, and on the other side of the river is the Osmania General Hospital and the High Courts.

*

The less said about the design of the buildings, perhaps, the better; but, turreted hospital notwithstanding, the general intention seems to me excellent—much more far-sighted than our own piecemeal tinkering with areas that should be laid out as a whole.

NATURE WITH CULTURE

Seen by a correspondent in the window of a small-town book-shop in Sweden: a Swedish translation of Beverley Nichols's "Down the Garden Path," with, on the cover, the explanatory sub-title: "Natur och Kultur." Sound criticism, I think.

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

"While due regard will be given to the latest and most hygienic type of furnishings (in the new Cunarder) there will be no attempt to shock with the bizarre. . . . The latest rubber and glass materials, for instance, will probably be seen in the bathrooms, while something more conventional will be used in the dining-rooms" 213

Lord Leverhulme imposes certain conditions as to building on his Cheshire estate. No house may be erected on land sold or leased by him until the plans and elevations are approved by his advisory architect. The use of certain structural materials of objectionable colour is forbidden 218

"Could not architects devise plans for rendering the upper storeys of lofty buildings so air-tight that no gas could penetrate into the rooms" 225

The advantage of the internal staircase system in apartment planning 230

THE ARCHITECTS' DIARY

Thursday, August 16

R.I.B.A. *Architects' Unemployment Committee. At 7 Bedford Square, W.C.1. Exhibition of Work done under the Architects' Emergency Scheme. Open until further notice.*

Friday, August 17

ARCHITECTURAL ASSOCIATION. *Annual Excursion. Visit to Norway. Until August 30.*

Monday, August 20

EXHIBITION OF MODERN HOMES. *At Gidea Park, Essex. Last day.*

Tuesday, August 21

COURTAULD INSTITUTE OF ART. *At Portman Square, W.1. Summer Course in the History of Art. Until August 31.*

INTER-DEPARTMENTAL COMMITTEE ON PRICES OF BUILDING MATERIALS

The Minister of Health and the President of the Board of Trade have accepted with regret the resignation of Sir Samuel Roberts, Bt., M.P., as Chairman of the Inter-Departmental Committee appointed to survey the prices of building materials. They have appointed Major Sir Isidore Salmon, C.B.E., J.P., D.L., M.P., to be Chairman of the Committee.

OUR HOUSES IN ORDER

"On the principle that 'late' is sometimes better than 'never,' we should, I think, welcome the announcement that the Ministry of Health is taking a hand in the effort to check the evil known as ribbon building—that is, embroidering all main and secondary roads with rows of houses without regard to the development of land in the rear," states a writer in the current issue of *The Building Societies Gazette*. "Sir Hilton Young has received and listened sympathetically to deputations concerned for the preservation of rural amenities and appearances, and is now in consultation with the Ministry of Transport as to the best methods of devising effective remedies.

"It is true that Building Societies, as such, are not directly concerned with this matter, and it may be suggested that we have enough to do to look after our own affairs, but I suggest that we should not take too narrow a view of our obligations in matters affecting the general welfare, and that our moral support, for what it is worth, should be given to any effort designed to impart order and form to the development of building land.

"Unhappily, the epidemic of unrestricted building has run such a long and uninterrupted course that it has placed an enduring blot on 'England's green and pleasant land,' but even a belated endeavour to stay the rising tide of disfigurement should be worth while. It may be asked what the Ministry of Transport have to do with it. The answer is that the internal combustion engine and the consequent mobility of traffic on the roads is directly responsible, because of the facilities for easy travel between town and country which it affords by 'bus, car and other motor vehicles; and the Ministry is very sensible of the effect of building without regard to considerations of public safety.

"In this connection, it is interesting to note that Lord Leverhulme imposes certain conditions as to building on his Cheshire estate. No house may be erected on land sold or leased by him until the plans and elevations are approved by his advisory architect. The use of certain structural materials of objectionable colour is forbidden, and sham half-timber and coloured window glass is anathema. But all owners of land are not alike, some being ready to sell for building without any conditions whatsoever, provided they obtain their price.

"If I am asked how the two Ministries named propose to check the evil of 'ribbon' and other undesirable building, I say frankly that I do not know, but it is to be assumed that they will take powers to exercise some sort of oversight in the interests of public safety."

AN EXHIBITION OF BATHING

An exhibition, to be held at Zurich in the autumn under the title, The Bath Through The Ages, is announced by the Musée des Arts et Métiers de Zurich. It is intended to illustrate the part played by the bath in the development of civilization, and will be planned under three headings: the public bath, the domestic bath and the medicinal bath. The directors hope to have exhibits from many countries, both in the historical section and in the practical section, of photographs, drawings and designs, and of actual examples of baths and fittings and bathroom furniture and hangings, brushes, soaps, costumes, etc. Exhibits must be received by September 20, 1934.

The exhibition has been organized in collaboration with Messrs. S. Giedion, S. Haefeli, W Moser and R. Steiger of the C.I.A.M. (International Congresses for Modern Architecture), and it is intended, after the exhibition closes in Zurich, to show it in a number of other towns.

THE MERSEY TUNNEL ENTRANCE

Professor Lionel B. Budden, F.R.I.B.A., in a letter entitled "The Tunnel Entrance" in a recent issue of *The Liverpool Post and Mercury*, writes: "In your issue for August 6 certain anonymous engineers are quoted as defending the unfortunate manner in which the new Mersey tunnel emerges at the Old Haymarket. The defence offered appears to be based on three grounds.

"It is stated that the difficulties of bringing out the tunnel entrance so that it would be axially related to St. George's Hall 'might have proved so great that it would have been impossible to use that site.' For this expression of opinion to be convincing it would have to be supported by very good reasons. Such difficulties as are known to be presented by existing levels, buildings, sewers, service pipes and cables can scarcely be regarded as constituting insuperable obstacles.

"The second line of defence is that it would have been 'far more expensive' to have done the right thing. Remembering the disparity between the first estimate of the cost of ventilating the tunnel—approximately £60,000, I believe—and the final estimate of something over £1,500,000, one cannot but be touched by this solicitude for economy in another direction. But whether on a long view there has been any actual financial saving as a result of disregarding a great architectural opportunity is at least open to doubt. One of the consequences of bringing the tunnel out in the wrong place is that the present disposition causes traffic to be seriously congested at the junction of Dale Street, Byrom Street, and William Brown Street. If the tunnel had emerged on the axis of St. George's Hall, the requisite space for the deployment of traffic coming from Birkenhead would have been available.

"Finally, the engineering apologists for the position of the Tunnel entrance say 'Mr. Rowse's axial scheme cleverly disguises the awkward angle of the mouth.' Mr. Rowse undoubtedly deserves the highest praise for the skill with which he attacked the insoluble problem presented to him by the engineers. He has most cleverly mitigated the crudity of their work. But neither he nor any other architect could succeed in 'disguising' an error so obvious to all who can see.

"When general financial conditions have sufficiently improved it may be possible to rectify what has been done. More difficult feats than this have been accomplished without interfering with great streams of traffic. But the immediate moral, as *The Times* pointed out, is that in all future undertakings in which the collaboration of architect and engineer is essential, such collaboration should be established from the beginning. If that lesson is learnt from this last example of Victorian practice it will be some consolation."

THE DIAL HOUSE, HIGH WYCOMBE

The contemplated demolition of one of the oldest buildings in High Wycombe, the Dial House, has roused a number of influ-

ential residents of the town to action. The Wycombe Borough Council have intimated their intention to demolish the Dial House for the purpose of improving Crendon Street, a narrow and dangerous thoroughfare in the centre of the town.

Mr. A. R. Powys, Secretary of the Society for the Protection of Ancient Buildings, has given his support to the opponents of the scheme, and in a recent visit to High Wycombe he met representatives of the Borough Council and suggested that in rounding off the corner of Dial House, the Council should only disturb a portion of the room on the ground floor and support the upper rooms by pillars of a design in keeping with the structure of the house, the general character of which would then be preserved

LEEDS ARCHITECTURAL TRAVELLING SCHOLARSHIP

Mr. Richard Thompson has been awarded the Leeds Architectural Travelling Scholarship, valued at £60, offered jointly each year by the Leeds Education Committee and the West Yorkshire Society of Architects.

HEALTH CONGRESS OF THE ROYAL SANITARY INSTITUTE

The Right Hon. The Earl of Malmesbury, D.L., J.P., has consented to become President of the next Health Congress of the Royal Sanitary Institute, which is to be held at Bournemouth from July 15 to 20, 1935. The Earl of Malmesbury is Chairman of the Hampshire County Council.

R. I. B. A.

R.I.B.A. EXAMINATIONS

The questions set at the Intermediate, Final and Special Final Examinations held in June and July, 1934, have been published, and are on sale at the R.I.B.A. Institute, price 1s. (exclusive of postage).

ARCHITECTS' UNEMPLOYMENT COMMITTEE

In connection with the exhibition of work done under the Architects' Unemployment Relief Fund which is now being shown at No. 7 Bedford Square, the Architects' Unemployment Committee would like to express their thanks to the following donors whose gifts have reduced expenses of the exhibition to a minimum :—

The Building Centre, who are paying half the cost of the exhibition ; the Architectural Association, who have lent the premises where the exhibition is being held ; Messrs. Allom Bros., Messrs. Troughton and Young and the Company of Merchant Adventurers of London, who have given the lighting fittings ; the Electric Lighting Service Bureau, for electric lamps : Messrs. T. Clarke & Co., for the electrical work ; and Messrs. Jordon Gaskell, for the printed slips.

As a result of the exhibition, an offer has been made by Mr. Leonard Bentall, of Kingston, to finance the completion of the survey maps of his neighbourhood, and when completed to arrange for a series of lectures on them at Kingston. The offer has been accepted and it is calculated that the work will keep eight or nine architects employed for several months.

COMPETITION

NEWS

WESTMORLAND : COUNTY OFFICES SITE

The Westmorland County Council at Kendal has decided to purchase South Busher Field, Kendal, for £3,500, as the site for the new County Council buildings. The building is to be the subject of a competition.

WEMBLEY : TOWN HALL

Mr. Stanley Hamp, F.R.I.B.A., has been appointed assessor in the competition for a new town hall at Wembley. The building is estimated to cost £115,000.

DARLINGTON : DEVELOPMENT

The Darlington Town Council has decided to hold a competition—limited to six architects—for the central development of the town.

COMPETITION BARRED

The R.I.B.A. have issued the following notice : " Members of the Royal Institute of British Architects and of its Allied Societies must not take part in the New Mills U.D.C. Housing Lay-out Competition because the conditions are not in accordance with the published regulations of the Royal Institute for Architectural Competitions."

Competitions Open

August 17.—Sending-in Day. Proposed new Municipal Offices for the Swinton and Pendlebury Urban District Council. Assessor : J. R. Adamson, F.R.I.B.A. Premiums : £150, £100, £75. Last day for questions was June 11. Conditions (deposit one guinea) from the Clerk to the Council, Council Offices, Swinton, Manchester.

August 31.—Sending-in Day. Proposed Memorial Assembly Hall at Methodist College, Belfast. Assessor : Mr. R. S. Wilshere, F.R.I.B.A. Competition is open to architects resident in Ireland. Premiums : £100 and £50. Designs must be submitted to Mr. Wilshere at the Education Offices, Belfast, not later than 10 a.m. on Friday, August 31. The last date for questions was July 2.

September 22.—Sending-in Day. Civic Centre, Tunbridge Wells, for the Corporation of Tunbridge Wells. Assessor : E. Berry Webber, F.R.I.B.A. Premiums of £300, £200, £100 and £75. Conditions are now obtainable (deposit £1 1s.) from Mr. J. Whitehead, Town Clerk, Tunbridge Wells. The last day for submission of designs is September 22.

October 1.—Sending-in Day. Proposed Municipal Assembly Halls, Wolverhampton, for the Wolverhampton Corporation. Assessor : C. Cowles Voysey, F.R.I.B.A. Premiums : £350, £250 and £150. Conditions from the Town Clerk, Town Hall, Wolverhampton. Last day for questions was May 21. (Deposit £1 1s.)

Competitions Pending

Lay-out of, and scheme for building on the prison grounds, York, for the York Corporation. Premiums : £250, £150 and £100.

New college for technical, commercial and art studies, Birmingham, for the Birmingham Education Committee.

Central offices, Hertford, for the Herts C.C. Premiums : £350, £250 and £150.

Technical college, Bolton, for the Bolton Education Committee. Premiums : £500, £250 and £100.

Civic building in connection with the proposed scheme for a civic centre, Enfield, for the Enfield U.D.C.

School in Hart Lane, Luton, for the Luton T.C. Assessor : J. A. Gotch, F.R.I.B.A. (limited competition).

Alternative designs for houses on the Hinton Court estate, for the Hereford Corporation (limited competition).

Development of the Tuns Gate site, Guildford, for the Guildford T.C. (limited competition).

Rebuilding of Bishopsgate Police Station and Police Hospital, for the City of London Corporation. Premiums : £250, £100 and £50.

Flats, Glebe Place, Stoke Newington, for the Stoke Newington B.C. Prizes : £250, £100 and £50 (limited competition : The following firms have been invited to compete : Mr. W. R. Davidge ; Messrs. Hobden and Porri, Messrs. Howes and Jackman, Mr. E. M. Joseph, Mr. E. C. P. Monson and Mr. Granville Streatfield, in conjunction with Mr. W. J. Dawson).

Town hall, Knights Lane, Edmonton, for the Edmonton U.D.C.

Town hall, for the Southall-Norwood U.D.C.

Municipal centre, Romford, for the Romford U.D.C.. Premiums : £250, £100 and £50.

Town hall, Bury, for the Bury T.C. Assessor : J. Hubert Worthington, F.R.I.B.A.

Development of the Lumps Fort site, for the Portsmouth Corporation.

THIS ARSHETECTURE

A STRONG MAN'S HOUSE

Six years ago a man started to build his own house. He had been a strong man and a wrestler, and naturally he wanted a good strong home.

As a result of his labours The Triangles now stands overlooking a wonderful valley of fields and trees just outside busy Halifax.

Mr. Edward Wigglesworth, the builder, collected all the materials to make the great blocks of concrete for the solid front his house presents to the world. He collected, too, something more out of the ordinary which is now hidden, for he reinforced his concrete with old tramlines and iron bedsteads.

From THE CHILDREN'S NEWSPAPER.

LETTERS FROM READERS

The A.A. Exhibition of Students' Work

SIR,—Mr. V. Harding's criticism of the A.A. Exhibition of Students' Work contained in his letter to you published in last week's issue, is very querulous in tone. I cannot help feeling that his point of view is biased, and I would also maintain that his remarks do not give in any sense a true picture of the facts.

He is sarcastic in speaking of the "yellows, greens, and reds" on the research sheets. These coloured inks are used quite honestly and logically to mark with greater clarity elements such as services, and vertical and horizontal circulations. They are not put there for "eye-wash," and if Mr. Harding had troubled to research himself into these sheets, and analyse their purpose, I do not think that he could fairly dispute their value. He would also discover that some of the less technically competent drawings have received the highest marks, though I can assure him that marks do not assume the importance which he indicates.

Mr. Harding criticizes our dismountable model of a domestic structure as "an old-fashioned brick house with a still more old-fashioned timber roof and dormer windows." I need hardly reply to this point, as it is obvious that neither brickwork nor timber roofs are yet old-fashioned, and promise to be in current use for many years to come. It is logical, therefore, that students in their early years should become familiar with these elements of honest structure.

As regards the lack of evidence "of research into such essential problems of modern building technique as thermal conductivity," I would like to say that we have an excellent series of lectures by fully qualified practising specialists dealing with these subjects; but in the matter of research I feel that a five years' course is not the place for specialized experiment which fully taxes the resources of such well-equipped laboratories as Watford.

Mr. Harding must remember that our students are literally only beginners in a process of learning which must inevitably occupy many years.

Finally, in the matter of "getting to the root of architectural design" the majority of students in the present-day schools, as well as the teaching staffs, are sincerely desirous of going as far in this direction as the present state of enlightenment and progress will permit. Their designs inevitably reflect passing influences, as does the work of the most eminent practitioners of the day. The work of students of a school cannot be fairly criticized for other than what it is, namely students' essays; but it is absolutely unfair, and tantamount to a mis-statement, to say that "most of the buildings may be regarded as pegs on which to hang pretty colours and styles." To take one instance, let Mr. Harding return again to examine the thesis work, where he will find evidence of research, and of structural competence, which I challenge him honestly to dismiss with such disparaging comment.

HOWARD ROBERTSON
Architectural Association, London

Economics and the Architect

SIR,—I am all in favour of a competent investigation into the monetary system, but loose and erroneous statements like most of those poured forth by your correspondents under the above heading can only harm the cause of reform.

Money is not merely "a distributing agent"; it is a circulating means of payment, and it cannot properly be "distributed" unless the recipients of the goods for which it pays are able to provide the kind of goods required in exchange at approximately the same cost. Far from "becoming more of a commodity," money is becoming more of a token as its relation to gold becomes less rigid, but commercial banks can *not* "manufacture or destroy it at will" —as R. W. Toms declares; for more money can only be created if traders will borrow more, and it is not generally "destroyed" unless previously issued in excess.

The "real cost" of a loan for house building is not merely "the cost of writing it down." The costs of new houses are not usually defrayed by the occupiers in less than twenty years, but cash for wages, etc., is required and has to be paid out during the actual operations. For this reason, the money required for investment is normally provided out of savings, and credit is only created for the purpose of transferring goods in process of production.

In the case of the Guernsey Market, means of payment was successfully provided because the amount involved was very small compared with the real resources of the island; but, if it had been in proportion to what is now required to restore world prosperity, the effect would have been felt in rising prices of foodstuffs and materials, and if these had been in adjustment with the level of costs then serious disequilibrium would have resulted. It is absurd to say that "ultimately there was no inflation," for the present is all that matters in this connection; "ultimately," as Mr. Keynes has said, we are all dead.

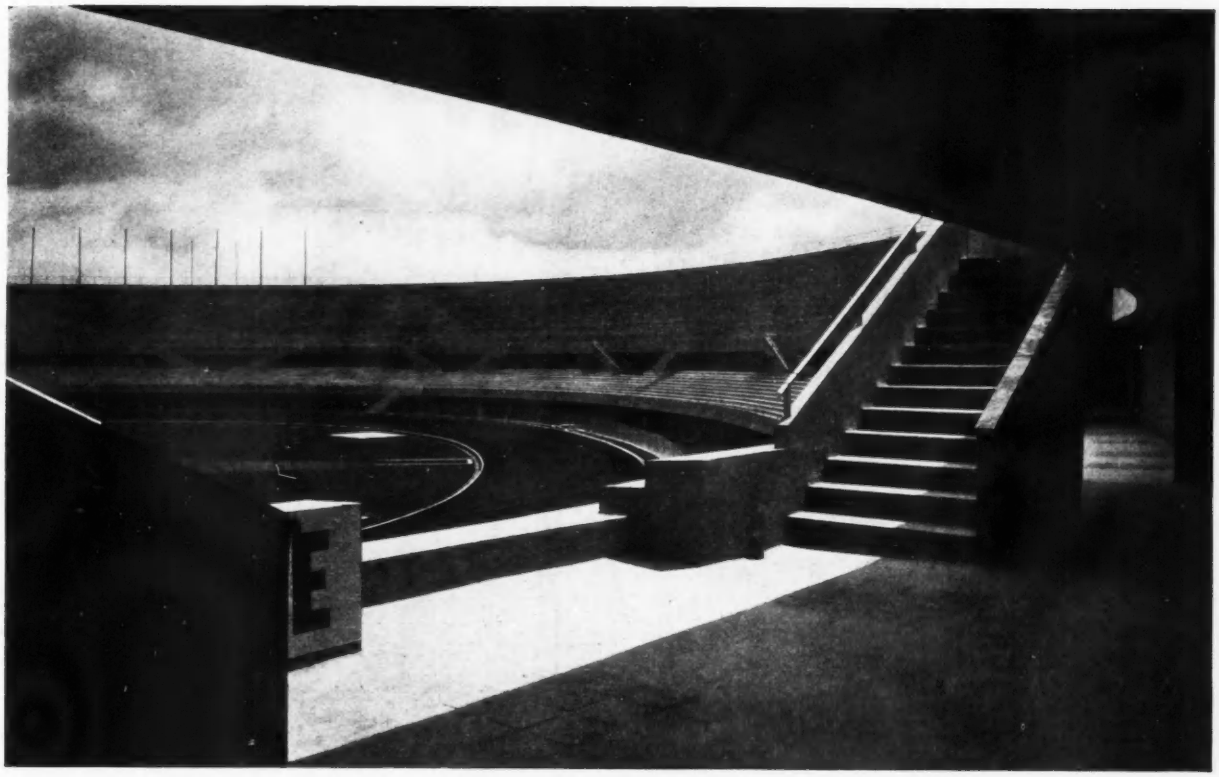
On the other hand, now that prices of primary products have been forced down to a level far below their costs, inflation and a considerable rise in these prices is exactly what the world requires. Unfortunately, the powers of the Bank of International Settlements (of which "Archiconomist" is so afraid) are extremely limited. In fact, Mr. R. G. Hawtrey, whose works (unlike the verbiage of Major Douglas) are essential to serious students of these questions, considers that "so long as the B.I.S. is wholly in the hands of central bankers who believe that every fluctuation in the purchasing power of gold is an act of God, which cannot be modified by any human intervention, nothing whatever is to be hoped from it."

"Lack of purchasing power" is not directly due to "the ousting of human labour by scientific production." Far from the demand for labour being diminished by technical progress it is bound to be greatly increased, for such progress widens the field for new kinds of goods. It is nonsense to claim that the problem of production is "solved" just because certain factory products can be turned out in excess of the demand for them. The problem of production is to provide that amount of every kind which will be mutually exchangeable, not to multiply goods regardless as to whether anyone will give their value in exchange.

Finally, disputes between nations are far more often caused by competition for supplies of raw materials than for export markets. Seventy-five per cent. of international trade is estimated to be complementary, not competitive, and there is no physical reason why all countries should not be fully employed providing world prices can be restored to a remunerative level.

GEOFFREY BIDDULPH
London

THE MUSSOLINI STADIUM, TURIN



This athletic stadium, built by the City of Turin, was completed last summer. The site has an area of about 107,000 square metres, containing the buildings themselves and gardens, traffic approaches and parking spaces and room for future development. The complete scheme comprises the stadium proper, a light athletic ground and swimming pools.

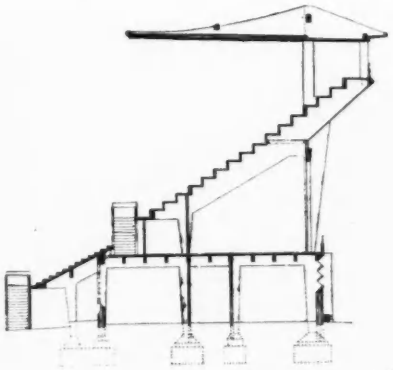
The stadium, which is constructed entirely in reinforced concrete, is elliptical in shape and has seating accommodation for 45,000 people (of whom 5,000 are in the covered stand) and standing room for another 20,000. In the centre of the covered stand is the royal box and, facing this, the three marathon entrances to be used when outside races finish in the stadium. The passage giving access to these is crowned by a tower 40 metres in height with a lift to the top, from which a view over the city and of the Alps can be obtained. Access for the public is by means of 20 openings debouching into an intermediate passage, from which a number of double stairs lead to the upper tiers, while 20 passages lead to the lower tiers.

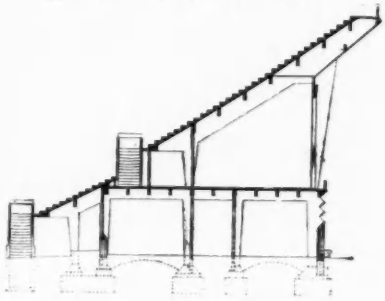
The photographs on this page show the interior of the stadium from one of the approach landings and a portion of the exterior.

DESIGNED BY

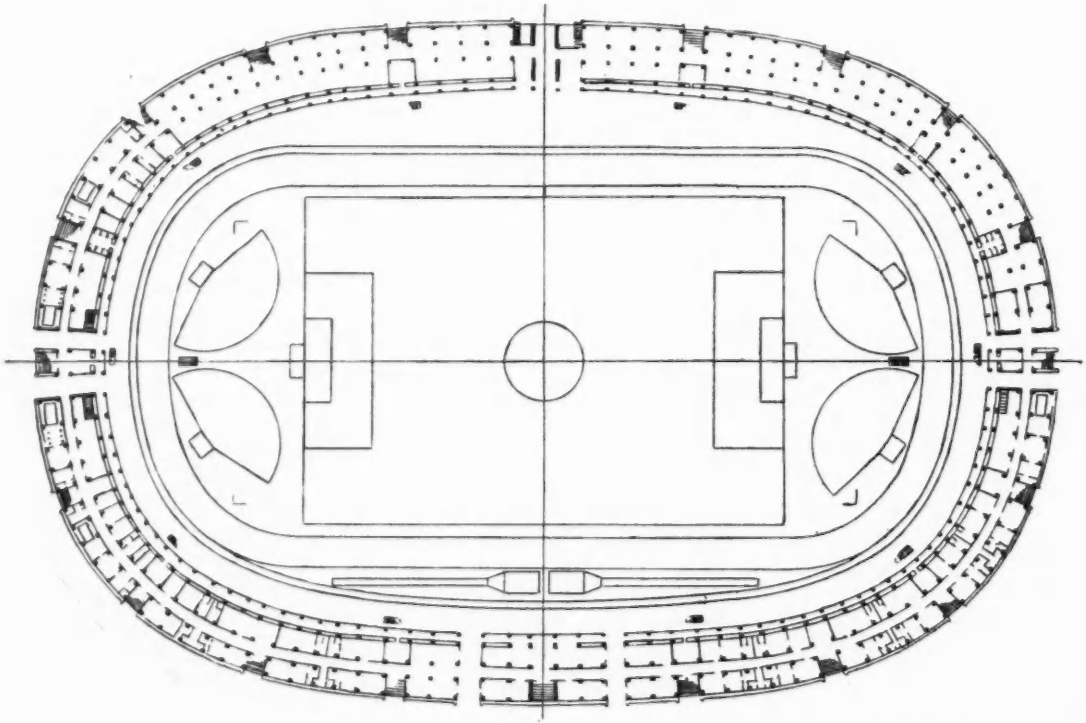
R. FAGNONI

THE MUSSOLINI STADIUM, TURIN:



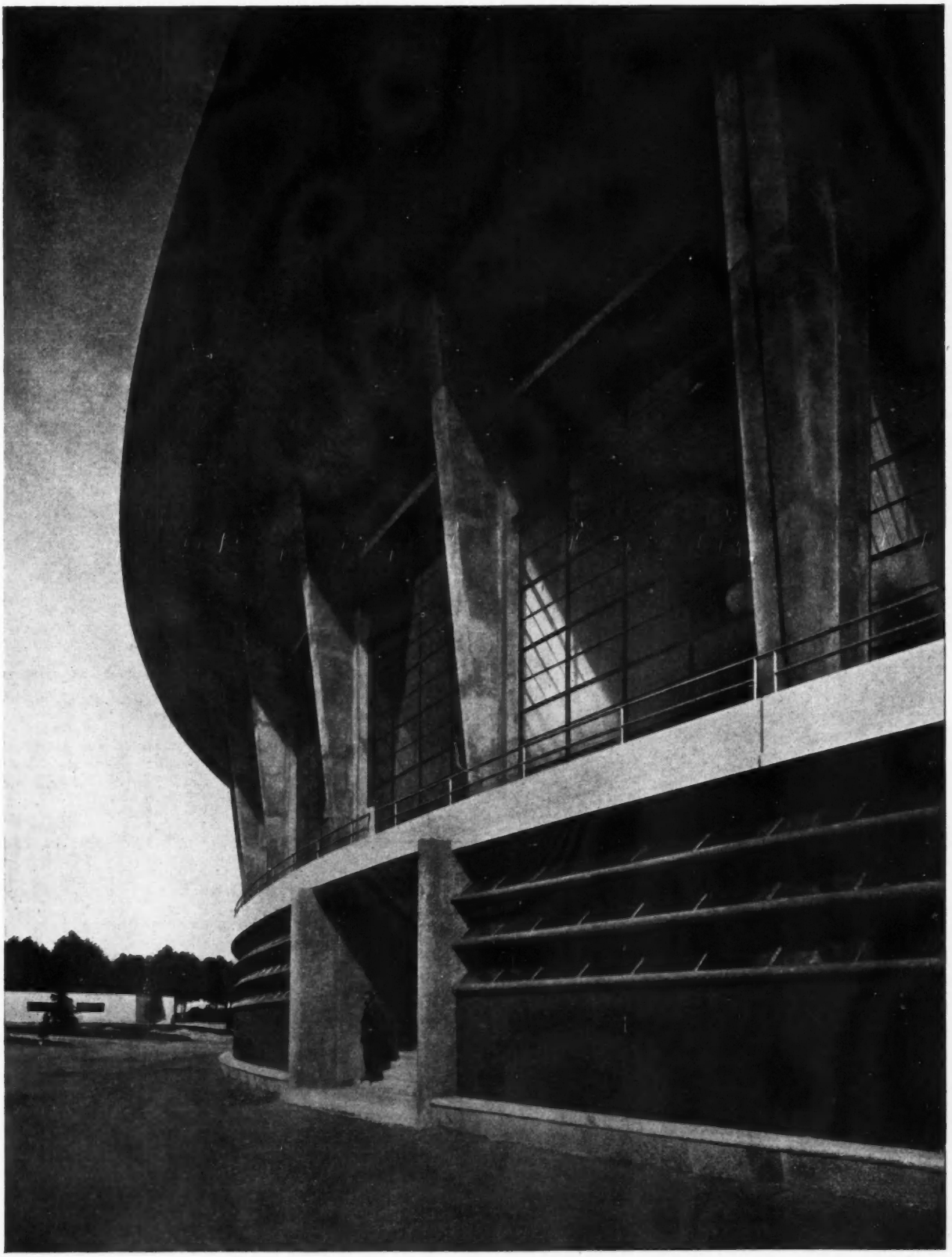


On this page are a view looking down on the arena, showing the uncovered seating accommodation; cross sections through the uncovered and covered stands; and the plan.



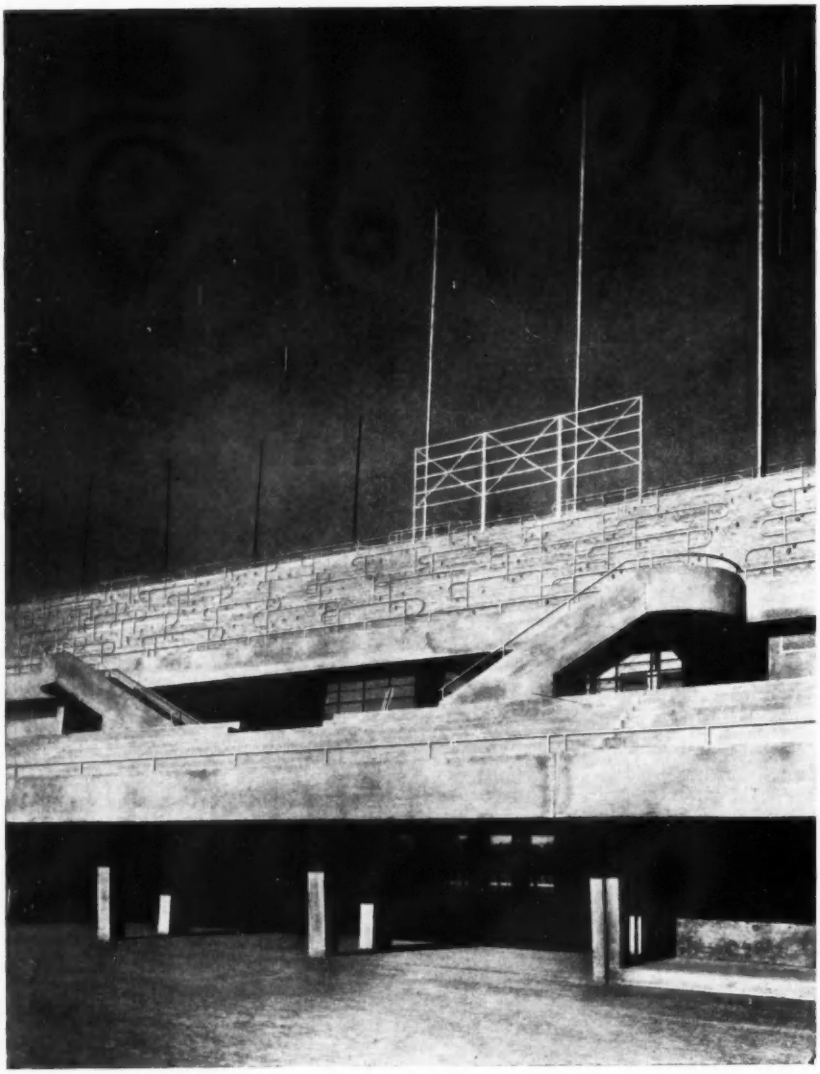
The games field, separated from the public by a small wall surmounted with wire netting, includes a football field measuring 75 by 110 metres, a six-way running track 452 metres long, two tracks with ditch for long jump, four squares with ditch for high jump and pole jump, and provision for other field athletics. The space under the tiers is turned into two floors. On the ground floor, a corridor of more than 500 metres, entirely separated from the public, serves two rows of dressing and service rooms for the athletes. The dressing rooms, of which there are 40, each accommodates 20 persons and is provided with douches and closets. To these must be added those for umpires, markers, instructors, etc. The whole of the first floor consists of a continuous set of large, well lighted rooms, suitable for exhibitions, meetings and offices, and also for lodging teams of athletes.

DESIGNED BY R. FAGNONI



A detail of the exterior treatment.

THE MUSSOLINI STADIUM, TURIN



The work was directed by the City of Turin's Public Works Technical Department, the engineers being Messrs. Bianchini and Ortene. The stadium was erected in only 180 working days. It consists of a continuous elliptical ring of 120 bays, formed by reinforced concrete piers, which remain completely in evidence outside and inside. One of the sides is covered by a cantilever roof, the brackets of which project 11 metres from the impost frames.

The cement tiers have a red stoneware edging; the outside steps have a marble tread, and the steps of the entrances are of white granite. The portals, and the platform running right round the whole stadium, are also of white granite. The great external projection, strongly accentuated to the extent of dominating the whole architectural composition, balances the cantilever roof, making possible the continuity of the structures throughout the ring.

Following are some of the principal dimensions of the stadium :—

Main centre line of the ellipse, 224·24 metres.

Narrow centre line, 146·7 metres.

Total length, 645 metres.

Length of tiers, 21,033, of which 2,800 metres for seats under cover.

Length of cantilever roof, 176 metres.

Width of cantilever roof, 15·35 metres.

Net projection of roof, 10·75 metres.

The photographs on this page show : top, another view of the main stand; bottom, stand reinforcement under construction.

DESIGNED

BY

R. FAGNONI

THE ARCHITECTURE OF

SELF DEFENCE

Below the heading, "War Office Gas Experiments in London: A safe room for every house: communal shelters plan," the "News-Chronicle" one day last week printed an article reporting experiments that were being carried out by the Home Office, in co-operation with the Air Ministry and War Office gas experts, for making dwelling houses proof against aerial gas attack. Similar protective measures are reported from Paris, Professor J. B. S. Haldane has been writing in the Press about the construction of bomb-proof shelters and the subject of defensive architecture is generally, like the aeroplanes that made their recent demonstration attack on London, very much in the air.

More than eight years ago, in January, 1926, we published a couple of articles by Mr. H. W. Nevinson, the famous war correspondent, on the same subject. They were entitled "Architects and the Next War" and discussed the possibilities of protective construction in much the same way that it is being discussed today. Seeing the similarity of the position (except perhaps for some increase in the destructive potentiality of air attack) after eight years have passed it may be interesting to read again some of Mr. Nevinson's observations. Following are extracts from his two articles that appeared in THE ARCHITECTS' JOURNAL *for January 13 and January 20, 1926.*

FOR the present the dove of Locarno hovers over Western Europe, and all decent people pray that the welcome bird may continue her stationary flight. But though we were informed that the Great War was to end war, we now recall that prophecy with a melancholy smile. And if some hideous fate should bring war upon us again—war with any neighbouring Power, which we may call X—what would be our position? Let us assume (no difficult assumption) that X did not reduce her aircraft as we did after the last war, and has been steadily increasing it since. Our own Air Force is growing again, and no one doubts its skill and courage. It will, I suppose, be further strengthened by Sir Samuel Hoare's special reserve squadrons, which will act as Territorials of the Air. That is all very well but, speaking in Cambridge last April, Air-Chief Marshal Trenchard observed that aeroplanes were "a shocking bad weapon of defence," though he thought them the only one. Their chief use, he said, would be to lower the *moral* of the enemy's people, apparently by destroying the enemy's capital and other cities. But while our airmen were engaged upon the laudable object of destroying Paris, or Berlin, or Leningrad, or Rome, the enemy planes would be simultaneously engaged upon destroying London, Leeds, Manchester, and other centres of our congested population.

Let us consider the case of London alone, just as an illustration. Within twelve, or at the most twenty-four, hours of the declaration of war the enemy's planes will be rushing and swooping over the whole metropolitan area. Probably they will begin by dropping explosive bombs of two kinds—shells that explode on immediate contact, and shells of "delayed action," timed to penetrate five or six solid stories before they explode. Incendiary bombs, which no amount of water will quench, will follow, and our common gasworks and electric light works will be burnt or exploded, leaving the city in total darkness at night, but for the fires of the burning houses and factories. These enterprises will be followed or accompanied by the use of the most terrible instrument of war yet invented. For flights of aeroplanes will sweep over the blazing city and suburbs dropping bombs charged with poison gases of two main kinds—the kinds that stifle, choke, blind, and make to vomit, and the kinds that burn the skin and flesh and vitals, penetrating through any clothes or masks, and persisting, around the places where they fall, for days and weeks together. Side by side with these gas-planes will come others, swooping near the ground, and pouring thousands of bullets from machine-guns upon the bewildered and tormented population in our streets and squares.

What, then, can be done? And, first, what might architects do? One proposal, I can imagine, must be for the Government to insist upon the construction of deep bomb-proof chambers below the foundations of every new important commercial building put up. These chambers should have steel ceilings and roofs of reinforced concrete.

If they were sunk deep in the gravel or London clay, not even a two-thousand-pound shell of delayed action, penetrating through lofty buildings such as we now see in Regent Street, could reach them. The inside and contents (furniture, goods, etc.) of the most strongly-built edifice might be blown out or consumed with fire. The shell itself might fall in ruins owing to the expansion of the iron or steel girders under the extreme heat. But the shelter, if made deep enough and strongly roofed, would remain intact. Even so, however, if "persistent" or burning gas were strewn thickly upon the surface of the upper ground, and the air-raids continued for many days, it would be impossible for the fugitives to come out of their artificial caverns. If they were not to starve a large store of food must be laid down in each shelter beforehand, and it would be advantageous to have the shelters connected by passages, and at intervals to construct stairways down into the tubes, so that a thorough underground communication might be maintained from one part of London to another; and at certain points, such as Golders Green or Clapham Common, even the open air might be reached with comparative impunity, unless the enemy were specially on the watch there.

And I have heard of another, but subordinate proposal in which also architects might assist. Could not architects devise plans for rendering the upper stories of lofty buildings so air-tight that no gas could penetrate into the rooms? Such upper stories would, of course, still be subject to destruction by explosive bombs, and nothing could protect them against a direct hit. People must take risks, and many, like myself, would prefer to be blown to pieces rather than gassed. But if rooms were constructed with windows and doors that could be hermetically sealed with great rapidity at the first sign of a raid, and the inmates were instructed and practised how to do it, they might survive at all events for a few days. The atmosphere in the sealed-up rooms would become almost intolerable, but I have been told that just enough air to maintain life filters through brick and even stone walls. Such protection, however, would be brief, unless the whole edifice could be sealed up and food and sanitation provided in the other stories.

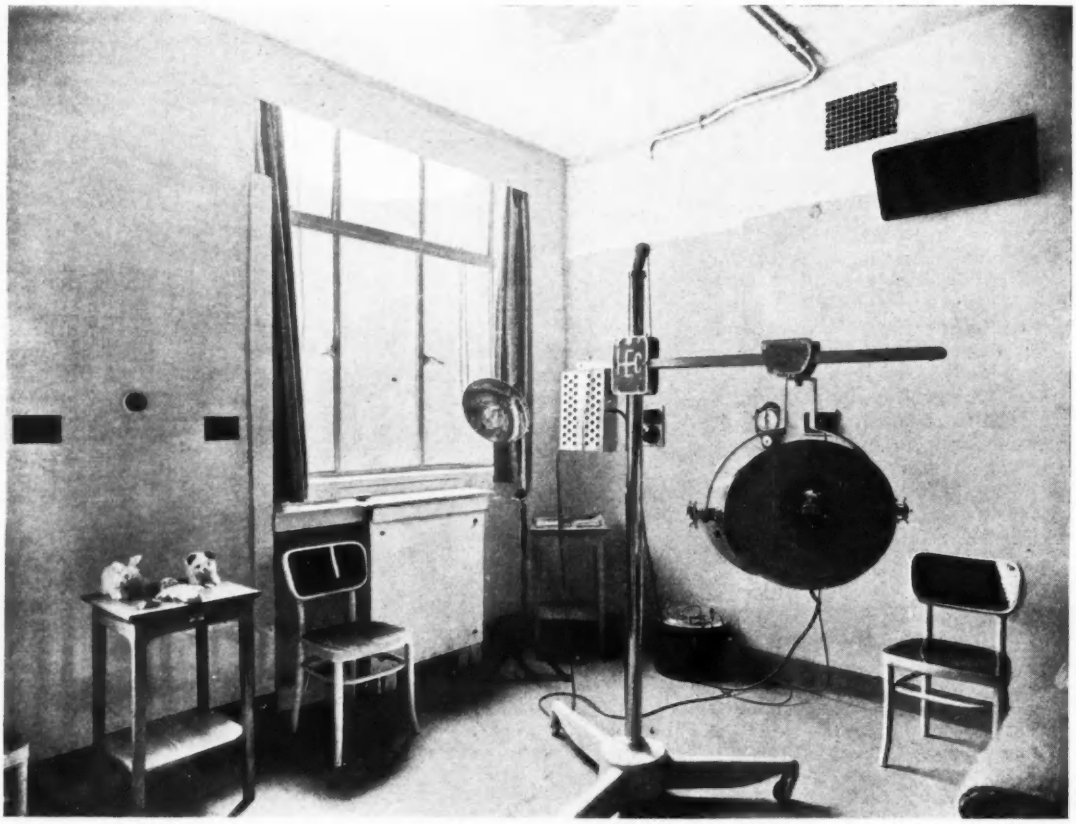
There remain a few minor palliatives, such as, for instance, the "Ayrton Fans" (so called because invented by the eminent physicist, Mrs. Hertha Ayrton, during the late war). These fans, or "flappers," as our soldiers called them, if beaten in a certain way upon a flat surface set up vortex rings that carry away and completely disperse gas clouds, as was proved in the trenches when the War Office was at last induced to send some thousands out. A fan made of canvas and cane, fixed to a little platform to beat upon, may be fastened to every belt, weighs only one pound, and can be used in a second. Whether it would be equally effective against the more recent forms of burning or "persistent" gas I am not sure.

Then we come back to the "gas-masks," which certainly are not effective against the burning gas that consumes the whole body through the clothes, but in their latest form may secure fairly well against stifling and choking gases, and can be fitted for children, who should be trained in their use at the elementary schools.

But it is to architects we shall have to look for our chief protection against these horrors, and something will have been gained if architects are induced to pay far greater attention to basements, no matter how important and beautiful the columns and cornices may appear.

Perhaps enough has been said to show in little what the next war will be like, and what precautions should at once be taken when we feel it approaching. But when the choice lies between peace and the utter destruction of British and European cities, with all that is valuable in civilization, I cannot help hoping that peace may be chosen.

ALFRED EICHHOLZ CLINIC:

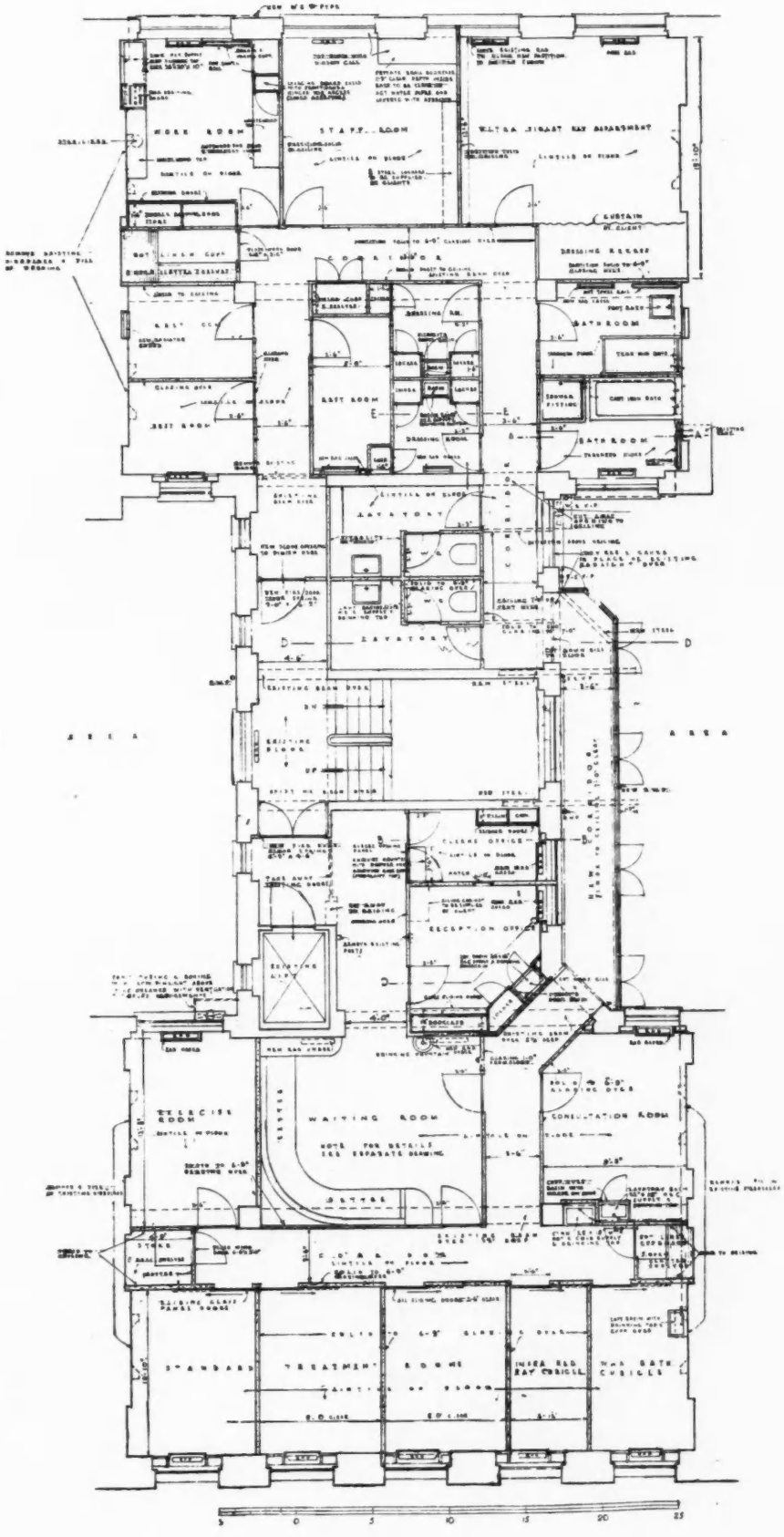


S. W. NEWBERY

The photograph reproduced at the top of this page is a view of the ultra-violet ray department; the other illustrations show: left, a corner of the waiting room; above, one of the four standard treatment rooms.

GREAT PORTLAND STREET, W. 1

DESIGNED BY JOSEPH EMBERTON



The second floor of No. 204 Gt. Portland Street, W., has recently been converted into a clinic. The space was previously occupied by offices. The alterations, carried out under the direction of Mr. Joseph Emberton, involved the dividing up of the space into treatment rooms, rest rooms, consulting rooms and administration offices, and the provision of a new connecting link between the front and rear portions of the building. As will be seen from the accompanying plan, communication between the two portions has been provided by means of a new corridor.

The Clinic was opened by the Prince of Wales last month. The staff consists mainly of blind masseurs and masseuses.

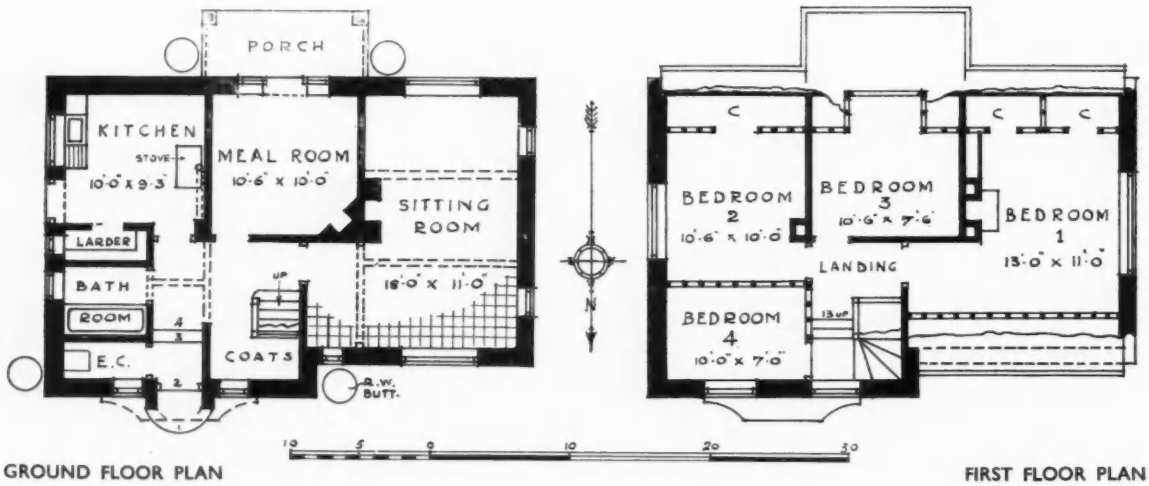
Working details of the radiator casings (one of which can be seen beneath the window in the photograph at the top of the facing page) are reproduced on page 240.

COTTAGE AT SALTHOUSE, NORFOLK

In this cottage local traditional methods have been generally followed, similar to those described in the article on flint building on the opposite page. Practically all the buildings in Salthouse are of the same material.

The walls are 14 in. thick, of flint with brick backing and dressings. The roof is covered with pantiles bedded in mortar on Norfolk reeds. On the ground floor 9 in. by 9 in. red quarry tiles are laid throughout. The first floor consists of oak beams and 4 in. by 3 in. wrought deal joists on top of which insulating board is laid, with floor boards over. Steel casement windows are used, in oak frames. The total cost of the cottage was less than £700.

Above is a view from the north.



GROUND FLOOR PLAN

FIRST FLOOR PLAN

DESIGNED BY H. H. GOODALL

FLINT BUILDING AND WALLING

In the cottage illustrated on the opposite page the traditional Norfolk flint walling has been employed. Mr. Goodall, the designer of it, has supplied the following notes on the local technique of flint construction. The technical details were submitted to, and approved by, Mr. Craske, the Salthouse bricklayer and a flint craftsman.

OVER a large area in Norfolk, particularly in the north, buildings and walls are of flint, usually referred to as stones, and quarried locally. The flint quarries or pits extend widely from Brandon in the south to Blakeney in the north, and flint quarrying is known to have existed for upwards of 2,000 years.

In many of the older buildings

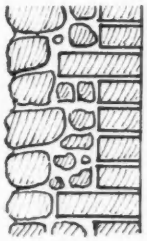


Fig. 1

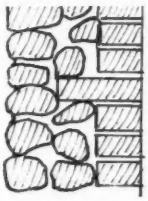


Fig. 2

(cottages, barns, etc.) walls are built entirely of flint, the larger stones on the face and the smaller ones inside, the walls being usually from 14 in. to 18 in. thick. The modern practice in cottage building is to build the wall 14 in. thick, the inside 4½ in. being of brick. Brick headers are built into the flint work at suitable intervals to provide the necessary bond. (See Fig. 1.) This practice gives a wall inside that is easy to plaster, as the rough surface of a flint wall would need a good deal of dubbing out; the cost of the brick lining, therefore, is not an extravagance.

Flint walls always require brick dressings to all openings, internal and external angles, copings, etc. The quoins are usually three or four courses high (see Fig. 3). The flint work is usually begun above ground level, the foundation wall being of brick with a suitable damp course. It is important in building that the mortar should be of good quality, generally composed of a mixture of chalk lime and sand, with one portion of Portland cement and eight of mortar. As the lumps of flint are practically everlasting, it is obvious that with really good mortar a well-built wall will last for many hundreds of years.

In order to secure a damp-resisting wall, no two stones should touch; i.e., there should be a collar of a uniform thickness of at least ½ in. mortar between any two stones (Fig. 1 shows good work, Fig. 2 bad work). If this practice is not adhered to the result is "crowding," as the local craftsmen call it, and this is an admitted evil which may cause moisture to penetrate through the wall. The pointing is carried out with a pointed stick, and brushing down completes the work.

There are examples at Salthouse, dating from the seventeenth century, of very beautiful walls in graded flint, the stones being laid in regular courses. This method is rarely carried out now as the expense generally rules it out. When strength is important this coursed work is advantageous, the stone courses being arranged to fit in with the brickwork. The finest graded flint work is carried out with the stones knapped, that is, chipped off to a square face, which shows black, as seen in many churches. Generally, however, the stones are built in just as they come from the quarry, giving a "knobby" effect.

There are many examples of boundary walls which are faced both sides with flint, the common practice being to form a coping by means of one course oversailing brick with flints arranged on top in tapered form. (See Fig. 4.) Brick headers are frequently introduced in a decorative pattern. There are some beautiful specimens of diaper work and gables, frequently showing

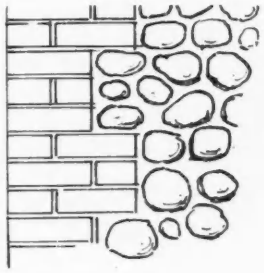


Fig. 3

Fig. 4

the Dutch influence. (See the photographs below.)

The roofs of these buildings in the coast villages are invariably of pantiles bedded in mortar on locally grown reeds. This prevents rocking, and they stand up well to the fierce northerly gales.

Two seventeenth-century cottages at Salthouse, showing the traditional use of flint walling and the Dutch influence in design.

THE DUPLEX PLANNING SYSTEM

FOR APARTMENT BUILDINGS

The following article describes the method of planning residential apartment houses on the duplex or internal staircase system, with which experiments have recently been made in the United States of America. Tables of cost are given showing the estimated financial advantages of the system, illustrations of an experimental example erected at Milwaukee, Wis., and details of the standard units on which the system is based.

[*BY DEXTER MORAND*]

HERBERT W. TULLGREN, architect, of Milwaukee, has patented in the United States the use of Duplex planning as applied to apartment buildings. It is called the Tullgren plan and is applicable for use in the design and construction of multiple family dwellings of four storeys or more in height. It embraces the construction of two-storey suites; each apartment having living quarters (such as living-room, dining-room) on one floor and a private stairway communicating with sleeping quarters on the floor above. Public corridors are not required on sleeping-room floors and are omitted. The space thus saved is utilized as extra room. The architect's patent covers the elimination of corridor on alternate floors and the utilization of the extra space.

It is to be noted that the first Duplex apartment building was erected by Charles A. Platt in New York City in 1905. Several of these Duplex buildings exist in the States but are mainly the prerogative of wealthy people as the average rental is estimated at $150 per room per month. In effect this is a small house erected inside a block and it has up to the present time been considered an expensive method of apartment house (or flats) construction. Mr. H. W. Tullgren has utilized the idea for the purpose of effecting economy housing.

Apartment units as arranged under this plan are in reality two-storey homes with all the privacy and convenience of the modern single family house, with the additional advantage of fireproof construction and qualities of conveniences which are difficult to obtain in single family houses, coupled with the fact that they can be had at considerably less cost.

It is said that apartment buildings based on this plan are very popular in the States. The idea appeals to the public and the experimental building completed in Milwaukee claims to show a record of 92 per cent. occupancy in comparison with a prevailing average of 60 per cent. occupancy in the usual type of apartments throughout that city.

In plan this Duplex arrangement affords 15 per cent. more room space than the usual single floor apartment. The cost per unit of rental space is therefore 15 per cent. less. It is pointed out that because there is only half the usual area of public corridor space to furnish, equip, heat, light and clean, maintenance costs are reduced. It is said that by actual experience the saving in maintenance costs amounts to 20 per cent. One of the important advantages emphasized is that, as the sleeping quarters are removed from the living quarters, it ensures quietness and is more private. This is a highly desirable object to obtain for bedroom purposes. In addition, since sleeping quarters always adjoin other sleeping quarters there is the minimum of sound. This, as contrasted with usual apartment buildings where all types of rooms adjoin each other.

Mr. H. W. Tullgren submits that his plan is a reasonable solution of effecting

TABLE SHOWING ANALYTICAL COMPARISON OF NOTABLE MODERN HOUSING PROJECTS COMPARED WITH TULLGREN PLAN PROJECT.

City	Average Height Storeys	Number of Flats	Total Cost	Cost per Room	Rent per Room	Families per acre	Cost Land per sq. ft.	Size of Unit
London 1927–1933	5	208	$662·400	$768·00	$3·00 to 3·50	52	—	3 room
Germany 1930 ..	4	1,800	4,500·000	640·00	4·00	32	$0·25	4 room
New York 1928 Dunbar Apts. Negro ..	6	511	—	—	14·50	98	—	5 room
Chicago 1929 .. Rosenwald	5	421	2,609,000	1,575·00	13·30	70	2·13	4 room
New York 1930 .. Manhattan	6	231	1,429,000	1,567·00	12·22	112	6·00	4 room
New York Queens ..	5	344	1,904,000	1,575·00	16·80	92	3·46	4 room
Cleveland 1932 .. Chamber of Commerce	3	2,455	5,000,000	597·65	5·00	72	0·89	5 room
Cleveland 1932—No. 2	4	1,927	5,715,000	676·00	7·50	42	0·67	4 room
Neward 1933	6	376	1,110,000	997·30	10·00	84	8·48	2 room
Philadelphia 1933 ..	9	414	1,110,000	997·30	8·00	61	—	—
New York Bronx ..	4	1,506	5,936,300	1,098·00	11·00	64	0·90	4 room
Pittsburgh 1932 ..	2	129	1,000,000	1,350·00	11·35	13	0·38	6 room
Tullgren Plan	4	224	650,000	580·00	6·00	47	132	5 room

This table gives information on a number of housing schemes gathered from various European and American cities. According to these figures, the average cost per room of eleven projects is $1,076, while the cost per room under the Tullgren Plan is $580.

The average rent per room of twelve projects given is $9.72, and it is to be observed that this average figure includes two European projects. It is said that one of these had the advantage of Government construction and subsidy while the other was part of a national programme with low cost financing. In some cases it is apparent that this average rental basis does not provide a profit. On the other hand, Mr. Tullgren submits that with a rental basis fixed at $6 per room, according to his plan, and after making allowances for operating costs, a net profit of 10 per cent. could be made. The table in effect shows a 46 per cent. lower cost per room and a 38 per cent. lower rental basis.

housing accommodation at constructionally low cost, low maintenance, and at economical rentals. He suggests that the ideal development is a scheme comprising seven units (or complete buildings) on an oblong island site. The units are so placed that each floor receives maximum sunlight and air, and since the buildings occupy less than 22 per cent. of the total land area there is a maximum of open space surrounding each building. The whole site is laid out and planned as a complete scheme. The buildings are grouped in a central park with a sunken garden court approach, pool, flower gardens, lawns and promenade with a small administration building.

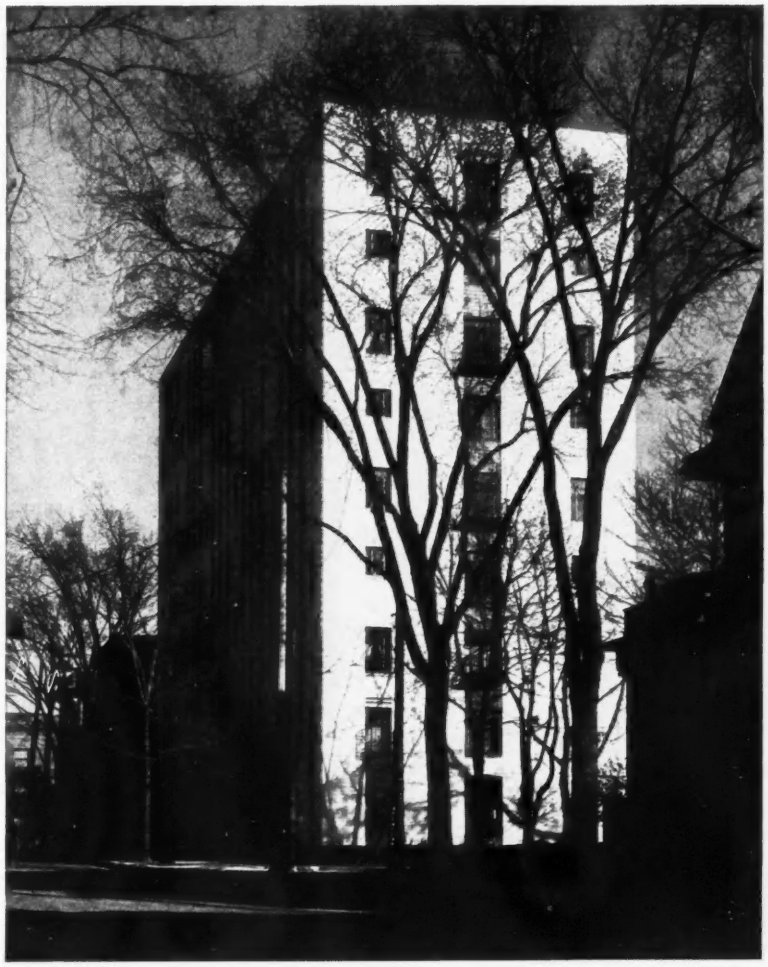
Playground areas for small children are provided between the buildings in full view of apartments on either side. Bays, in the form of fenestration, are built to provide maximum of sunlight and air and at the same time add floor space on both living-room and sleeping-room floors. This scheme the architect suggests is best suited for city housing.

Fundamentally, Tullgren apartment buildings consist of a combination of standardized apartment units. The standardized single unit with a combination of these units in a building having one tier of apartments and side corridor, and the standardized double unit with a combination of these units in a building having a double tier of apartments and central corridor, are shown on pages 232-233.

As regards construction costs it is maintained that excavation, footings and foundation walls and supporting structures in an apartment building amount to about 20 per cent. of the total cost, while outside walls, inside partitions, roof, ceilings and floors account for the remaining 80 per cent. of the total. It is said that by this plan the latter costs (given as 80 per cent.) are standardized and can be prefabricated. By the method of prefabrication work becomes purely an assembly operation and costs are therefore considerably reduced.

The estimated operating costs and receipts, based on a 224 flat block unit, are as follows :—

Income :		
224 five-room apartments at $30 per month, annual rental		$80,640
Expense :		
Upkeep, expense and vacancies (25 per cent.) of gross income	$20,160	
Taxes allowed ..	15,000	
Interest, first mortgage 4 per cent. ..	17,320	
Interest, second mortgage 5 per cent. ..	3,360	
		55,840
Net operating profit available for amortization and profit		$24,800
Return on Investment :		
Over 16 per cent. on equity before amortization.		

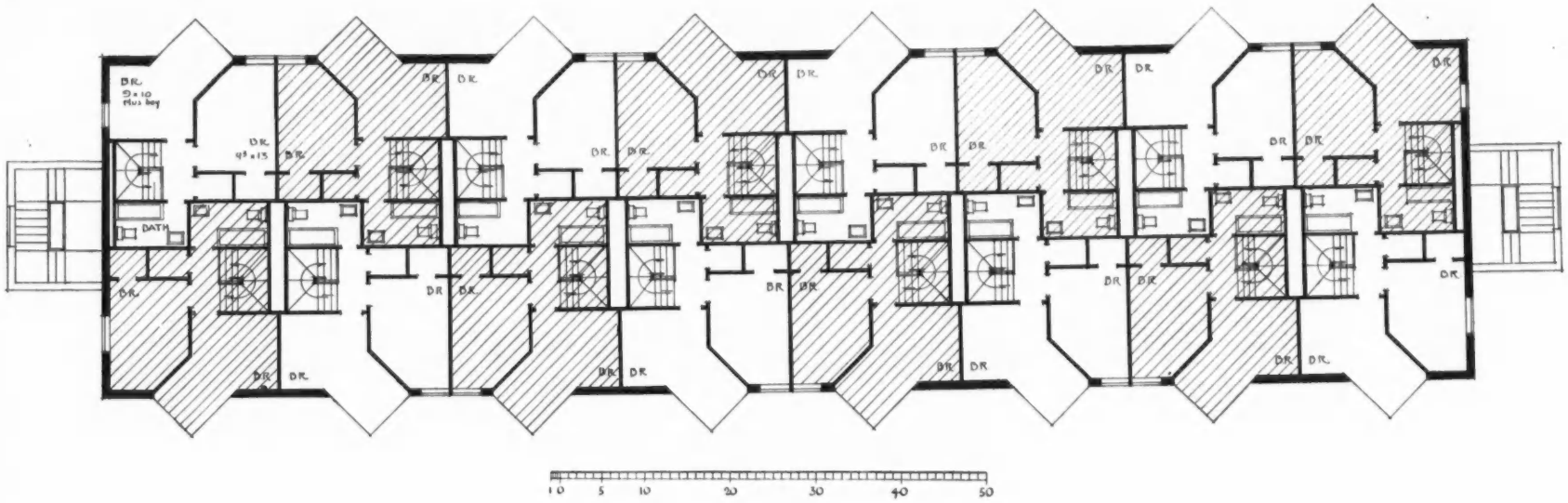


The Viking apartment house, Milwaukee, Wis., U.S.A., designed by H. W. Tullgren. This is an experimental housing block planned on the Duplex system, described in the accompanying article. A financial operating statement for this block is given at the foot of this page.

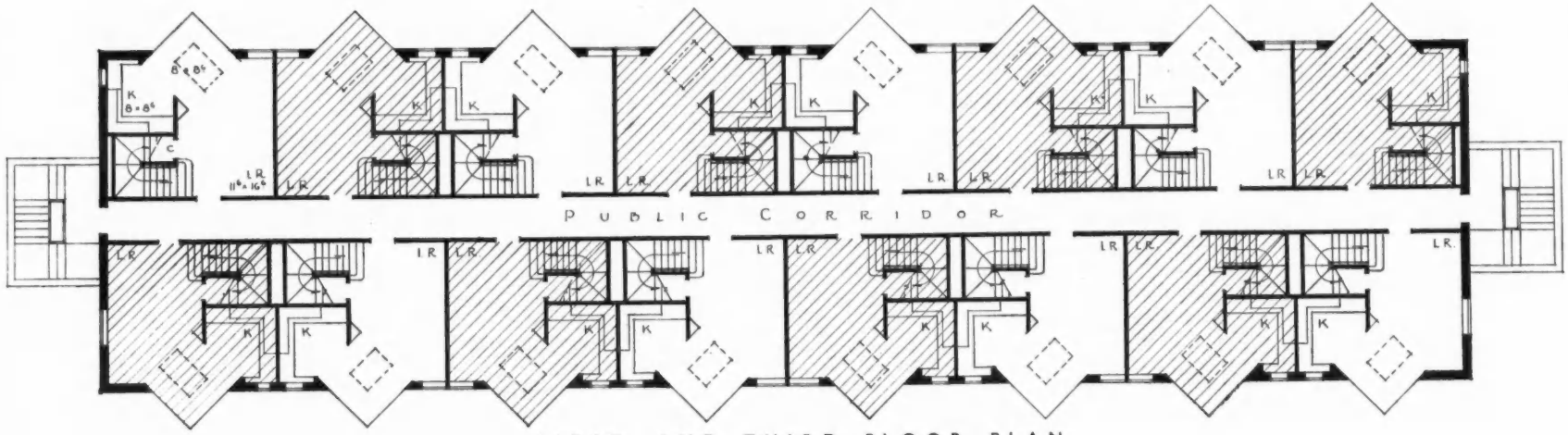
An actual operating statement for the experimental building at Milwaukee has been made as follows :—

Gross Income :	
Rentals .. .. .. (Thirty-one apartments : average monthly rental per apartment, $73·35)	$27,288·57
Operating Expenses :	
Advertising	106·80
Coal	1,310·30
Commissions	802·33
Decorating	470·96
Electric light and power ..	636·06
Insurance	300·62
Legal and professional ..	105·00
Miscellaneous expense ..	2·00
Maintenance and repairs ..	715·17
Salaries	1,025·00
Taxes	4,184·75
Telephone and telegraph ..	35·13
Water	185·44
Total operating expenses ..	$9,879·56
Net operating profit before depreciation	$17,409·01

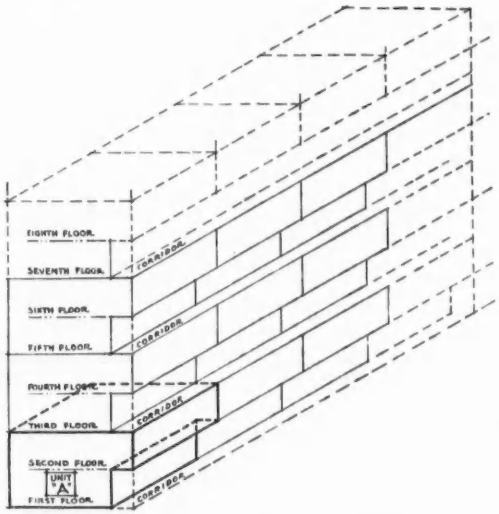
On the two pages following are diagrams giving the standard apartment units on which Mr. Tullgren's duplex apartments are based, drawn to show how the units are built up into blocks ; both the single unit (with outside corridor) and the double unit (with central corridor) are given. Also standard floor plans of an apartment block showing the double unit in use. These two plans are alternated throughout the height of the building, each apartment being two storeys in height.



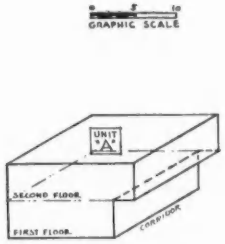
SECOND AND FOURTH FLOOR PLAN



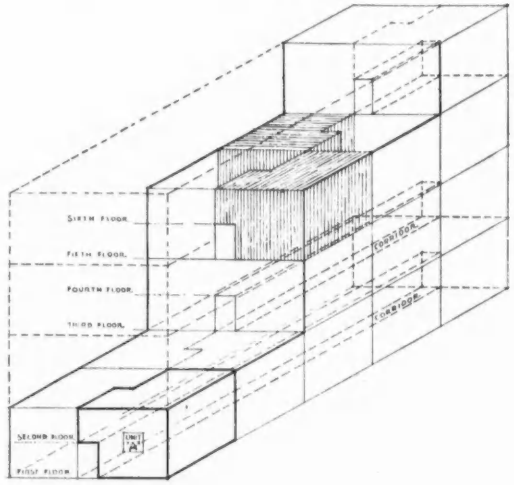
FIRST AND THIRD FLOOR PLAN



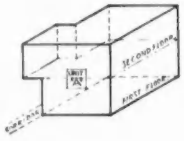
MULTIPLES OF SINGLE UNIT



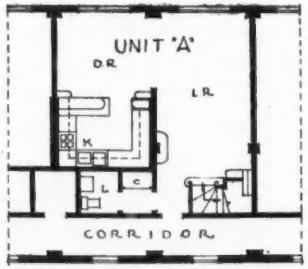
SINGLE UNIT



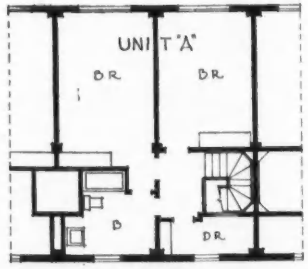
MULTIPLES OF UNIT 'A'
VERTICLE AND HORIZONTAL



UNIT 'A'



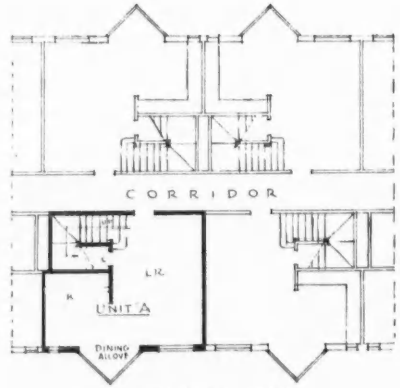
FIRST FLOOR PLAN



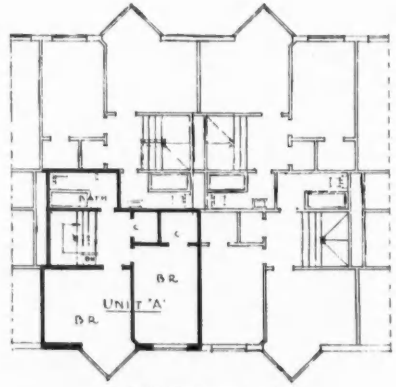
SECOND FLOOR PLAN

RESIDENCE APARTMENTS SINGLE UNIT

The standard apartment units on which the duplex planning system is based; left, the single unit with outside corridor; right, the double unit with central corridor. On facing page: alternate floor plans of an apartment block based on the double unit.



FIRST FLOOR PLAN

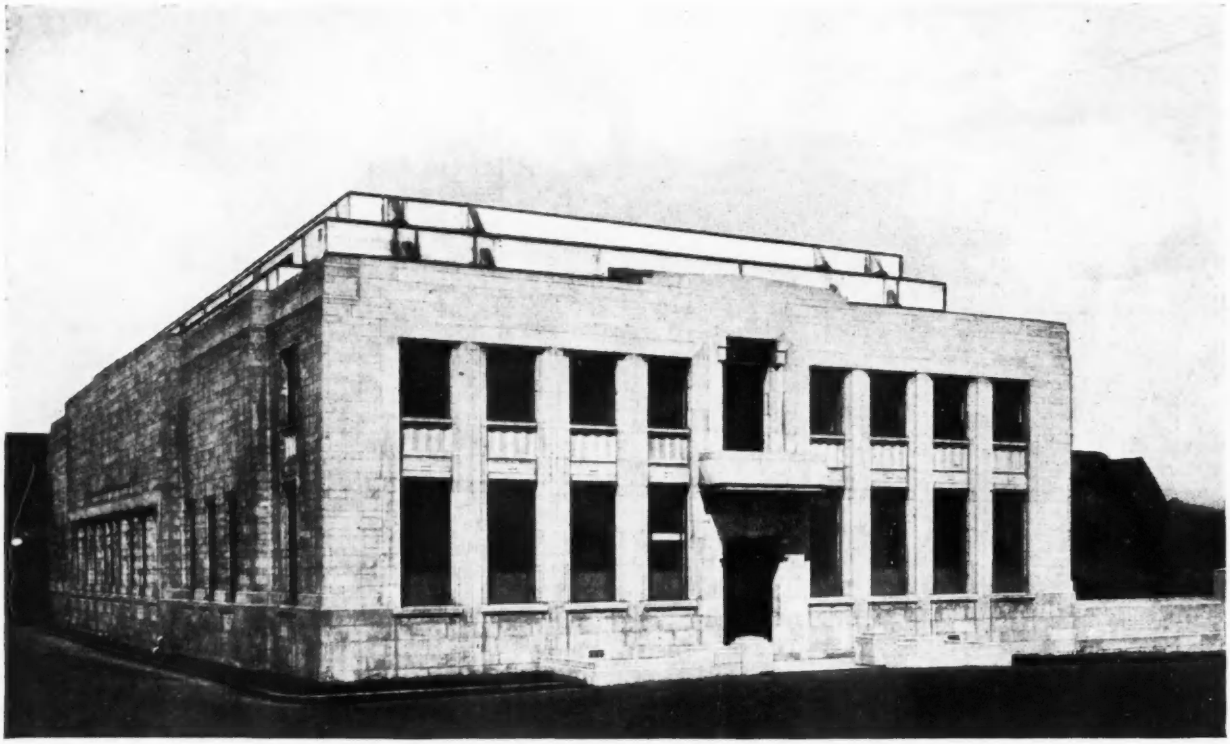


SECOND FLOOR PLAN

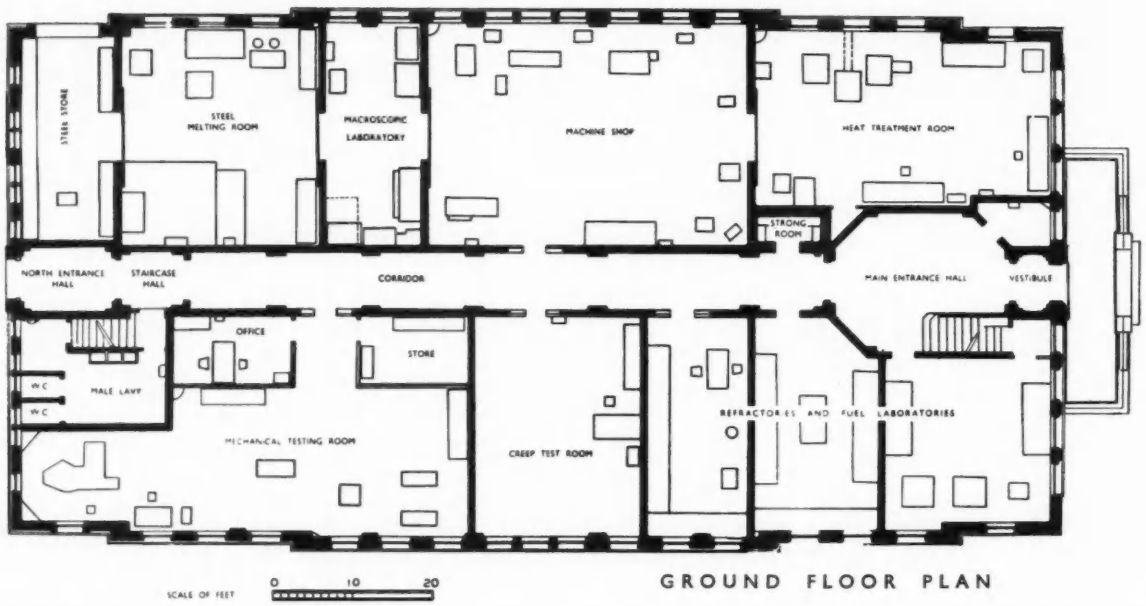
RESIDENCE APARTMENTS DOUBLE UNIT

BY H. W. TULLGREN, MILWAUKEE, U.S.A.

RESEARCH LABORATORY, STOCKSBRIDGE:



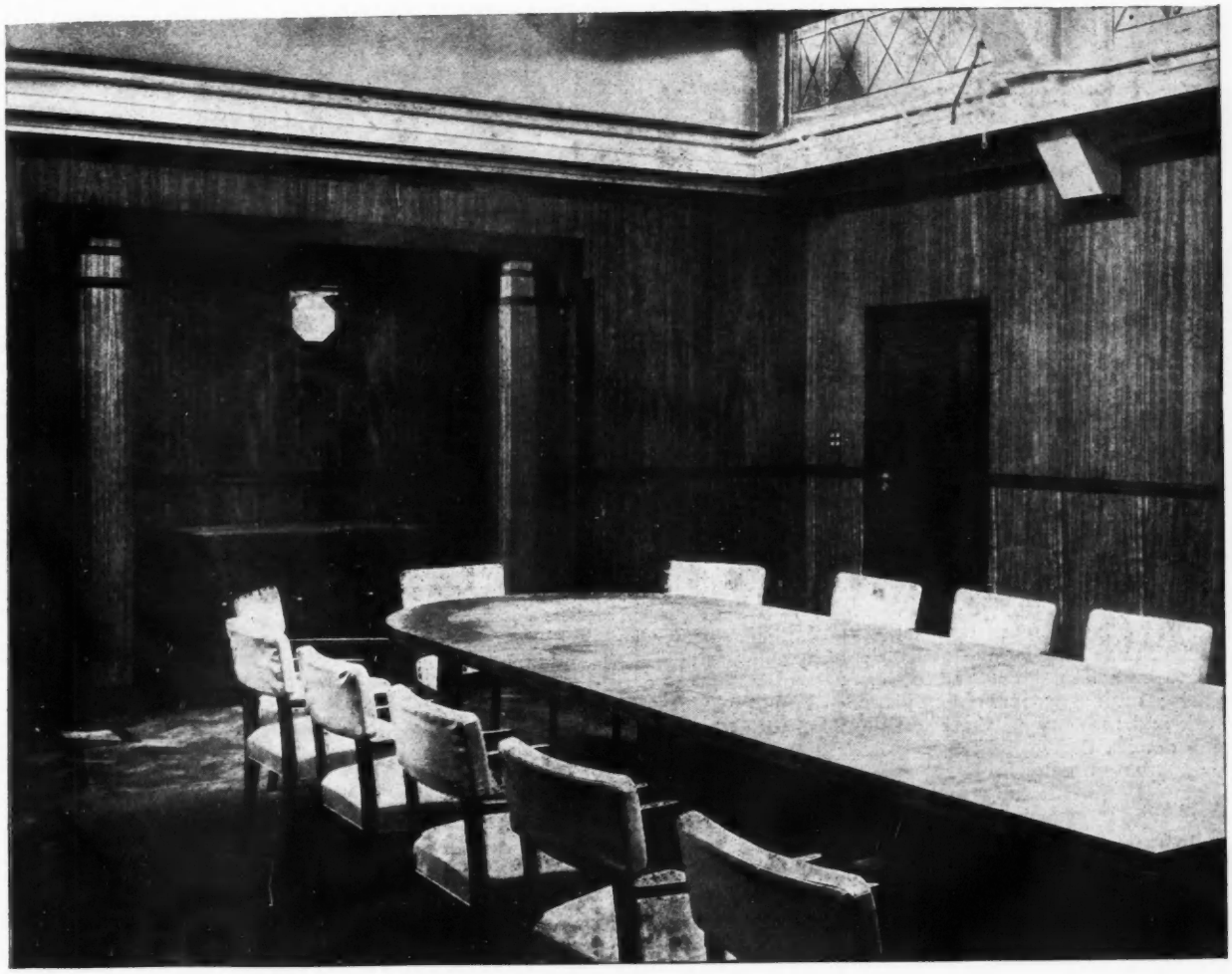
A view from the south.



GROUND FLOOR PLAN

This building houses the various Research Departments of the United Steel Companies Ltd. In the Mechanical and Tensile laboratory a special construction was carried out with a view of eliminating vibration throughout the remaining portion of the building, the procedure being to lay special material on the concrete floor foundations, and to form a specially constructed cavity so as entirely to detach the whole of the various machine beds from the supporting wall. In the Chemical and Rust Test laboratories the walls have been lined with glass. Other departments are the Micro- and Physical laboratory, the Creep Test room, the Fuel laboratory and the X-ray room. There is also a library and conference room. The building is steel framed and rests, owing to the peculiar conditions of the site, on a series of piers sunk to a depth of 14 feet.

DESIGNED BY GEORGE H. SHIPLEY



The conference room.

FIRST FLOOR PLAN

L I T E R A T U R E

A GUIDE TO CONSTRUCTION

[*By F. E. Drury, M.I.Struct.E.*]

Principal, L.C.C. School of Building, Brixton

Modern Practical Building (Four volumes). By H. Bryant Newbold, F.R.I.B.A., with special sections by G. Cadogan Rotherby, and drawings by Cecil G. Mant, A.R.I.B.A. London: Caxton Publishing Co. Price 66/6 (the set).

THE first volume devotes a number of pages to the illustration of various types of modern buildings: detached houses, workmen's dwellings, blocks of flats, shops and flats, and an office building. In each case coloured working drawings are provided and typical details of individual features. These drawings are clear and good.

The remainder of the volume treats systematically of the site and its preparation (profusely illustrated); levelling and surveying; road construction; shoring, underpinning and hoardings; excavating; foundations and footings; piling; drainage; scaffolding; stonework and masonry (a peculiar title); and details, the latter being a brief dissertation on details relating to various styles of architecture and features peculiar to those styles and periods.

Much of the information given is modern and very useful, but it is interspersed with details of rather antiquated and unused methods of construction and processes of building. There is, however, much new matter, sketchily illustrated, that will convey good information to the reader with sufficient practical experience to use it.

Stonework and masonry is treated under the separate headings, "stonework" being construed as meaning a description of the materials employed in masonry and the processes of quarrying and working the stone as well as the general properties of the stones in use for building.

Volume 2 deals with bricks and brickwork; ornamental and gauged brickwork; fireplaces and flues; miscellaneous walling; the London Building Acts; constituents, concrete mixing and application; concrete construction and reinforced concrete; regulations governing reinforced concrete; cast stone and concrete products; tiles and tiling; slate and slating; roof coverings other than clay.

While the illustrations are numerous, the line drawings are not of good quality, nor are they architecturally effective, and the descriptive work lacks detail and emphasis, leaving the impression of an airy and irresponsible treatment of the subject.

Volume 3 deals chiefly with carpentry and joinery, interior fittings, plastering and wall coverings. The carpentry varies in quality of treatment, some good and some faulty. One cannot decide what the author has tried to convey in the form of the queen rod roof in Fig. 99, nor in the section of a turret in Fig. 100. Fig. 107 is almost undecipherable and is also faulty.

Joinery is much better, but there is an absence of plywood construction in its modern application. Fig. 153 and the lower half of Fig. 154 should have been more acceptable to the trained reader. Interior fittings are not too interestingly treated either in description or illustration. Plastering is almost entirely descriptive, but the chapter on wall coverings is well illustrated.

Volume 4 treats on sliding doors, stair building, water supply, heating and ventilating, painting and decorating, outbuildings and boundary walls, the building industry—its composition and organization, etc., and a large chapter of about 50 pages on practical calculations and useful data.

Sliding doors do not call for very detailed treatment, but the illustrator might have shown the actual form of the hanger and runner discs in Figs. 3 and 4. In opening the chapter on stairs the author defines the difference between stair and staircase and then, later, shows how to set out a stair*case*. Nevertheless, much good information is given, with attractive sketches, and these latter are only marred by figures such as No. 37.

The chapter on sanitation and water supply is one of the best in the book, the illustrations being good. Central heating and ventilating are very thinly treated. The chapters on painting and decoration are well written and informative—without illustration—but apparently contributed by an expert.

The final chapter on practical calculations is arranged in rather a useful way. The information is grouped under headings, e.g., excavations, timber, brickwork, etc., and contains indispensable items of trade and professional knowledge, measurements, tables, properties of materials, trade standards, formulæ for various purposes, regulation loadings of floors, foundations, etc., and many other items.

While we cannot whole-heartedly praise this work of four volumes, we can say without hesitation that there is much useful information provided for the builder and the building draughtsman, and there are also many items of good information and details of a character not usually found in books on building.

THE SCIENCE OF SOUND

[*By J. W. Parr*]

Modern Acoustics. By A. H. Davis, D.Sc. (Principal Scientific Officer in the Physics Department, The National Physical Laboratory). London: G. Bell and Sons, Ltd. Price 26s. net.

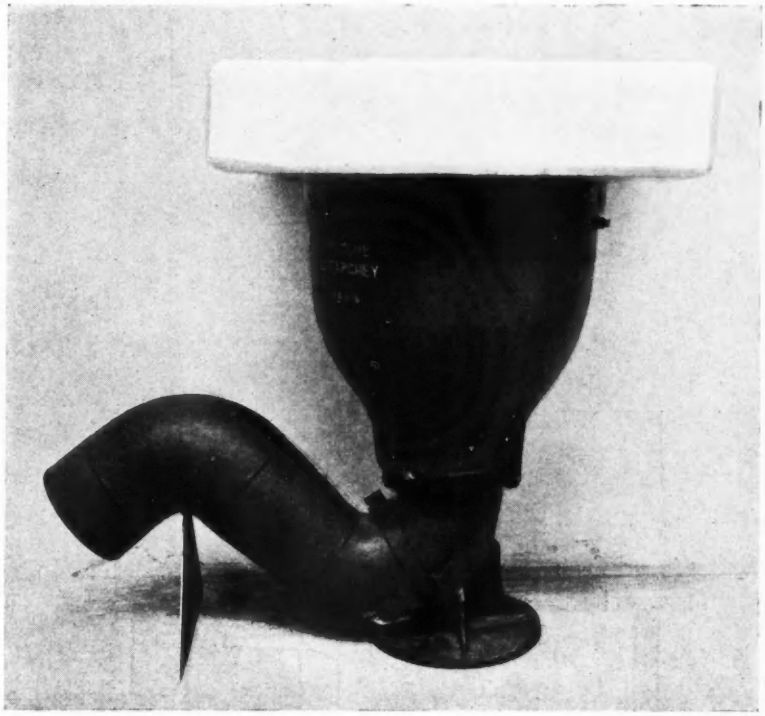
IN the scientific process of solving practical needs so many theories, formulæ, symbols and units appear, often from different sources and not in close agreement, that the student or specialist in an applied science must search through a mountain of irrelevant material before he can arrive at essential information on his particular subject. This has become true of research in acoustics since the first use of telephones, loudspeakers, gramophones and a number of such things as motor silencers and since the help of scientists was first sought to investigate the acoustics of buildings. Dr. Davis's book, which gives an authoritative and concise critical account of the developments in research on these subjects up to the present time, is, therefore, an interesting and useful contribution.

The section with which we are most concerned deals with the acoustics of buildings. As an exact science this appears to have been confined to the study of loudness, reverberation and the reduction of noise transmission; and on these subjects the reader can discover all that has been done by physicists, their methods of measurement, and a comparison of the three outstanding reverberation formulæ: Sabine's, Eyring's and Millington's. Resonators in auditoria can be designed only arbitrarily at present and research in that direction is still badly needed. There is an interesting chapter on "The Ear and Hearing." This is important, since in most cases the human ear is the ultimate judge of good or bad acoustics and in some cases, as in determining the limiting loudness of masking sounds, only aural methods are possible. The book contains full references and it is heartily recommended to all students of applied acoustics and to "those in trade or industry who wish to see the kind of way in which an exact science can help them."

Books reviewed in these columns may be ordered through The Architectural Press, 9 Queen Anne's Gate, S.W.1.

WORKING DETAILS : 101

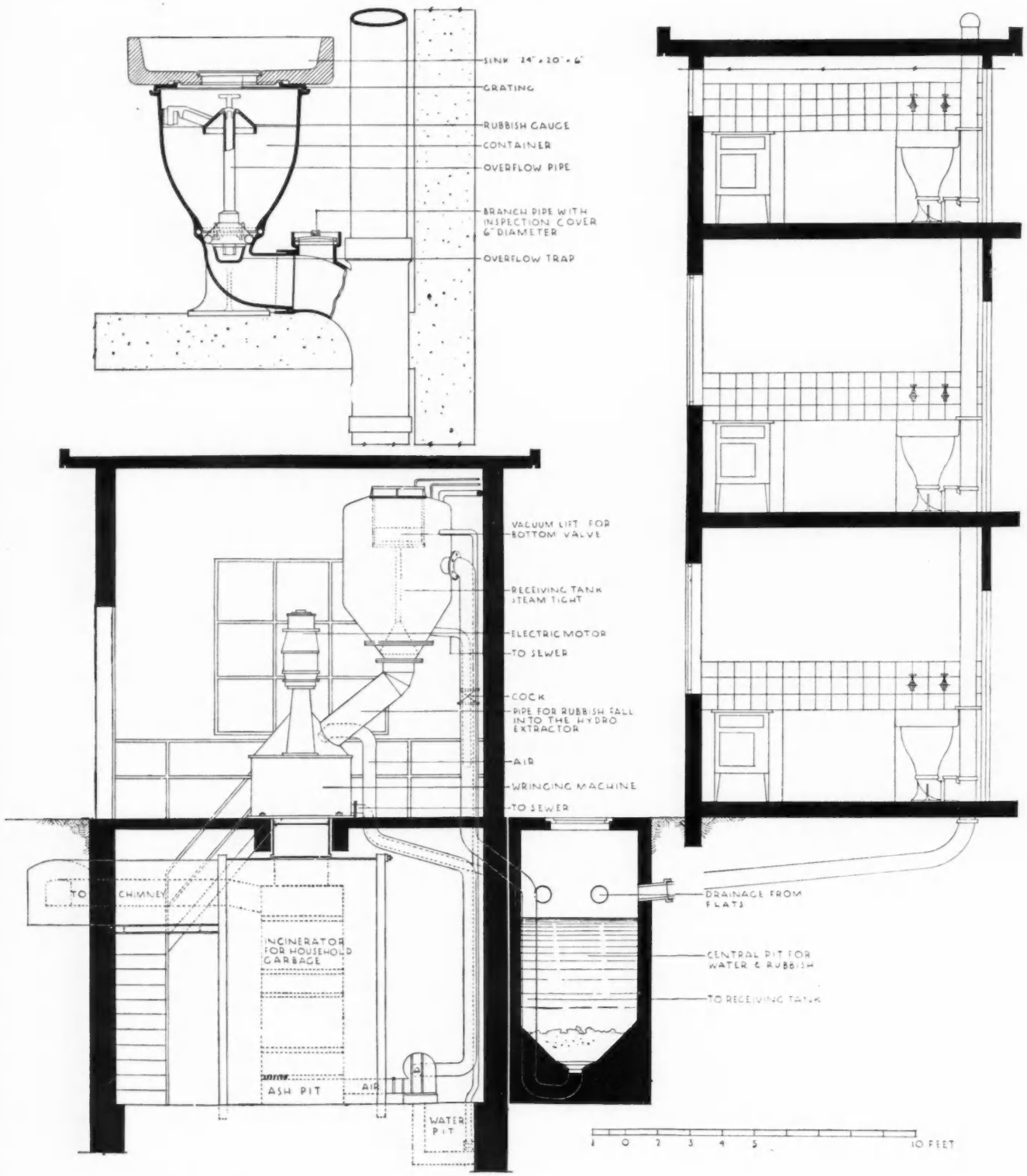
GARCHEY SYSTEM OF REFUSE DISPOSAL • HOUSING SCHEME AT DRANCY • BEAUDOUIN AND LODS



The Garchey system of evacuation of refuse by vacuum, of which a photograph is reproduced above and detail drawings overleaf, has been used in a housing scheme at Drancy, near Paris. This scheme was the subject of our fifth housing supplement, published in last week's issue. The apparatus, placed in each kitchen, is composed of a sink in baked porcelain placed over a receptacle in cast iron, of which the lower part is narrower so as to serve as seating to a special obturator. The container is joined by an elbow pipe to the down pipe in the same way as all other sanitary apparatus. The obturator is composed of a cast iron hollow cone, round which is placed a rubber tube making the joint. Under this hollow cone is suspended a cup in which the overflow pipe goes. This overflow pipe runs up to the top of the apparatus and is perforated at its top end to allow the water to pass down it as soon as the receptacle is full of water. The immersion of the overflow pipe in the cup assures a water trap and consequently prevents all possibility of smell returning to the kitchen from the down pipe.

WORKING DETAILS : 102

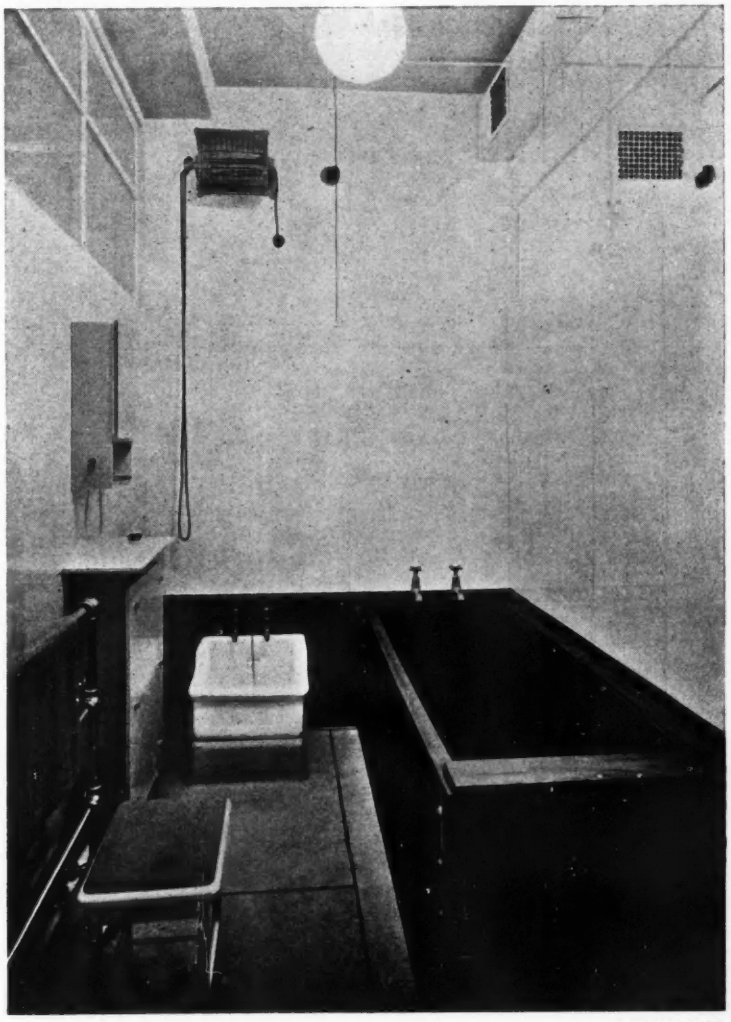
GARCHEY SYSTEM OF REFUSE DISPOSAL • HOUSING SCHEME AT DRANCY • BEAUDOUIN AND LODS



Details of the refuse disposal system, used in the housing scheme at Drancy and described and illustrated overleaf.

WORKING DETAILS : 103

RADIATOR CASINGS • CLINIC IN GT. PORTLAND ST., W.1 • JOSEPH EMBERTON

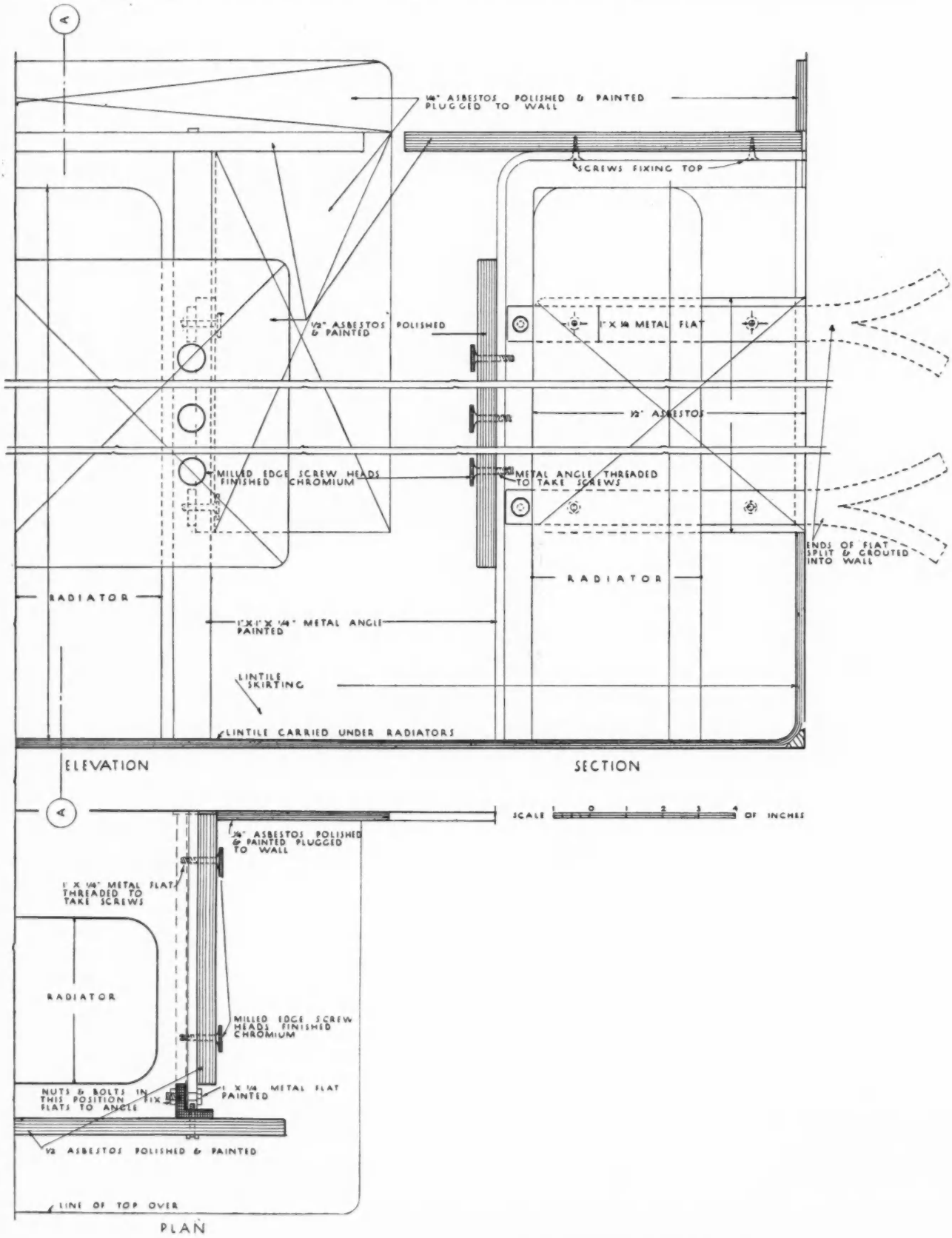


S. W. NEWBERY

One of the bathrooms in the Alfred Eichholz Clinic. Detail drawings of the radiator casing, shown on the left of the above photograph, are reproduced overleaf.

WORKING DETAILS : 104

RADIATOR CASINGS • CLINIC IN GT. PORTLAND ST., W.1 • JOSEPH EMBERTON



Plan, elevation and section of the radiator casing, a photograph of which is reproduced overleaf.

QUESTIONS THAT ARISE

R.S. STANCHIONS

¶ "Architect" writes: "*May I have your expert's opinion on the feasibility of carrying R.S. Stanchions on concrete foundations reinforced with rods, as ordinarily designed to support square reinforced concrete columns, as in the following case:—*

"*The steelwork framing carrying walls and balcony, etc., of a small cinema transfer a number of diverse loads to the ground by means of a series of rolled steel stanchions which are treated as isolated piers. The depth to the underside of the foundations is approximately 10 ft. below the ground surface of a clay soil which is taken as being capable of bearing 2 tons per square foot. The rectangular base plates of the stanchions in each case are to be bolted to the concrete by means of four ⅞ in. anchor bolts 12 in. long embedded therein.*

"*The thickness of the concrete varies, naturally, according to the difference in the loading of the stanchions, which has been calculated according to the formula BM = 95 bd in.; for example, a 9 in. by 7 in. by 50 lb. B.S.S. carrying a load of 70 tons, having a 2 ft. by 2 ft. base-plate (with angles ana gussets, etc.), is estimated to require a foundation slab 6 ft. by 6 ft. with an effective depth of 14 in. Taking the amount of reinforcement required as 1 per cent. of the sectional area it is found that five ⅞ in. rods crossed in each direction of the slab will be necessary. As secondary reinforcement ⅜ in. rods at 5 in. centres are to be placed parallel to the main reinforcement. ¼ in. shear stirrups, bent outwards at an angle of 45 degrees, are also to be introduced.*

"*It is recognized that the usual text-book recommendation in a case of this sort is to employ a grillage foundation, but as this has to be ruled out in present circumstances I would like to know whether bolting to the concrete as proposed above is open to any serious objection.*"

There is no objection to the use of reinforced concrete bases as the foundations for steel columns. Indeed, it is the usual practice nowadays, as in most cases it will be found more economical than using grillage bases.

Unless there is a possibility of uplift, or provision is necessary for fixing moment at the foot of the column, there is no need to bolt the column to the concrete. The base-plate should be packed up 1 in. or 2 in. clear of the concrete on steel wedges and, when the column has been plumbed and levelled, the intervening space should be filled with 2 to 1 cement mortar mixed rather dry and rammed in, as in underpinning.

While in principle the base suggested in the query is sound, the actual design of the one base given in detail is faulty. For example, 1 per cent. of steel is suggested (actually there is no need for this amount with the depth given), and to provide this amount 5 ⅞ in. diameter rods each way are mentioned, whereas 17 rods of the same diameter, each way, would be needed.

Further, what is the purpose of the secondary reinforcement mentioned as running parallel to the main reinforcement? Shear reinforcement will probably be required but could be provided much more effectively by bent-up rods than by the ¼ in. diameter stirrups mentioned, which, even if theoretically correct, would probably be displaced during concreting.

No mention is made of the mix of concrete to be used, but this should be at least as good as ordinary grade concrete of 1 : 2 : 4 mix, as specified in the Recommendations for a Code of Practice for Reinforced Concrete.

The reply to the query is therefore that, while the use of reinforced concrete bases for steel columns is quite sound and is a usual form of construction, the design of the one base given in detail is incorrect, and it is therefore recommended that the detailed design of the bases should be placed in the hands of an engineer who would provide a safer and more economical design than that suggested in the query.

W. E. J. B.

Mr. F. R. S. Yorke, A.R.I.B.A., is away on holiday. His Trade Notes will be resumed on his return at the end of the month.

LAW REPORT

COMPENSATION : STREET WIDENING

Currys, Ltd. v. *Corporation of Southampton.—King's Bench Division. Before the Lord Chief Justice and Justices Avory and Talbot.*

THIS matter related to a dispute between Currys, Ltd., and the Southampton Corporation as to the amount of compensation to be paid to Currys for the compulsory acquisition of land and premises by the Corporation for street widening at Above Bar Street and Hanover Street, and came before the Court on an appeal on an award by an arbitrator in the form of a special case.

Mr. Trapnell, K.C. for Currys, Ltd., said the property belonged to the Corporation. In 1904 they granted a lease to a Mr. Gutteridge for 99 years, with a proviso that if at any time the Corporation should be desirous of acquiring any part for street widening, the lessee should surrender it on payment of compensation. Some years later the lessee sub-leased the property to Currys for 21 years. In 1927 the Corporation gave notice that they would require part of the premises for street widening, and Currys surrendered that land to the lessee. Later, Currys purchased the remainder of the lease of the land, together with the benefits of the under leases for £4,000, paying the Corporation a yearly rental of £775. In 1930 the Corporation were minded to widen Above Bar Street and gave notice accordingly to Currys. They then erected a hoarding and called it a new building line, cutting into Currys land in the form of a triangle. The matter had gone to arbitration and the arbitrator had given an award in three forms, according to the frontage Currys would get, and the awards ranged from £4,536 to £11,138.

Counsel's contention was that his clients were entitled to the larger sum, as they had a substantial interest in a long lease of considerable value. The land was affected by the widening and that must be taken into consideration. His clients contended that they were entitled to the value of betterment of their property created by the street widening, and that the Corporation were bound to throw all the land into the widening.

Mr. Montgomery, K.C., who appeared for the Corporation, argued that the Corporation were not compelled to use the whole of the land it had taken by throwing it into the street, but as and when it saw fit.

The Court found in favour of the larger amount, viz., that claimants should receive compensation amounting to £11,138 on the basis that they had a right to assume that there would be a frontage of 69 ft. in the widened street.

The Lord Chief Justice, in giving judgment, said Currys' points were well founded. According to the lease granted in 1904 the reservations for the acquirement of the land by the Corporation were in three distinct categories: (1) Street widening, (2) improvements, and (3) any other public purpose. The Corporation accordingly gave notice to acquire the land for street widening and it was on that understanding that the lessees surrended the land in 1927. Here the only variation in the deed of surrender was that the work might not commence forthwith. The Court could not spell from that any variation of the notice that street widening was the purpose for which the land was required. It was therefore impossible to hold that the intention of the parties to the agreement was other than that the purpose for which the land was required was for street widening, and it followed that the Court were of opinion that Currys were entitled to claim the frontage that the street widening so contemplated would give to the land retained by them over 79 ft.

Justices Avory and Talbot concurred.

The costs of the High Court proceedings were awarded to Currys.

Manufacturers' Items

Messrs. Nobel Chemical Industries, Ltd., of Slough, Bucks., have just issued the fourth edition of *The Architects' Book of Painting Specifications*. The first edition was published in 1927.

Information given in the previous editions has been condensed and the space thus saved has been devoted to additional chapters on subjects not before dealt with, notably, primers, Dulux white enamel and aluminium. The firm's recommendations for varnish and paint have also been condensed considerably in order to simplify specifying and the recommendations now made are those which are generally required by architects. The book, like its predecessors, is extremely well presented, and should occupy a prominent place on the architect's bookshelf.

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Mr. Stanley J. Benham, managing director of Messrs. Benham and Sons, Ltd., writes: "As we understand that certain statements have been made suggesting that we do not manufacture our apparatus, we beg to state emphatically that all the apparatus we sell, whether gas, electric, steam or coal, is made in our own works at Garratt Lane, Wandsworth, S.W.18, except in those cases in which Aga Cookers are included."

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Two leaflets, showing reduced prices of Drytone standard purpose made doors and flush doors, have recently been issued by Messrs. Drytone, Ltd., of 65, High Street, Camden Town, N.W.1. An illustration from one of the leaflets, showing four electrically welded steel tubular handles, nickel plated with ebonized hardwood ends, complete with screws, is reproduced on this page. These handles are claimed to be suitable for use with modern swing doors.

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Mr. William Hardie has recently retired from the dual post of Director and Secretary of Messrs. S. E. Collier, Ltd., of Reading. Mr. Hardie joined the firm as a clerk 55 years ago and subsequently rose to be chief clerk. When the firm was converted into a limited liability company in 1902 he was appointed Secretary and in 1920 he was appointed Director and Secretary. On retiring Mr. Hardie was presented by the employees, staff and directors with a grandfather clock, wallet and fountain pen, the presentation being made by Mr. George Cook, an employee, who has been in the service of the Company for 57 years.

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Messrs. Rhodes, Brydon and Youatt, Ltd., of the Waterloo Engineering Works, Gorsey Mount Street, Stockport, have issued a four-page leaflet illustrating and describing their self-priming pumps. Copies of the leaflet are obtainable on application to the firm at the address given above.

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The first article in the current issue of the *Sulzer Technical Review* is devoted to the centenary of the foundation of the firm; another deals with the latest developments in connection with power production and heat utilization and is entitled "Steam Plant, with Central Regulation of the Boiler, the Steam Engine and the Heating Steam." Large irrigation works in Indo-China, a heating plant in a private hospital in Zurich, and a refrigerating plant in a dairy in Montevideo are described in further sections.

Short notes follow regarding Diesel-engine plants for a tea factory in Sumatra and a coal mine in China, the conversion of Dutch cargo steamers to motorships, refrigerating plants for beer depôts in Switzerland, a borehole pumping plant for water works in China and evaporation tests of a Sulzer Lancashire boiler.

As usual a four-page leaflet accompanies the number, containing extracts from the technical press during the last three months concerning Sulzer work and manufactures.

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In 1933 a competition was held under the auspices of the Royal Society of Arts for a design incorporating aluminium in the decoration of a cinema vestibule and entrance hall. The British Aluminium Co., Ltd., of Adelaide House, King William Street, E.C.4, offered a prize of £20; this was won by Mr. John Carter, whose design, together with a selection of the other schemes, is reproduced in a brochure recently issued by the donors of the prize.

The firm have also issued a brochure dealing with aluminium production properties and applications.

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The Mond Nickel Co., Ltd., of Thames House, Millbank, S.W., have sent us a brochure (No. Q.5) devoted to illustrations and descriptions of bathroom fittings in nickel silver. The publication has been produced in collaboration with the actual manufacturers of the fittings; these include—Chisholm Gray & Co., Ltd., Shanks & Co., Ltd., George Jennings (Lambeth), Ltd., Sandbra Engineering Co., Chas. Winn & Co., Twyfords, Ltd., Samuel Booth & Co., Ltd., W. N. Froy and Sons, Ltd., T. C. Enstone & Co. (Successors), Ltd., Doulton & Co., Ltd., Dent and Hellyer, Ltd., Barber Wilsons & Co., Ltd., James Beresford and Son, Ltd., and Osborne & Co. (Dronfield), Ltd. Copies of the brochure are obtainable on application to the Mond Nickel Co., Ltd.

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HOSPITAL FOR DUBLIN

It is expected (states the *Irish Builder and Engineer*) that the new General Infectious Diseases Hospital for Dublin will contain not less than 600 beds and will probably involve, with the cost of the site and other incidentals, not less than about three-quarters of a million sterling. A site has not yet been secured. A large area of not less than 50 to 60 acres would be necessary.

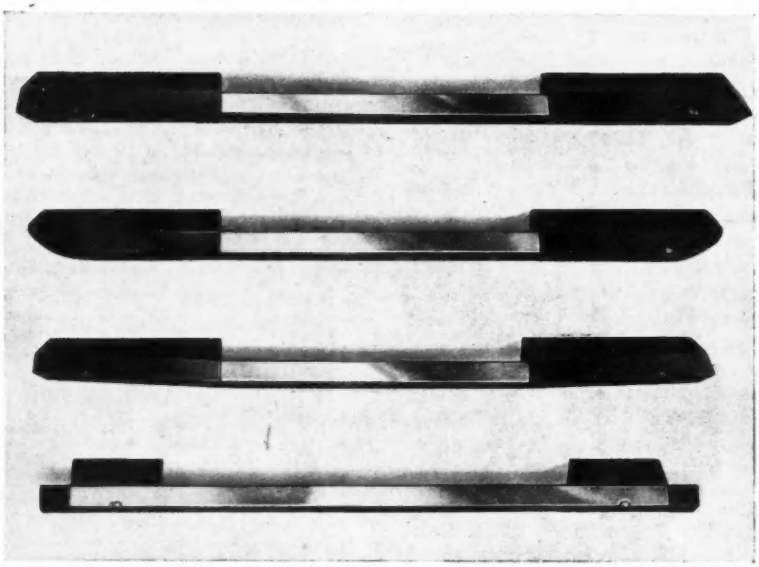
THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

Following are the names of the specialists, general contractors and some of the sub-contractors for the buildings illustrated in this issue.

Alfred Eichholz Memorial Clinic (pages 226-227). General contractors, G. E. Wallis and Sons, Ltd. Sub-contractors: Rashleigh Phipps & Co., electrical work; Dorman, Long & Co., steelwork; James Clark and Son, Ltd., vitrolite wall panelling; Welstead, Ltd., windows; Fenning & Co., Ltd., terrazzo work; James Gibbons, Ltd., ironmongery, door furniture, etc.; John Bolding & Co., Ltd., sanitary fittings; Joseph Avery & Co., Ltd., curtains; Barrett and Wright, Ltd., plumbing; Inlaid Ruboleum Tile Co., Ltd., floor covering; Merryweather and Sons, Ltd., fire extinguishers.

Research Laboratory for the United Steel Companies, Ltd. (pages 234-235). General contractors, G. W. Robson, Ltd. Sub-contractors: G. Longden and Sons, foundations and preliminary works; Pickles, Ayland & Co., Ltd., painter; Ellis Pearson & Co., glass lined walls; Frodingham Steel and Iron Co., Ltd., steelwork; Brightside Foundry and Engineering Co., Ltd., heating and ventilation; Mellowes & Co., Ltd., iron windows; J. Hadfield and Sons, asphalte work; Girlings Ferro Concrete Co., exterior walls and interior tracertina walls and south entrance floor; O. Toffollo and Sons, terrazzo flooring north entrance and lavatory blocks; Hollis Bros., wood block floor; Modern Surfaces, Ltd., cold glaze walls; E. Pickett & Co., leaded lights, conference room and entrance halls; Pilkington Brothers, prismatic glass, ground floor; J. Tann, Ltd., strong room doors; Hugh Robson, Ltd., grilles, chromium plated handrails; Marsh Bros., electric light; Neville Watts, Ltd., ironmongery; E. Fox & Co., Ltd., roller shutters, iron doors and runways; Estler Bros., armoured flooring; Kleine Co., Ltd., suspended floors and sound deadening treatment; Yorkshire Hennibique Contracting Co., Ltd., in conjunction with Mouchell and Partners, reinforced concrete roof; Venesta, Ltd., conference room panelling; Leeds Fireclay Co., Ltd., sanitary fittings; G. and T. Earle, Ltd., "Cullamix" floor in machine shop; Walsall Conduits, Ltd., electrical accessories; Haywards, Ltd., pavement lights.



Four electrically welded steel tubular handles. (*See note on this page.*)

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

BARKING. *Flats.* The Housing Committee of the Corporation has instructed the borough engineer to prepare detailed plans and estimates for the erection of 14 flats in North Street, and 48 flats at Upney.

BEDDINGTON. *School.* The Surrey Education Committee is to adapt Bandon Hill school as a central school at a cost of £16,140.

EAST MOLESEY. *School.* The Surrey Education Committee is to provide a central school for 720 at Ray Road.

EPSOM. *School.* The Surrey Education Committee is to erect a central school at a cost of £29,529.

EWELL. *School Extensions.* The Surrey Education Committee is to enlarge the Stoneleigh School, at a cost of £13,730.

HACKBRIDGE. *School.* The Surrey Education Committee is to erect a central school at a cost of £16,200.

ILFORD. *School.* The Education Committee is to proceed with the purchase of a site at Clayhall for the erection of a school.

ILFORD. *Maternity Home.* The Ilford Corporation Maternity and Child Welfare Committee has approved a scheme for extensions at the Maternity home, at an estimated cost of £30,000. Tenders for the work are to be obtained.

ILFORD. *Houses, etc.* Plans passed by the Corporation: Two bungalows and five houses, Mossborough Gardens, for Mr. W. M. Edwards; 30 houses, Selig Gardens, for Messrs. Holland Bros. & Co.; four houses, Albany Gardens, and eight bungalows, Wellington Road, for Mr. G. F. Siegerts; four houses, Abury Gardens, for Mr. T. Colgate; two houses, Roding Lane, for Mr. W. M. E. Edwards; two houses, Clayhall Avenue, for Mr. D. Coryn; six houses, Aldborough Road, for Messrs. Haines and Warwick, Ltd.; six houses, Green View Gardens, for Mr. J. Aldridge; 12 houses, Homefield Avenue, for Mr. J. W. Lohden; six houses, Waverley Gardens, for Mr. J. Aldridge; three houses, Oaks Lane, for Mr. F. S. Russell; eight houses, Clayhall Avenue, for J. N. Coleman. Plans submitted: Three houses, Highbury Gardens, for Mr. S. A. Newlyn; 66 houses, Royston Gardens, for Mr. J. Aldridge; 18 bungalows, Aldborough Road, for Messrs. Tooley and Foster.

KENLEY. *School.* The Surrey Education Committee is to erect an elementary school at a cost of £14,050.

KINGSTON. *Extensions.* The Surrey C.C. has approved plans for extensions at the County Hall, at a cost of £130,000.

SOUTHGATE. *Hall.* The Corporation is to consider further proposals for the erection of a community hall at Addison Avenue, at an estimated cost of £5,000.

SOUTHGATE. *Houses, etc.* Plans passed by the Corporation: 23 houses, Oakwood Park estate, for Messrs. John Laing and Son, Ltd.; six houses, Broomfield Lane, for Mr. C. Pilgrim; six houses, Broomfield Lane, for Messrs. H. Seymour Couchman and Sons; two houses, Chelmsford Road, for Mr. L. Betts; five houses, Chase Road, for Bunting Construction Co., Ltd.; eight houses, Minchenden Crescent, for Messrs. James Stewart and Sons (Tottenham), Ltd.; 20 houses, Ashridge Gardens, for Mr. F. F. Tomlin; two houses, Hounsden Road, for Mr. S. E. Hooton; church of Our Lady of Lourdes, Bowes Road, for Mr. J. A. Crush; flats, Limes Avenue, for Mr. W. Bowron; and two houses, Chelmsford Road, for Mr. L. Betts.

SURBITON. *School.* The Surrey Education Committee is to erect a mixed and junior school at Moor Lane, at a cost of £24,720.

WATFORD. *Houses.* Plans passed by the Corporation: Eight bungalows, Bushey Mill Lane, for Mr. P. Turner; two houses, Upper Paddock Road, for Messrs. Maxey and Rixon; 16 houses, Westfield Avenue, for Mr. J. F. Sleight; two houses, Berceau Walk, for Mr. E. W. Puddifoot; two houses, and shops, St. Albans Road, for Mr. W. Felgate; two houses, New Road, for Mr. J. Evett. Plans submitted: Four houses, New Road, for Mr. J. Evett.

SOUTHERN COUNTIES

OXFORD. *Houses, etc.* Plans passed by the Corporation: Five shops and houses, Florence Park Road, for Messrs. N. Moss and Son, Ltd.; eight houses, Five Mile Drive, for Messrs. Hinkins and Frewin, Ltd.; 22 houses, Great Headley estate, for Great Headley Homesteads; development Quarry Fields estate, for Mr. F. Wootton; six houses, George Street, Cowley, for Mr. R. C. Munt; two houses, Ridgeway Road, for Messrs. L. J. Davies & Co.; 12 houses, Windmill Road, for Messrs. Pye Bros.; four houses, Monmouth Road, for Messrs. T. H. Kingerlee and Son, Ltd.; 10 houses, Quarry Field estate, for Fern Hill Building Co.; eight houses, London Road, Headington, for Mr. A. E. Harris; six houses, Ridgeway Road, for Mr. H. S. Ives.

WORTHING. *Hotels.* At a meeting of the Town Planning Committee of the Worthing Corporation a letter was received from Messrs. Duncan B. Gray and Partners, Ltd., stating that they had sold two sites abutting upon the coastal road at Goring Hall estate, and that it was proposed to erect two licensed and one residental hotel thereon. The Committee decided to approve the sites for the proposed hotels.

WORTHING. *Houses.* Messrs. Duncan B. Gray and Partners are to erect 40 houses on the north side of Jupps Lane.

SOUTH-WESTERN COUNTIES

BRISTOL. *Alterations.* The Corporation has prepared a scheme for the modernization of the Colston Halls, at a cost of £34,396.

BRISTOL. *Rehousing.* The Corporation is to undertake rehousing operations of the Great Ann Street area, at a cost of £113,375.

TORQUAY. *Schools.* The Education Committee has appointed Mr. Bernard Widdows as architect for the new senior schools to be erected off Barton Road.

TORQUAY. *Library.* The Corporation has approved plans for the erection of the new library, at an estimated cost of £27,000.

TORQUAY. *Houses, etc.* Plans passed by the Corporation: Revised lay-out, Teignmouth Road, for Mr. R. Bell; showrooms, etc., Strand, for Messrs. Bobby & Co., Ltd.; two houses, Trumlands Road, for Mr. E. Faulkner; flats, Avoca Avenue, for Miss Laybourne; estate lay-out, Thurlow Road, for Mr. H. Swayne; estate lay-out, Ash Hill Road, for Mr. J. H. Chapple; estate lay-out, Barton Hill Road, for Mr. B. J. Furness; four houses, Reeves Road, for Chelston Building Co.; two houses, Old Woods Hill, for Mr. F. White; two houses, Studley Road, for Messrs. Stuckey and Davey. Plans submitted; eight houses, Stitchill Road, for Mr. Clark; nine houses, Wright's Lane, for Mr. P. D. Cavanna; workshops extensions, Kenwyn Road, for Mr. G. H. Dyment; estate lay-out, Western Road; two bungalows, Thurlow Road, for Mr. S. Truscott; two houses, Shiphay Estate, for Shiphay Land Co., Ltd.; 15 houses Wright's Lane, for Mr. P. D. Cavanna.

EASTERN COUNTIES

COLCHESTER. *Houses.* Plans passed by the Corporation: Two houses, Ipswich Road, for Messrs. W. H. Gooday & Co.; eight houses, All Saints Avenue, Shrub End, for Mr. H. H. Walford, on behalf of Pettygate Development Co; eight houses, Old Heath and Mile End Road, for Mr. G. W. Young; two houses, Shrub End Road, for Mr. E. Baillee; three houses, West Street, for Mr. E. Patten; two houses, Clairmont Road, for Mr. R. T. Clarke. The Housing Committee of the Corporation is to consider at its next meeting plans for the erection of 50 further houses on part of the Ipswich-Harwich roads site.

MIDLAND COUNTIES

BEDWORTH EXHALL, ETC. *Schools, etc.* The Buildings Committee of the Warwickshire C.C. reports the following list of buildings, in respect of which preliminary plans and estimates have been passed, or are under consideration: school, Bedworth Exhall, additions Henley-in-Arden council school, Rugby college of technology, Southam school, and Sutton Coldfield high school (total estimated cost £71,300); police houses, offices, etc., at Atherstone, Dordon, Dunchurch, Leek Wootton, Little Wolford, New Bilton, Rowington, and Tredington (cost £6,200); cottages, farm buildings, etc., Ratley White Bottoms, Weddington, and Priors Marston (cost £2,250); and additions etc., county mental hospital (cost £5,125).

ILKESTON. *Houses.* Plans passed by the Corporation: Four houses, Margaret Avenue for Mr. A. Beards; Mr. E. Fletcher; estate layout, S. Ilkeston Estate, for Mr. H. Middleton. The Housing Committee of the Corporation has approved plans for the erection of 52 houses on the Corporation Road housing site.

NORTHERN COUNTIES

BARROW-IN-FURNESS. *Houses.* Mr. L. Robinson has submitted plans to the Corporation for the erection of 20 houses at Ocean Road.

BARROW-IN-FURNESS. *Houses.* Plans passed by the Corporation: Four houses, Victoria Avenue, for Mrs. N. Simpson; 13 houses, Davy Street, for Mr. Simon Newman; two houses, Richmond Terrace, for Messrs. Neal and Atkinson, Ltd.; church, Island Road, for Church of St. John Building Committee; six houses, Hawcoat Lane, for Mr. W. Hull; house and shop, Risedale Road, for Messrs. Styles and Bates.

BLACKPOOL. *Estate lay-out.* The Corporation has approved plans for the proposed lay-out of Mere Park estate, Preston New Road.

BLACKPOOL. *Houses.* Plans passed by the Corporation: Ten houses, Holmfield Road, for Messrs. T. and D. Slater; three houses and shops, Ansdell Road, for Messrs. Render Wood, Ltd.; six houses, Poulton Old Road, for Messrs. Chadwick Bros.; two houses, Pierston Avenue, for Messrs. G. Hodgson and Sons, Ltd.; two houses, Foxdale Avenue, for Mr. W. Salthouse; 58 houses, Luton Road, for Messrs. R. and H. Fletcher; four houses, Faringdon Avenue, for Mr. E. A. Abbott; two houses, Fleetwood Road, for Mr. A. A. Holt; three houses, Bispham Road, for Mr. R. E. Davies; four houses, Wetherby Avenue, for Mr. T. Foster; four houses, Albany Avenue, for Mr. T. Foster; two houses, Beetham Place, for Mr. B. Lloyd; four houses, Wetherby Avenue and Dunes Avenue, for Mr. T. Foster; 18 houses, Falkland Avenue, for Messrs. A. and G. R. Fletcher; four houses, Albion Avenue, for Messrs. Streule and Briand; eight houses, Midgeland Road, for Mr. F. Shard; four bungalows, Lyddeadale Avenue, for Mr. J. Warburton; 17 houses and shops, Vicarage Lane and Whittam Avenue, for Messrs. Wilson and Thornton; 75 houses, Bispham Road, for Messrs. J. Cryer and Sons; seven houses, Pedders Lane, for Mr. J. Midgley; 16 houses, School Lane, Marton, for Mr. E. Salisbury; 14 houses, Caxton Avenue, for Mr. J. Ridyard. Plans submitted: 18 houses, Mossom Lane, for Mr. W. Spencer; three houses, Moss House Road, for Mr. M. E. Truelove; 12 houses, Denstone Avenue, for Mr. J. V. Marsh; two houses, Maurice Grove, for Mr. R. E. Davies; two houses and shops, Harroswide, for Mr. W. B. Snape; 14 houses, Paddock Drive, for Mr. J. W. Harrison; 38 houses, Newhouse Road, for Mr. M. Diamond.

MORECAMBE. *Houses.* Plans passed by the Corporation: Five houses, Broadway, for Messrs. F. W. and F. R. Hartley; two types of houses, Torrisholme estate, for Messrs. Edmondson Bros. (Morecambe) Ltd.; six houses, Lancaster Road, for Mr. J. H. Parker; two houses, Broadway, and 39 houses, Lathom Grove, for Mr. A. Heathcote; two houses, Norton Road, for Messrs. L. Wild, Ltd.; two houses, Fisher Walk, for Mr. R. T. Savage; 16 houses, Norwood Avenue, for Messrs. H. Hillman and Sons; four houses, Burlington Avenue, for Messrs. Edmondson Bros. (Morecambe) Ltd; Plans submitted: Four houses, Carleton Street, for Messrs. Threlfall and Parr.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I	II
			s. d.	s. d.
A_2	ABERDARE ..	S. Wales & M.	1 5	1 0½
A_1	Abergavenny ..	S Wales & M.	1 5	1 0½
A_2	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A_2	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie ..	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B_2	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
A_2	Atherstone ..	Mid. Counties	1 4	1 0
B_2	Aylesbury ..	S. Counties	1 2½	11
B_2	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry ..	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_1	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_2	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham ..	Mid. Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth ..	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton ..	N.W. Counties	1 5½	1 1½
A_2	Boston ..	Mid. Counties	1 4	1 0
A_2	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A	Brighton ..	S. Counties	1 4	1 0
A	Bristol ..	S.W. Counties	1 5½	1 1½
B_2	Brixham ..	S.W. Counties	1 2½	11
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B_2	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
	Burslem ..	Mid. Counties	1 5½	1 1½
	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury ..	N.W. Counties	1 5½	1 1½
A	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff ..	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A_2	Chelmsford ..	E. Counties	1 4	1 0
A_2	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester ..	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley ..	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A_2	Colchester ..	E. Counties	1 4	1 0
A	Colne ..	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby ..	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorchester ..	S.W. Counties	1 2½	11
A	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N.E. Coast	1 5½	1 1½
A_2	EASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE	E. Counties	1 4	1 0
A_2	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S.W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole ..	Yorkshire	1 4½	1 0½
A_2	Gosport ..	S. Counties	1 4½	1 0½
A_2	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	York-hire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull ..	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B_2	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln ..	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A_2	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_2	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid. Counties	1 5½	1 1½
A_2	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford ..	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth ..	Scotland	*1 5½	1 1½
A_2	Peterborough ..	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A_2	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A_2	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby ..	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	Slough ..	S. Counties	1 4½	1 0½
A_1	Solihull ..	Mid. Counties	1 5	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud ..	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swadlincote ..	Mid. Counties	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A_2	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist. ..	N.E. Counties	1 5½	1 1½
A_2	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay ..	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall ..	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick ..	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid. Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby ..	Yorkshire	1 4½	1 0½
A	Widnes ..	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor ..	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A_2	Wycombe ..	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 8
Mason (Banker) . . . . . ,,	1 7
,, (Fixer) . . . . . ,,	1 8
Plumber . . . . . ,,	1 7
Painter . . . . . ,,	1 6
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 7
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 3
Timberman . . . . . ,,	1 3
Navvy . . . . . ,,	1 2½
General Labourer . . . . . ,,	1 2½
Lorryman . . . . . ,,	1 5
Crane Driver . . . . . ,,	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . . per ton	2 2 0
Blue Lias Lime . . . . . ,,	1 16 6
Hydrated Lime . . . . . ,,	3 0 9
Portland Cement, in 4 ton lots (d/d site, including Paper Bags) . . ,,	1 18 0
Rapid Hardening Cement, in 4 ton lots (d/d site, including Paper Bags) ,,	2 5 6
White Portland Cement, in 1 ton lots ,,	8 15 0
Thames Ballast . . . . . per Y.C.	6 3
¾" Crushed Ballast . . . . ,,	6 9
Building Sand . . . . . ,,	7 3
Washed Sand . . . . . ,,	8 3
2" Broken Brick . . . . . ,,	8 0
¾" ,, ,, ... ,,	10 3
Pan Breeze . . . . . ,,	6 6
Coke Breeze . . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . .per F.R	0 9	1 1
Bends . . . each	1 9	2 6
Taper Bends . . ,,	3 6	5 3
Rest Bends . . ,,	4 3	6 3
Single junctions . . ,,	3 6	5 3
Double . . . ,,	4 9	6 6
Straight channels . ,per F.R.	1 6	2 6
¾" Channel bends . . each	2 9	4 0
Channel junctions . ,,	4 6	6 6
Channel tapers . . ,,	2 9	4 0
Yard gullies . . ,,	6 9	8 9
Interceptors . . ,,	16 0	19 6

	£ s. d.
IRON DRAINS:	
Iron drain pipe . . per F.R.	1 6	2 6
Bends . . . each	5 0	10 6
Inspection bends . . ,,	9 0	15 0
Single junctions . . ,,	8 9	18 0
Double junctions . . ,,	13 6	30 0
Lead wool . . . lb.	6	—
Gaskin . . . ,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . . per M.	2 18 0
Grooved do. . . . . ,,	3 0 0
Phorpres bricks . . . . ,,	2 17 3
Phorpres Cellular bricks . . ,,	2 17 3
Stocks, 1st quality . . . ,,	4 11 0
,, 2nd ,, . . . ,,	4 2 6
Blue Bricks, Pressed . . . ,,	8 17 6
,, Wirecuts . . . ,,	7 17 6
,, Brindles . . . ,,	7 0 0
,, Bullnose . . . ,,	9 0 0
Red Sand-faced Facings . . ,,	6 18 6
Red Rubbers for Arches . . ,,	12 0 0
Multicoloured Facings . . .	7 10 0
Luton Facings . . . . ,,	7 10 0
Phorpres White Facings . . ,,	3 17 3
Phorpres Rustic Facings . . ,,	3 12 3
Midhurst White Facings . . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . . ,,	21 0 0
Headers . . . . . ,,	20 10 0
Bullnose . . . . . ,,	27 10 0
Double Stretchers . . . ,,	29 10 0
Double Headers . . . . ,,	26 10 0
Glazed Second Quality, *Less* . ,,	1 0 0
,, Buffs and Creams, *Add* . ,,	2 0 0
,, Other Colours . . . ,,	5 10 0
2" Breeze Partition Blocks . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 10
3" ,, ,, ,, . . .	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

The following d/d F.O.R. at Nine Elms:

	s. d.
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . . ,,	2 11
York stone . . . . . ,,	6 6
,, ,, Sawn templates . . ,,	7 6
,, ,, Paving, 2" . . . F.S.	1 8
,, ,, ,, 3" . . . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . . per M.	28 17 6
22" × 12" Marchionesses . . ,,	24 10 0
20" × 10" Countesses . . . ,,	19 5 0
18" × 10" Viscountesses . . ,,	15 10 0
18" × 9" Ladies . . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, ,, green ,, ,,	24 7 4
Best machine roofing tiles . . ,,	4 10 0
Best hand-made do. . . . ,,	5 0 0
Hips and valleys . . . . each	9½
,, hand-made . . . . ,,	10
Nails, compo . . . . lb.	1 4
,, copper . . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . as 1" F.S.	9
Deal, Joiner's . . . ,, ,,	5
,, ,, 2nds . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . ,, ,,	4
Teak, Moulmein . . ,, ,,	1 3
,, Burma . . ,, ,,	1 2
Walnut, American . . ,, ,,	2 3
,, French . . ,, ,,	2 3
Whitewood, American . ,, ,,	1 1
Deal floorings, ¾" . . . Sq.	18 6
,, 1" . . . ,,	1 1 6
,, 1¼" . . . ,,	1 2 0
,, 1½" . . . ,,	1 5 0
,, 1¾" . . . ,,	1 10 0
Deal matchings ¾" . . . ,,	14 0
,, 1" . . . ,,	15 6
,, 1¼" . . .	1 4 0
Rough boarding ¾" . . . ,,	16 0
,, 1" . . . ,,	18 0
,, 1¼" . . . ,,	1 6 0

Plywood, per ft. sup.

Thickness	¼"	⅜"	½"	⅝"	¾"
Qualities	AA. A. B.	AA. A. B.	AA. A. B.	AA. A. B.	AA. A. B.
	d. d. d.	d. d. d.	d. d. d.	d. d. d.	d. d. d.
Birch	4 3 2	5 4 3	7½ 6 4½	8½ 7 6	
Alder	3½ 3 2	5 4 3	6½ 5½ 4½	8 7 6	
Gaboon Mahogany	4 3 3	6½ 5½ 4½	9½ 7½ –	1/0½ 10 –	
Figured Oak 1 side	8½ 7 –	10 8 –	11½ – –	1/6 – –	
Plain Oak 1 side	6½ 6 –	7½ 7 –	9½ – –	1/– – –	
Oregon Pine	5 4 –	5½ 5 –	6 – –	– – –	

	d.
Scotch glue . . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:

(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	½"	¾"	1"	1¼"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
,, 3"-11½" long ,,	7	9	1/3	1/8	3/–
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3
,, ,, 3"M-½" long ,,	8	10	1/5	1/11	3/6
Bends . . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . . ,,	1/–	1/3	1/10	2/6	5/1
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/–	2/–
Flanges . . . ,,	9	1/–	1/4	1/9	2/9
Caps . . . . ,,	3½	5	8	1/–	2/–
Backnuts . . . ,,	2	3	5	6	1/1
Iron main cocks . . ,,	1/6	2/3	4/2	5/4	11/6
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–

Discounts:

TUBES.	Per cent.		Per cent.
Gas . . .	65	Galvanized gas .	52½
Water . . .	61½	,, water	47½
Steam . . .	57½	,, steam	42½
FITTINGS.			
Gas . . .	57½	Galvanized gas .	47½
Water . . .	52½	,, water	42½
Steam . . .	47½	,, steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ⅜" . . . ,,	8 6
,, ,, ½" . . . ,,	8 3
,, ,, ⅝" . . . ,,	8 0
,, ,, ¾" . . . ,,	7 6
,, ,, ⅞" . . . ,,	7 6
,, ,, 1" . . . ,,	7 6
,, ,, 1¼" . . . ,,	7 6
,, ,, 1½" . . . ,,	7 6
,, ,, 2" . . . ,,	4" 3"

	s. d.	s. d.
Cast-iron rain-water pipes of ordinary thickness metal . . F.R	8	10
Shoes . . . . each	2 0	3 0
Anti-splash shoes . . ,,	4 6	8 0
Boots . . . . ,,	3 0	4 0
Bends . . . . ,,	2 7	3 9
,, with access door . . ,,	—	6 3
Heads . . . . ,,	4 0	5 0
Swan-necks up to 9" offsets . ,,	3 9	6 0
Plinth bends, 4½" to 6" . ,,	3 9	5 3
Half-round rain-water gutters of ordinary thickness metal . . F.R.	5	6
Stop ends . . . . each	6	6
Angles . . . . ,,	1 7	1 11
Obtuse angles . . . ,,	2 0	2 6
Outlets . . . . ,,	1 9	2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	18 6
,, drawn pipes . . . ,,	17 0
,, soil pipe . . . ,,	18 6
,, scrap . . . ,,	10 6
Solder, plumbers' . . . lb.	9½
,, fine do. . . . ,,	1 0
Copper, sheet . . . ,,	8½
,, tubes . . . ,,	11

L.C.C soil and waste pipes: 3"	4"	6"
Plain cast . . F.R.	1 0	1 2	2 6
Coated . . ,,	1 1	1 3	2 8
Galvanized . . ,,	2 0	2 6	4 6
Holderbats . . each	3 10	4 0	4 9
Bends . . . ,,	3 9	5 3	10 3
Shoes . . . ,,	2 10	4 4	9 6
Heads . . . ,,	4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . per ton	2 5 0
Plaster, coarse . . . ,,	2 10 0
,, fine . . . ,,	4 15 0
Hydrated lime . . . ,,	3 0 9
Sirapite . . . . ,,	3 6 0
Keene's cement . . . ,,	5 0 0
Sand, washed . . . Y.C.	11 6
Hair . . . . lb.	6
Laths, sawn . . . bundle	2 4
,, rent . . . ,,	2 9
Lath nails . . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft. s. F.S.		2½
,, ,, 26 oz. ,, ,, ,, ,,		3
Flemish, Arctic, Figured (white)* ,,		7
Blazoned glasses . . . ,,	2	6
Reeded: Cross Reeded ,,		11
Cathedrals: eleven varieties (white)* ,,		6½
Crown sheet glass (n/e 12 in. x 10 in) ,,		2 0
Flashed opals (white and coloured) ,,	1 0 and 2	2 0
⅛" rough cast; rolled plate . . ,,		7
⅛" wired cast; wired rolled . ,,		10
⅛" Georgian wired cast . . ,,		11
⅛" Polished plate, n/e 1 ft. . . ,,	†10 to ‡1	1
,, ,, 2 . . ,,	†1 2 ,, ‡1	4
,, ,, 4 . . ,,	†2 3 ,, ‡2	6
,, ,, 8 . . ,,	†2 9 ,, ‡3	2
,, ,, 20 . . ,,	†3 7 ,, ‡4	2
,, ,, 45 . . ,,	†3 11 ,, ‡4	7
,, ,, 100 . . ,,	†5 0 ,, ‡5	7
Vita glass, sheet, n/e 2 ft. . ,,		1 3
,, ,, over 2 . . ,,		1 9
,, ,, plate, n/e 2 ft. . ,,		3 0
,, ,, 7 . . ,,		3 9
,, ,, 15 . . ,,		6 0
,, ,, over 15 . . ,,		7 6
"Calorex" sheet 21 oz., and 32 oz. ,,	2 6 and 3	6
rough cast ⅛" and ¼" ,,	8½ ,, 1	0
Putty, linseed oil . . . lb.		3

*Colours 1d. F.S. extra.

†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s. d.
White lead in 1 cwt. casks . . cwt.	2 6 0
Linseed oil . . . . . gall.	2 2½
Boiled oil . . . . . ,,	2 4½
Turpentine . . . . . ,,	4 1½
Patent knotting . . . . . ,,	14 0
Distemper, washable . . . cwt.	2 6 0
,, ordinary . . . ,,	2 0 0
Whitening . . . . . ,,	4 0
Size, double . . . . . firkin	3 0
Copal varnish . . . . . gall.	13 0
Flat varnish . . . . . ,,	14 0
Outside varnish . . . . ,,	16 0
White enamel . . . . . ,,	1 15 0
Ready-mixed paint . . . ,,	13 6
Brunswick black . . . ,,	7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR

		£ s. d.
Digging over surface n/e 12″ deep and cart away	Y.S.	2 9
,, to reduce levels n/e 5′ 0″ deep and cart away	Y.C.	8 6
,, to form basement n/e 5′ 0″ deep and cart away	,,	9 0
,, ,, 10′ 0″ deep and cart away	,,	9 6
,, ,, 15′ 0″ deep and cart away	,,	10 0
If in stiff clay	add ,,	6
If in underpinning	,, ,,	4 0
Planking and strutting to sides of excavation	F.S.	1 0
,, ,, to pier holes	,,	5
,, ,, to trenches	,,	5
,, ,, extra, only if left in	,,	3
Hardcore, filled in and rammed	Y.C.	10 0
Portland cement concrete in foundations (6-1)	,,	1 6 0
,, ,, (4-2-1)	,,	1 12 6
,, ,, underpinning	,,	1 16 0
Finishing surface of concrete, spade face	Y.S.	7

DRAINLAYER

		4″ s. d.	6″ s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
,, ,, junctions		3 9	4 6
Gullies and gratings	,,	16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER

		£ s. d.
Brickwork, Flettons in lime mortar	Per Rod	27 10 0
,, ,, in cement	,,	28 15 0
,, Stocks in cement	,,	35 0 0
,, Blues in cement	,,	52 0 0
Extra only for circular on plan	,,	2 0 0
,, backing to masonry	,,	1 10 0
,, raising on old walls	,,	2 0 0
,, underpinning	,,	5 10 0
Fair Face and pointing internally	F.S.	1½
Extra over fletton brickwork for picked stock facings and pointing	,,	8½
,, ,, ,, red brick facings and pointing	,,	11
,, ,, ,, blue brick facings and pointing	,,	1 4
,, ,, ,, glazed brick facings and pointing	,,	3 6
Tuck pointing	,,	7
Weather pointing in cement	,,	3½
Slate dampcourse	,,	10
Vertical dampcourse	,,	1 1

ASPHALTER

		s. d.
½″ Horizontal dampcourse	Y.S.	4 6
½″ Vertical dampcourse	,,	6 9
½″ paving or flat	,,	4 0
1″ paving or flat	,,	5 6
1″ × 6″ skirting	F.R.	1 0
Angle fillet	,,	2
Rounded angle	,,	2
Cesspools	Each	5 0

MASON

		s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17 9
Bath stone and do., all as last	,,	13 6
Artificial stone and do.	,,	13 0
York stone templates, fixed complete	,,	10 6
,, thresholds	,,	13 6
,, sills	,,	1 0 6

SLATER AND TILER

		£ s. d.
Slating, Bangor or equal, laid to a 3″ lap, and fixing with compo nails, 20″ × 10″	Sqr.	3 10 0
Do., 18″ × 9″	,,	3 7 0
Do., 24″ × 12″	,,	3 17 0
Westmorland slating, laid with diminished courses	,,	6 0 0
Tiling, best hand-made sand-faced, laid to a 4″ gauge, nailed every fourth course	,,	3 0 0
Do., all as last, but of machine-made tiles	,,	2 16 0
20″ × 10″ medium Old Delabole slating, laid to a 3″ lap (grey)	,,	4 6 0
,, ,, ,, ,, ,, ,, (green)	,,	4 15 0

CARPENTER AND JOINER

		£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2 5 0
Shuttering to sides and soffits of beams	F.S.	8
,, to stanchions	,,	8
,, to staircases	,,	1 8
Fir and fixing in wall plates, lintols, etc.	F.C.	3 9
Fir framed in floors	,,	4 6
,, ,, roofs	,,	6 6
,, ,, trusses	,,	7 6
,, ,, partitions	,,	8 6
¾″ deal sawn boarding and fixing to joists	Sqr.	1 14 6
1″ ,, ,, ,, ,,	,,	1 17 6
1¼″ ,, ,, ,, ,,	,,	2 3 0
1½″ × 2″ fir battening for Countess slating	,,	9 6
Do. for 4″ gauge tiling	,,	12 0
Stout feather-edged tilting fillet	F.R.	4½
Patent inodorous felt, 1 ply	Y.S.	2 3
,, ,, ,, 2 ,,	,,	2 9
,, ,, ,, 3 ,,	,,	3 3
Stout herringbone strutting to 9″ joists	F.R.	10½
1″ deal gutter boards and bearers	F.S.	1 2
1½″ ,, ,, ,,	,,	1 6
6″ deal wrought rounded roll	F.R.	8
1″ deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2 1 0
1¼″ do.	,,	2 10 0
1½″ do.	,,	2 17 0
1″ deal moulded skirting, fixed on, and including grounds plugged to wall	F.S.	1 6
½″ do	,,	1 9

CARPENTER AND JOINER—*continued*

		s. d.
1½″ deal moulded sashes of average size	F.S.	1 9½
2″ ,, ,, ,, ,,	,,	1 11½
1½″ deal cased frames double hung, of 6″ × 3″ oak sills, 1¼″ pulley stiles, 1¼″ heads, 1″ inside and outside linings, ⅝″ parting beads, and with brass faced axle pulleys, etc., fixed complete	,,	3 7
2″ ,, ,, ,, ,,	,,	3 10
Extra only for moulded horns	Each	6
1½″ deal four-panel square, both sides, door	F.S.	2 0
2″ ,, ,, ,, ,,	,,	2 8
1½″ ,, but moulded both sides	,,	2 4
2″ ,, ,, ,, ,,	,,	3 0
4″ × 3″ deal, rebated and moulded frames	F.R.	1 0
4½″ × 3½″ ,, ,, ,,	,,	1 4
12″ deal tongued and moulded window board, on and including deal bearers	F.S.	1 9
1¼″ deal treads, 1″ risers in staircases, and tongued and grooved together on and including strong fir carriages	,,	2 6
1¼″ deal moulded wall strings	,,	2 1
1½″ ,, outer strings	,,	2 4
Ends of treads and risers housed to string	Each	1 9
3″ × 2″ deal moulded handrail	F.R.	1 3
1″ × 1″ deal balusters and housing each end	Each	2 0
1¼″ × 1¼″ ,, ,, ,, ,,	,,	2 9
3″ × 3″ deal wrought framed newels	F.R.	1 3
Extra only for newel caps	Each	6 0
Do., pendants	,,	6 0

SMITH AND FOUNDER

		£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.	15 6
Riveted plate or compound girders, and hoisting and fixing in position	,,	19 6
Do. stanchions with riveted caps and bases and do.	,,	19 0
Mild steel bar reinforcement, ⅜″ and up, bent and fixed complete	,,	17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.	11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1 10

PLUMBER

		£ s. d.
Milled lead and labour in flats	cwt.	1 12 0
Do. in flashings	,,	1 15 6
Do. in covering to turrets	,,	2 3 0
Do. in soakers	,,	1 7 6
Labour to welted edge	F.R.	3½
Open copper nailing	,,	3
Close ,, ,,	,,	4

		½″ s. d.	¾″ s. d.	1″ s. d.	1¼″ s. d.	2″ s. d.	4″ s. d.
Lead service pipe and fixing with pipe hooks	F.R.	10	1 0	1 3	2 0	2 10	—
Do. soil pipe and fixing with cast lead tacks		—	—	—	—	—	5 6
Extra, only to bends	Each	—	—	—	—	2 0	6 9
Do. to stop ends	,,	6½	8	9	11	1 0	—
Boiler screws and unions	,,	3 3	3 9	5 0	8 0	—	—
Lead traps	,,	—	—	—	6 3	8 9	—
Screw down bib valves	,,	6 9	9 6	11 0	—	—	—
Do. stop cocks	,,	7 0	9 6	12 6	—	—	—
4″ cast-iron ½-rd. gutter and fixing						F.R.	1 0
Extra, only stop ends						Each	1 0
Do. angles						,,	1 6
Do. outlets						,,	2 9
4″ dia. cast-iron rain-water pipe and fixing with ears cast on						F.R.	1 2
Extra, only for shoes						Each	1 3
Do. for plain heads						,,	5 6

PLASTERER AND TILING

		s. d.
Expanded metal lathing, small mesh	Y.S.	2 0
Do. in n/w to beams, stanchions, etc.	,,	2 9
Lathing with sawn laths to ceilings	,,	1 3
½″ screeding in Portland cement and sand for tiling, wood block floor, etc.	,,	1 5
Do. vertical	,,	1 7
Rough render on walls	,,	1 2½
Render, float and set in lime and hair	,,	1 9
Render and set in Sirapite	,,	1 11
Render, backing in cement and sand, and set in Keene's cement	,,	2 9
Extra, only if on lathing	,,	4
Keene's cement, angle and arris	F.R.	6
Arris	,,	1½
Rounded angle, small	,,	3
Plain cornices in plaster, including dubbing out, per 1″ girth	,,	1½
1″ granolithic pavings	Y.S.	3 6
1½″ ,,	,,	4 6
6″ × 6″ white glazed wall tiling and fixing on prepared screed	,,	17 6
9″ × 3″ ,, ,, ,, ,,	,,	1 2 6
Extra, only for small quadrant angle	F.R.	8

GLAZIER

		s. d.
21 oz. sheet glass and glazing with putty	F.S.	7½
26 oz. do. and do.	,,	8½
Flemish, Arctic, Figured (white) and glazing with putty	,,	1 1
Cathedral glass and do.	,,	1 3
Glazing only, British polished plate	,,	7
Extra, only if in beads	,,	2
Washleather	F.R.	4

PAINTER

		s. d.
Clearcolle and whiten ceilings	Y.S.	6
Do. and distemper walls	,,	9
Do. with washable distemper	,,	1 1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	,,	3 3
Do. on woodwork	,,	3 6
Do. on steelwork	,,	3 0
Do. and brush grain and twice varnish	,,	5 6
Stain and twice varnish woodwork	,,	1 11
Stain and wax-polish woodwork	,,	4 6
French polishing	F.S.	1 2
Stripping off old paper	Piec	2 0
Hanging ordinary paper	from ,,	2 9

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TYPES OF FLAT UNIT: STOCKHOLM.

ACCESS : Internal staircase.
TYPE : 2-room, bathroom and kitchen.

Note
Staircases are artificially lighted and adjoin the central corridor.

Total area of unit:
425 Sq Ft

Service area :
115 Sq Ft.

Habitable area :
241 Sq Ft

Total areas given include:

the external walls,

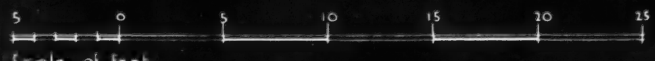
half the division walls between flats.

Balconies are not included.

Total area of unit:
478 Sq Ft.

Service area: 134 Sq Ft.

Habitable area: 239 Sq Ft.



INFORMATION SHEET : INDUSTRIAL HOUSING 6.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON

Supplement to THE ARCHITECTS' JOURNAL for August 16, 1934

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

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INDUSTRIAL HOUSING—VI
(STOCKHOLM)

THE flat units given on this Sheet are typical units of a large multi-storeyed block built in Stockholm. The flats are served by internal corridors, stairs and automatic lifts. Internal bathrooms are used in both types, and internal kitchens in the upper types.

The bedrooms are furnished, divan beds, etc., so that they may be used as living rooms. The building is equipped with central heating and hot water supply.

In the analysis of areas given the total area of the unit is taken from the centre line of the division walls and includes the thickness of the external wall, approximately one foot.

The service area includes all the space which is not used as living accommodation for the occupants, i.e., kitchen, wardrobes, w.c., lobby and bath or shower.

Previous Sheets dealing with housing (Nos. 124, 128, 132, 133 and 134) were presented with our issues for July 5, July 19, August 2 and August 9.

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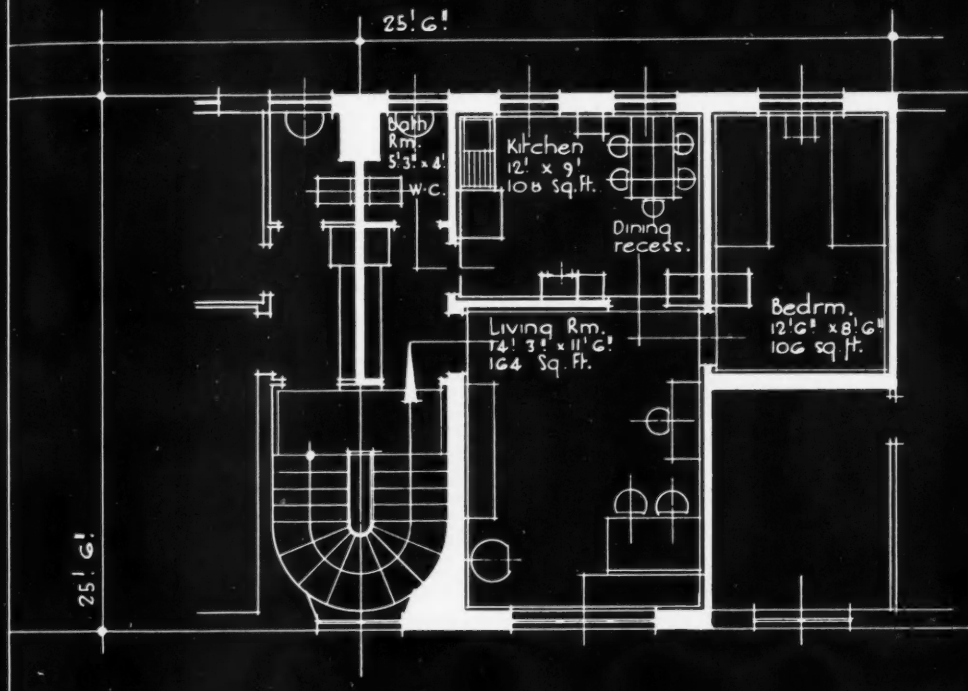
TYPES OF FLAT UNIT : STOCKHOLM

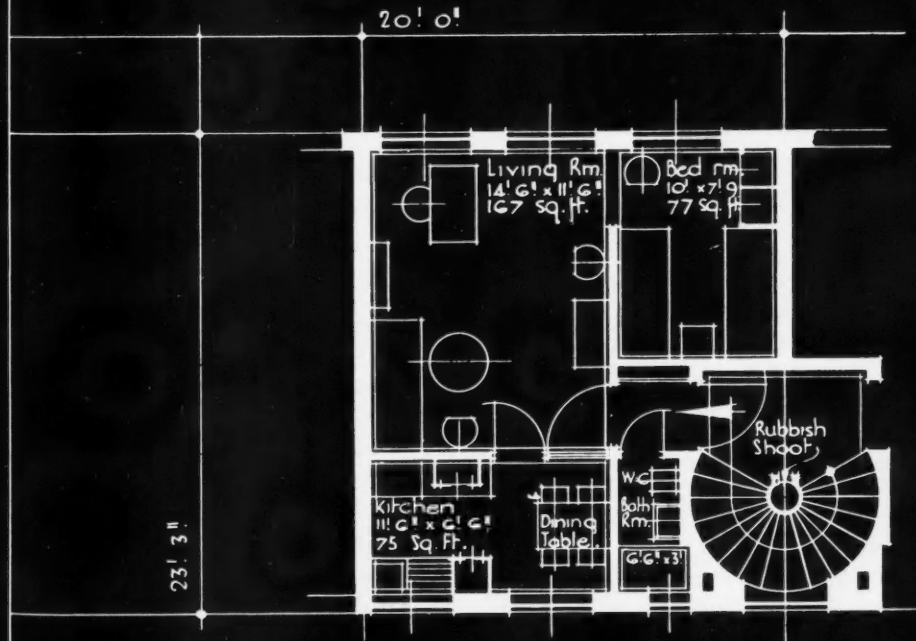
ACCESS : Internal Stair.
TYPE : 2-room, kitchen & bathroom.



Total area of unit : 519.5 Sq. Ft.

Habitable area : 270 Sq. Ft.

Service area : 189 Sq. Ft.



The total areas given include:

the external walls,

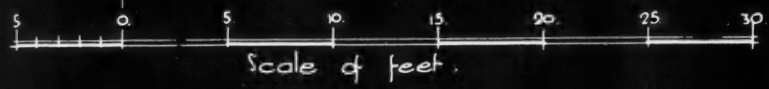
half the division walls between flats,

half the area of the stair.

Total area of unit : 465 Sq. Ft.

Habitable area : 244 Sq. Ft.

Service area : 155 Sq. Ft.



INFORMATION SHEET : INDUSTRIAL HOUSING 7.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 136 •

INDUSTRIAL HOUSING—VII

(STOCKHOLM)

THE upper plan is of a 2-roomed flat by Carl Melin. It will be noticed that no bath has been provided. By an ingenious grouping of wall fittings the dining recess in the large kitchen is given the appearance of privacy, and this screening effect is further obtained at the entrance to the bedroom.

Ample cloak space is provided in the central hall and lighting obtained from both the stair and the bathroom.

The lower plan comprises a rather smaller type of the same accommodation, with dining recess and borrowed light to the entrance hall as before. A bath is provided in this instance and the services are kept within the flat by means of ducts in the thickened staircase walls.

It should be noticed that the stair is entirely of "winders" and the "well" is utilised as a rubbish shoot with mutual access from each pair of flats at the landings.

The service area includes all that space which is not used as living accommodation for the occupants, i.e., service area includes kitchenette, wardrobe, shower, w.c. and lobby. Where bathrooms occur they are also included.

Previous Sheets dealing with Housing (Nos. 124, 128, 132, 133 and 134) were presented with our issues for July 5, July 19, August 2 and August 9.

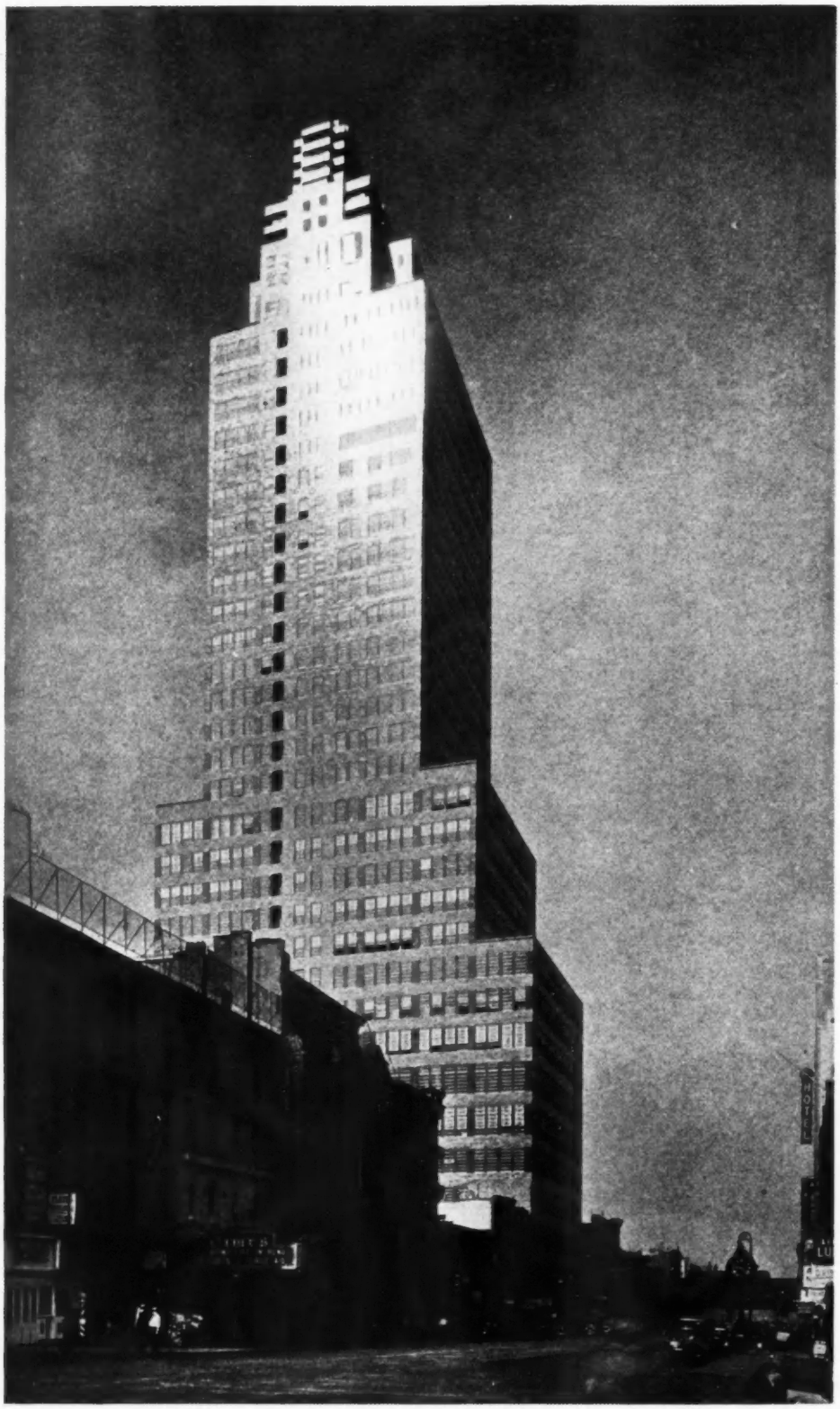
IN THE NEW R.I.B.A. BUILDING

MURAL PAINTING BY BAINBRIDGE COPNALL

THIS mural painting in the new R.I.B.A. building is claimed to be the largest in the world, with a superficial area of 480 square feet. It covers one side of the disappearing wall between the large meeting room and the foyer.

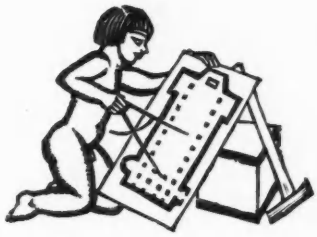
The painting represents the President and Council of the R.I.B.A., surrounded by groups of Peoples of the Empire and surmounted by the Houses of Parliament and the Bank of England, with Sir Herbert Baker's recent additions.

The photograph shows Mr. Bainbridge Copnall and his assistant, Mr. Nicholas Harris, at work



ARCHITECT: RAYMOND HOOD

With the death last week of Raymond Hood, America loses probably her most distinguished designer of great city buildings. Above is one of his many important works: the McGraw-Hill building in W. 42nd St., New York City, erected in 1931. A notice of his career, by Mr. Alfred Bossom, appears on page 253.



THE PANELS QUESTION: THE POLICY OF THE R.I.B.A.

WE should like to draw the attention of our readers to a letter we publish on page 258, signed by the President of the R.I.B.A. and Sir Percy Hurd, the Chairman of the Central Panels Committee.

This letter, it will be observed, now lays down as a definite principle that the duty of the Panels is to advise on buildings that are "illiterate and injurious," and that they should not make decisions on questions of taste. It is probably not too much to assume that this letter is the direct outcome of what is known as the "Ruislip Case," and had the policy which this letter embodies been in force at the formation of the Panels the Ruislip and other cases equally disastrous to the architectural profession would never have eventuated. As our readers know, this is the policy which we have consistently advocated ever since the Panels were formed.

The use of the word "illiterate" is interesting, because this again is a word we have used ourselves. In fact it is doubtful if a better word could be used to indicate the functions of the Panels; and this because all architects can agree that there is a certain average of design to fall below which is to place a building in the category of bad design. Such a line is what may be called the "line of illiteracy," and it is buildings which come within this category of bad design which should be the concern of the Panels.

We ourselves have never been enemies of the Panel system, but only of the way the Panel system was being used so as to allow of architects of one particular school of thought recommending that the plans of their brother architects of another school should be disallowed. Such action, of course, only tended to bring the profession into disrepute, and if persisted in would as surely have split it into two warring sections such as the Gothic and the Classic in the historic battle of the styles.

The need of some sort of control is obvious. In point of fact it is the Control Section (Sect. 12) of the 1932 Housing and Town Planning Act that gives particular urgency to the question of the Panels. Under this Section of the Act any Local Authority can refuse to pass any plan which *in their* opinion would be injurious to the locality.

If these Authorities were advised by competent and qualified advisers, there might be some hope of the general improvement in the design, particularly of the speculative builders' work; but, alas, the authorities for the most part rely on their own unaided instinct or follow the advice of their Borough Surveyor, who, however competent he may be in other directions, is as a rule quite untrained in æsthetics, and whose incursion into that realm is usually disastrous. The Panel System is an attempt to rectify this rake's progress and to stem the tide of mean and feebly-conceived houses which is spoiling the countryside and impoverishing the towns.

This work can only be done by architects either alone or in association with others, and it is, we suggest, a very public-spirited offer on their part to give their services in a purely honorary capacity to deal with this admitted social evil much in the same way that the doctors give their services in connection with the hospitals. It is on these grounds that we welcome the letter from Sir Giles Gilbert Scott and Sir Percy Hurd, which in clear and unmistakable language sets out the duties of the Panels.

If the Panels can get to work in the spirit indicated there, with the safeguards set out, then we believe we shall witness the beginning of a better and more beautiful England. Whether the Local Authorities will accept the offer of the Panel service is another matter, and was the occasion for a deputation to Sir Hilton Young on the 24th of last month.

This deputation had apparently, from the report published in *The Times* of July 25, a most favourable reception. Sir Hilton said in effect that they were preaching to the converted and that he would do everything he could to favour the aims of the deputation.

It is now for this country to choose whether the control of her buildings shall be in the hands of qualified designers or whether we shall hand England over to the tender mercies of the Borough Surveyor and the speculative builder.

The Architects' Journal
Westminster, S.W.1
Telephones: Victoria
9212-7
Telegrams:
Buildable
Part
London

NOTES & TOPICS

MR. OLIVER HILL ON DISGUISE IN DESIGN

MR. OLIVER HILL contributed a trenchant article on "The House of the Future" to *The Birmingham Evening Dispatch* last week. There is a forcible directness about Mr. Hill, and every paragraph of his article hits a target.

*

So many architects when they write fail to choose their targets, and fire off a salvo of criticism that makes a noise without leaving an impression. Not so Mr. Hill.

*

This is how he deals with the disguise mania: "The man who persisted in going about his everyday life in the disguise he wore at the Chelsea Arts Ball would rightly be held up to ridicule and run the risk of being certified as deficient, yet many of us see nothing incongruous in living our contemporary lives in 'fancy dress' houses."

THE LATE RAYMOND HOOD

Raymond Hood, who died last week at the early age of 53, was one of the chief practitioners of the sky-scraper architecture of America.

*

It is said that he had an ambition to build a sky-scraper 7,000 feet high, but whether that is just a tall story attributed to him by the press it is difficult to say. It is certainly true that he did visualize the most stupendous artifacts; and perhaps his century was not quite ready for him.

*

If he had only been given the opportunity of working out one of his ideas, namely the village condensed into a single tower, he might, in the more spacious countryside of the States have sketched a possible solution to England's rural housing problem.

STREETS OF GOLD

So the Minister of Transport is making an Order to provide "silence zones" where it will be an offence to sound a motor horn during specified hours. But what about young bloods who like to hear the roaring echoes of an untamed exhaust as they rush through sleeping streets on a night joy-ride? And what of the motor bicycles?

*

Still, it is a comfort that those in authority over us are becoming aware of some of the intolerable nuisances which lack of plan and lack of manners inflict upon the civilized members of society. If we legislate for the ears, is it too much to hope that the nose will presently be comforted also?

*

The stench of fumes in cities everywhere is growing in volume. Cheap fuel may be responsible plus the increase in motor traffic. In Birmingham, where one expects the scent of industry to master everything else, not even a chemical works could drown the reek of the roads.

THE ARCHITECTS' BALL IN SEPTEMBER

I remember that last dance at Olympia. Now Mr. Greville Montgomery, the Director of the Building Trades Exhibition, is giving another, and meeting all the expenses so that the entire proceeds can go to the Architects' Unemployment Relief Fund. It is an extraordinarily generous gesture.

*

I am reminded by Mrs. Lanchester, who is the Chairman of the R.I.B.A. Social Committee, that the date is Friday, September 21, and that tables for parties of six or more can only be reserved before September 19. Reading between the lines, I gather that it will make the work of the committee less harrowing if reservations are received well in advance of this date.

GUARANTEED FOR TWELVE MONTHS

Passing some "development" on one of the roads out of London last week, I saw a notice which said: "Written guarantee for 12 months on every house."

*

I had no time to stop and enquire what was being guaranteed, but I thought of a number of things that might be. Immunity from unplanned development which would ruin the adjacent countryside and lower the amenity value of the locality, for instance.

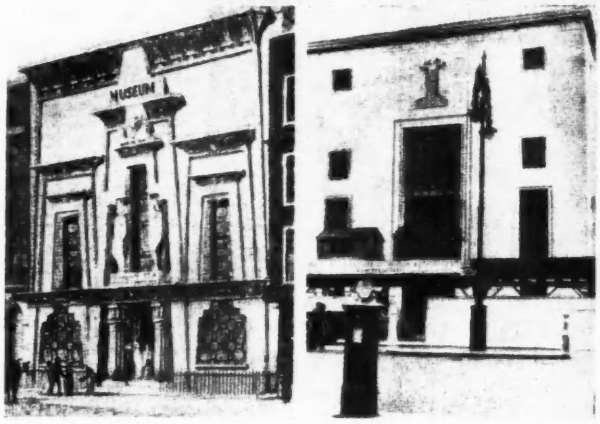
FANCIED RESEMBLANCES

The Daily Telegraph published an illustration last week of the old Egyptian Hall in Piccadilly side by side with what can be seen of the new R.I.B.A. building, and appended the following observation: "People passing along Portland Place who remember the Egyptian Hall . . . are calling attention to the remarkable similarity in the appearance of the new building of the Royal Institute of British Architects and that of the old hall."

*

The resemblance is as striking as that of the new air-

LONDON HALLS OLD AND NEW



The above is reproduced from a recent issue of "The Daily Telegraph." See Astragal's note.

flow Chrysler car to the Lord Mayor's coach, or of *The Daily Telegraph* building in Fleet Street to *The Daily Express* building.

THE RADIO EXHIBITION

Many manufacturers of radio apparatus seem to be aware that they can no longer afford to dispense with the designer. The example of Mr. Murphy, who employed Gordon Russell to design his cabinets some years ago, has had a benign influence upon the character of all radio cabinets.

*

Skilled designers have been called in by several firms, and there is some evidence of the modern architect's influence among the exhibits at Olympia. Many really well-planned stands have been hampered by a dreary "modernistic" scheme of standardization.

*

A standard scheme when it is well done brings order and lucidity to an exhibition: when it degenerates into the imposition of an indifferent pattern of fascia in garish colours it is a severe handicap to the intelligent exhibitors whose numbers are increasing yearly, not only at Olympia but at most other trade and specialist exhibitions.

FRANK LLOYD WRIGHT

In that raciest of books, *While Rome Burns*, Alexander Woollcott has written a brief character sketch of Frank Lloyd Wright under the title of "The Prodigal Father." One expects from a leading contributor to *The New Yorker* something unusual in the way of biographical treatment, and one gets it.

*

For some unaccountable reason, no doubt connected with British enterprise, this grand and stimulating book has not been published in this country.

*

Maybe Mr. Woollcott is too stimulating, and his way of writing too emphatically personal for our taste; but I wish architecture and architects could be written about in England as he writes about the life and work of Frank Lloyd Wright.

*

"I know," says Mr. Woollcott, "how flagrantly he himself had invited some of the thunderbolts that have struck him. I know what perverse and tactless mockery of all who would serve him dances ever in his eyes. I know how near the surface, always, is the untamed imp in him that bids him upset the very applecart he is hungrily approaching. But I think, too, that no one in the modern world has brought to architecture so good a mind, so leaping an imagination, or so fresh a sense of beauty."

*

In a footnote to his sketch, Mr. Woollcott refers to the fury that was aroused among intelligent Americans when in the Autumn of 1932 Frank Lloyd Wright was not invited to contribute to the architecture of "A Century of Progress."

*

THE WHITED SEPULCHRE

I see that Sir Edwin Lutyens and Mr. Guy Dawber are on the committee of the organization called "Sculptured Memorials and Headstones," that has been formed to make graveyards in this country less repellent in appearance by encouraging the use of British stone instead of staring white marble.

*

Incidentally it hopes to provide an outlet for the work of British sculptors. But even if it does not achieve this end, the stock angel would look far better in a native stone than in the sugar-icing marble beloved by the monumental mason.

DISTRIBUTION OF CHESTERFIELD HOUSE

I hear that the marble staircase from Chesterfield House is to be used in a cinema, and that other bits and pieces are to be distributed through dealers to adorn houses and gardens.

*

In this way our demolished antiques can perplex the unities of contemporary architecture.

*

It is reported that the window frames have gone to a lady in Hampstead, and that the eighteenth-century bricks will probably be used for "Tudor" houses erected by modern builders.

*

Nobody has yet thought of a use for the cockle shells which were discovered packed between the floors and ceilings.

MONTROSE HOUSE, PETERSHAM

Several readers have been asking whether Montrose House, Petersham, which I mentioned last week, is illustrated in any book on architecture. Two plates are devoted to it in *Some Lesser Known Architecture of London*, by James Burford, A.R.I.B.A., and J. D. M. Harvey.

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

"We believe we have now got sufficient experience of the working of that Act (the Town and Country Planning Act) to go ahead rapidly with the preparation of a scheme for the whole of the County of London" 252

The Code of Procedure to be sent to the secretaries of Panels for their guidance 258

The building was originally designed for the system of reinforced concrete construction known as the D.B.G. (diagonal beam grid) system, which has been successfully used on the continent . . . However, the local authorities refused to sanction this form of construction in their area, and the use of it had to be abandoned 261

The cost was less than half that for a house of the same area of ordinary construction 265

REHOUSING IN SCOTLAND

The Secretary of State for Scotland has appointed a special committee to advise local authorities and others on the subject of amenity in the erection of working-class houses.

The committee, of which Mr. James R. Richmond is chairman, includes also :— Mr. Thomas Tait, F.R.I.B.A. ; Mr. James Millar, F.R.I.B.A. (Glasgow) ; Mr. John Begg, F.R.I.B.A. (Edinburgh) ; Mr. F. C. Mears, F.R.I.B.A. (Edinburgh) ; Mr. James Barr, S.S.I. (Glasgow) ; and Mr. John Wilson, F.R.I.B.A. (Chief Architect to the Department for Health, Scotland).

SIR RAYMOND UNWIN TO VISIT AMERICA

Sir Raymond Unwin, PP.R.I.B.A., accompanied by Dr. Kahn, of Frankfurt, and Miss A. J. Samuel, manager of the Bebington (Cheshire) U.D.C. Housing Estates, is going on a tour in the United States, arranged by the National Association of Housing Officials, Chicago, to help to start President Roosevelt's housing programme.

THE TOWN PLANNING OF LONDON

Major Harry Barnes, chairman of the London County Council Town Planning Committee, is to visit Rome, Paris, Berlin and Vienna, in preparation for a scheme for the replanning of London.

In *The Evening Standard* for August 18 Major Barnes said :

"A comprehensive scheme for the development of London is to be prepared. This was not possible until the Town Planning Act of 1932 was passed, giving power to local authorities to town-plan built-up areas.

"We believe we have now got sufficient experience of the working of that Act to go ahead rapidly with the preparation of a scheme for the whole of the County of London. Such a scheme would provide for the gradual replanning of London over the next 30 or 40 years, perhaps longer, involving more green squares, special zones for factories and homes, tree-lined roads, and all that makes for a beautiful city.

"Substantial progress has already been made since the L.C.C. passed the first necessary resolution giving us power to do this. We still have to obtain the approval of the Minister of Health. This, I anticipate, may take some months, but we ought to have his approval some time next year.

"At the moment consultations are taking place with the Metropolitan boroughs and other large interests that will be affected by town planning. All relevant information is also being gathered on the subject.

"Only about one-third of the County of London comes today under town planning. We propose to bring the remainder in, and when that is done it will be possible to look at London as a whole and consider it as an entity."

THE ARCHITECTS' DIARY

Thursday, August 23

R.I.B.A. *Architects' Unemployment Committee. At 7 Bedford Square, W.C.1. Exhibition of Work done under the Architects' Emergency Scheme. Open until further notice.*

THE LONDON SOCIETY. *Coach excursion to Verulamium to see the excavations of the Roman Theatre.* 2 p.m.

Friday, August 24

ARCHITECTURAL ASSOCIATION. *Annual Excursion. Visit to Norway. Until August 30.*

Monday, August 27

COURTAULD INSTITUTE OF ART. *At Portman Square, W.1. Summer Course in the History of Art. Until August 31.*

Wednesday, August 29

THE LONDON SOCIETY. *Visit to the Osram Works at Wembley to see the mass manufacture of Electric Lamps.* 2.30 p.m.

MOTOR RACE TRACK ON THE SOUTH DOWNS

A contract valued at £77,000 for the construction of a motor race track on the South Downs has been secured by Messrs. Melvill, Dundas and Whitson, Ltd. The work is estimated to occupy nine months.

WESTMINSTER CATHEDRAL DECORATIONS

The model showing the suggested design by Mr. G. A. Pownall for the mosaic decoration of the apse of Westminster Cathedral was on view in the crypt of the Cathedral last week. A book was provided for signed comments and criticism.

CAMBERWELL TOWN HALL

The Mayor of Camberwell (Councillor S. E. Hall) is officially to open Camberwell Town Hall, which has been reconstructed and extended at a cost of £40,000, on September 18. The architects are Messrs. Culpin and Bowers, FF.R.I.B.A.

PITHEAD BATHS

Mr. F. G. Frizzell, A.R.I.B.A., at the opening of the new pithead baths at Blackhall Colliery, which have been erected at a cost of £23,000, stated that they were the one hundred and forty-eighth baths to be completed by the Miners' Welfare Committee under the Mining Industry Act of 1926, while there were 23 baths in course of construction. The total cost of all those baths was nearly £3,000,000.

INSTITUTE OF FINE ARTS, BIRMINGHAM

Birmingham University has appointed Mr. Robert Atkinson, F.R.I.B.A., as architect for the Institute of Fine Arts.

LEEDS SCHOOL OF ARCHITECTURE

On page 219 of last week's issue of the JOURNAL a reference was made to the Leeds Architectural Travelling Scholarship. We are informed by Mr. J. S. Allen, A.R.I.B.A., the Head of the School, that the scholarship is only open to students of the school and that Mr. Thompson, this year's winner, is a third year diploma student and in addition has just been awarded a West Riding Senior Architectural Scholarship tenable at the school. This is said to be one of the most valuable scholarships in the country and covers tuition fees, travelling expenses and maintenance.

R. I. B. A.

THE R.I.B.A. CLUB AT THE BUILDING TRADES EXHIBITION

The Council of the R.I.B.A. have accepted the offer of Mr. H. Greville Montgomery to give facilities for the establishment of an R.I.B.A. Club at Olympia during the forthcoming Building Trades Exhibition.

Some years ago, at one of the earlier Building Trades Exhibitions, a clubroom was provided for members of the R.I.B.A. This year the R.I.B.A. Public Relations Committee, who have been responsible for the project, propose to enlarge the facilities offered by the Club so that it can be used not only by individual members but will allow parties or joint visits to be catered for. Mr. Greville Montgomery has provided a suite of rooms at the right-hand side of the main hall from the Addison Road entrance. One of these rooms will be furnished as a lounge in which a refreshment service will be available, one as a writing and reading room and another as a room in which parties can meet for meals. The Club will be under the direction of a member of the R.I.B.A., and a shorthand typist will be in attendance to deal with any letters that members may wish to send. Messages for members can also be received at the Club. A telephone and cloakroom will be provided. The Club can be entered from both the main ground floor and the gallery.

On the suggestion of the Public Relations Committee, the Council have decided to offer the use of the Club to members of the following bodies :—

R.I.B.A. Allied Societies ; Architectural Association ; Building Industries National Council ; Council for the Preservation of Rural England ; and Architecture Club.

OBITUARY

RAYMOND HOOD: 1881-1934

[By Alfred Bossom, M.P.]

ARCHITECTURE has lost a genius. A man who was outstanding in a group of outstanding men.

Whether the tall architectural creations of the United States be approved or disliked, no student can seriously deny that they form the most distinctive contribution to architectural progress since the Renaissance.

This movement has resulted first from the efforts of that brilliant band of architectural pioneers, McKim, Mead and White, Burnham and Root, Holabird and Roach, Carrere and Hastings, Arnold Brunner and their confrères who broke away from traditional methods of construction and turned the American point of view from the ground to the sky and from brown sandstone to white limestone. This movement was most ably carried on by men like Bertram Goodhue, Benjamin Wister Morris, Eli Kahn, Harvey Corbett and others, and over all of these Raymond Hood had a strong influence.

Always a clear-seeing student of social conditions, unassuming to a degree and quiet in his manner, he possessed such confidence in his own knowledge and ability to design a true answer to meet specific needs that his words and works were respected on all occasions. Mentally big, he was above all smallnesses and consequently able to work with others to the genuine advantage of his beloved craft and of his associates.

Competition had no terrors for him, and he gave to tradition the homage it is justified in receiving in our intensely progressive age, and he used traditional forms in fresh ways without offence to even the fairly hidebound purists.

Symbolism held a strong place in his designs but he freely employed new materials and the latest methods and processes to portray advantageously in the solid the conceptions of his fertile brain.

When he designed the American Radiator Building in West 40th Street, New York City, in black brick and gold-leaf plated terra cotta, night lighted in a way different from anything then attempted in that city of novelties, he raised conflicting choruses of endorsement and criticism such as are only engendered by a virile effort of a dominating personality.

His association with John Mead Howells in 1922, which resulted in their winning the international competition for the Tribune Tower in Chicago, produced a structure that will be celebrated among American skyscrapers as long as such buildings are constructed.

The financial depression which practically ended the American tidal wave of building, prevented many of his great dreams from becoming realities, but his contribution to "Radio City" will always be looked upon with pride by all who knew him.

He loved the countryside and loathed with no weakling's uncertainty the peppering of beautiful landscapes with unpleasant, unordered small habitations; and looked ahead to the day the urban dwellers would be mostly gathered into communal dwellings, leaving nature to fructify undefiled.

Hood was born in New England at Pawtucket, R.I., March 29, 1881, and went to Brown University. Massachusetts Institute of Technology gave him his Bachelor of Science Degree in 1903 and the Ecole des Beaux Arts, Paris, made him an "Architecte Diplomé du Gouvernement Français" in 1911. Starting his architectural work in Boston, Mass., he settled in New York in 1903.

Honours in his profession came to him in great numbers. He was made a Trustee of the Beaux Arts Institute of Design in New York; was a member of the American Institute of Architects, of the New York Architectural League, of the Groupe Americain des Architectes Diplomés, Beaux Arts Society, an Alumnus of the American Academy in Rome, and the New York Member of the International Jury to select the design for the memorial to Columbus in the Island of San Domingo, etc. etc.

He leaves a wife and two sons and one daughter, and a host of friends on both sides of the ocean who will indeed long remember his totally unselfish willingness to work for the advantage of his chosen profession.

●

DR. H. P. BERLAGE

We regret to record the death, in his seventy-ninth year, of Dr. Hendrik Petrus Berlage, the Dutch architect, who was known to almost every Continental architect of note as one of the pioneers of the twentieth-century architectural development. He was awarded the 1932 Royal Gold Medal for architecture, an honour which had been paid to only one other Dutch architect—Dr. P. J. Cuypers (who was a recipient of the medal in 1897).

Dr. Berlage's best-known work is the Amsterdam Bourse, built by him in 1903, at a time when architecture generally in Holland, as in many other countries, was at very low ebb. Mr. F. R. Yerbury, in an appreciation of Dr. Berlage in the JOURNAL on the occasion of the presentation of the medal, wrote: "When one looks around the streets of Amsterdam, whose buildings were contemporary with the Bourse, the greatness of Berlage's achievement becomes apparent, because in it he is revealed as a lone prophet crying out against the architectural shams then being produced by his contemporaries—shams which were obviously being accepted with relish by his countrymen. Dr. Berlage believed in the frank use of the national material, brick, following in the steps of his senior, Dr. Cuypers. Most of the best work in Holland today is there definitely through the forceful work which Berlage did forty years ago."

There is one building by Dr. Berlage in London, the headquarters offices of Messrs. W. H. Muller & Co., shipping agents, in Bury Street, E.C.

A. M'INNES GARDNER

We regret to record the death of Mr. A. M'Innes Gardner, L.R.I.B.A., F.R.I.A.S., of Glasgow.

In addition to domestic architecture, Mr. Gardner did much notable work in connection with shipping. He was responsible for the planning of the interiors of many Clyde-built vessels, including the *Empress of Britain*.

Mr. Gardner was a member of the Board of Trade Council for Art and Industry.

COMPETITION NEWS

CHURCH AT MILL HILL

We understand that the result of the limited competition for the John Keble Memorial Church, Mill Hill, will be announced in about four weeks' time. Mr. Edward Maufe, F.R.I.B.A., is the assessor, and the competitors are: Messrs. N. F. Cachemaille-Day, A.R.I.B.A.; Frederick Etchells, F.R.I.B.A.; Harold Gibbons, F.R.I.B.A.; D. F. Martin-Smith, A.R.I.B.A. (in consultation with Cyril Farey, A.R.I.B.A.); Professor A. B. Knapp-Fisher, F.R.I.B.A.

[For Competitions Open, see last week's issue.]

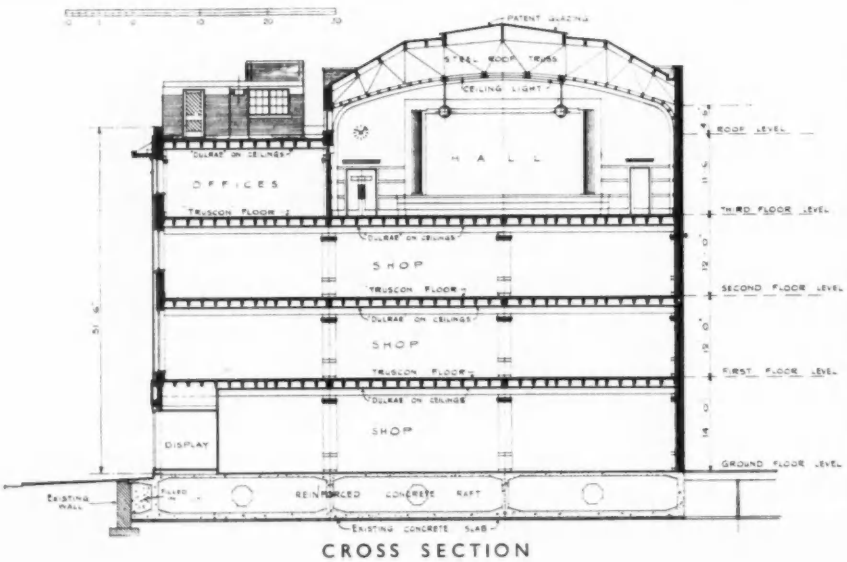
THIS ARSHETECTURE

Dealers invaded Chesterfield House, Mayfair—until recently the London home of the Princess Royal and the Earl of Harewood—on Wednesday, when a demolition auction sale was held. The famous mansion is now in the hands of the housebreakers.

It is reported that the two "wings" of the marble staircase, which came from Canons, Edgware, when that seat of the Duke of Chandos was pulled down in 1774, had been bought privately for re-erection in the new super-cinema which is to be built at Broadstairs.

From THE RAMSGATE ADVERTISER AND ECHO.

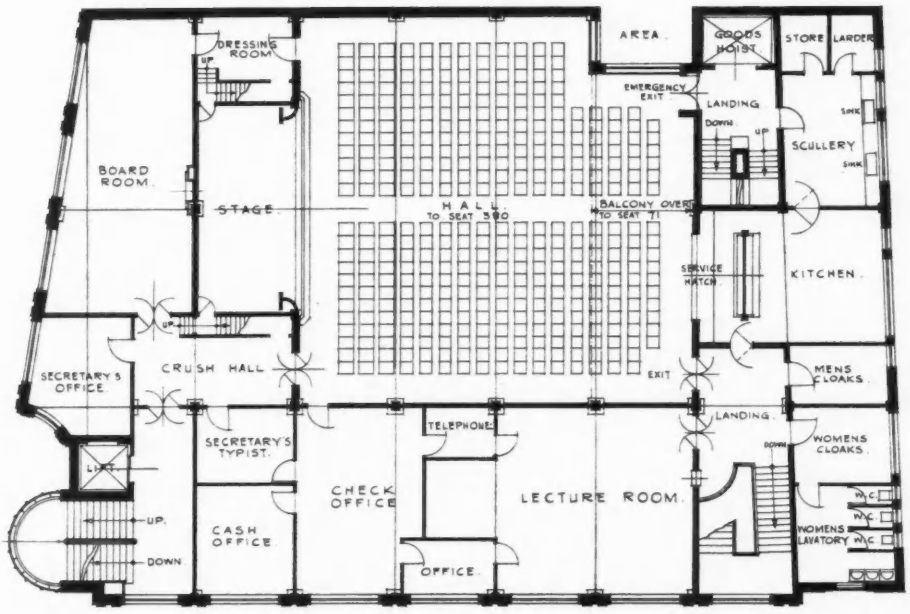
CO-OPERATIVE SOCIETY'S PREMISES,



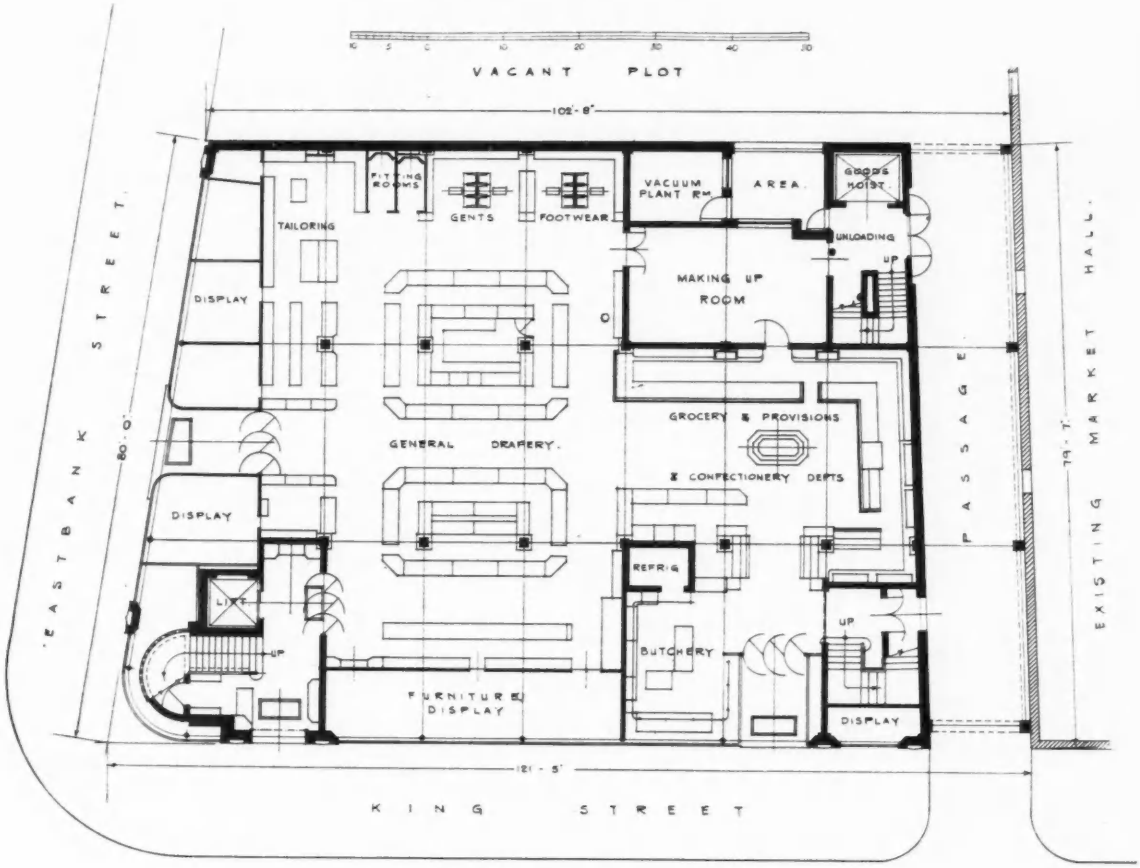
CROSS SECTION

The building is of steel frame construction throughout, faced externally with stone, and grey Aberdeen granite for the lower portion. The new building extends over part of the site of the old Market Hall, which contained a low basement. Advantage was taken of this old basement in the design of the foundations, and its entire depth was utilized for the construction of a reinforced concrete raft, of hollow box design, capable of providing adequate support for a heavy building upon a most treacherous subsoil, consisting chiefly of waterlogged silt, into which it was found impracticable to excavate for the usual type of foundations. The upper slab of the raft forms the ground floor of the superstructure, and between the lower and upper slabs of this raft are concealed the whole of the drainage and many of the service mains for electricity, sprinklers, cash tubes, etc.

SOUTHPORT: BY W. A. JOHNSON



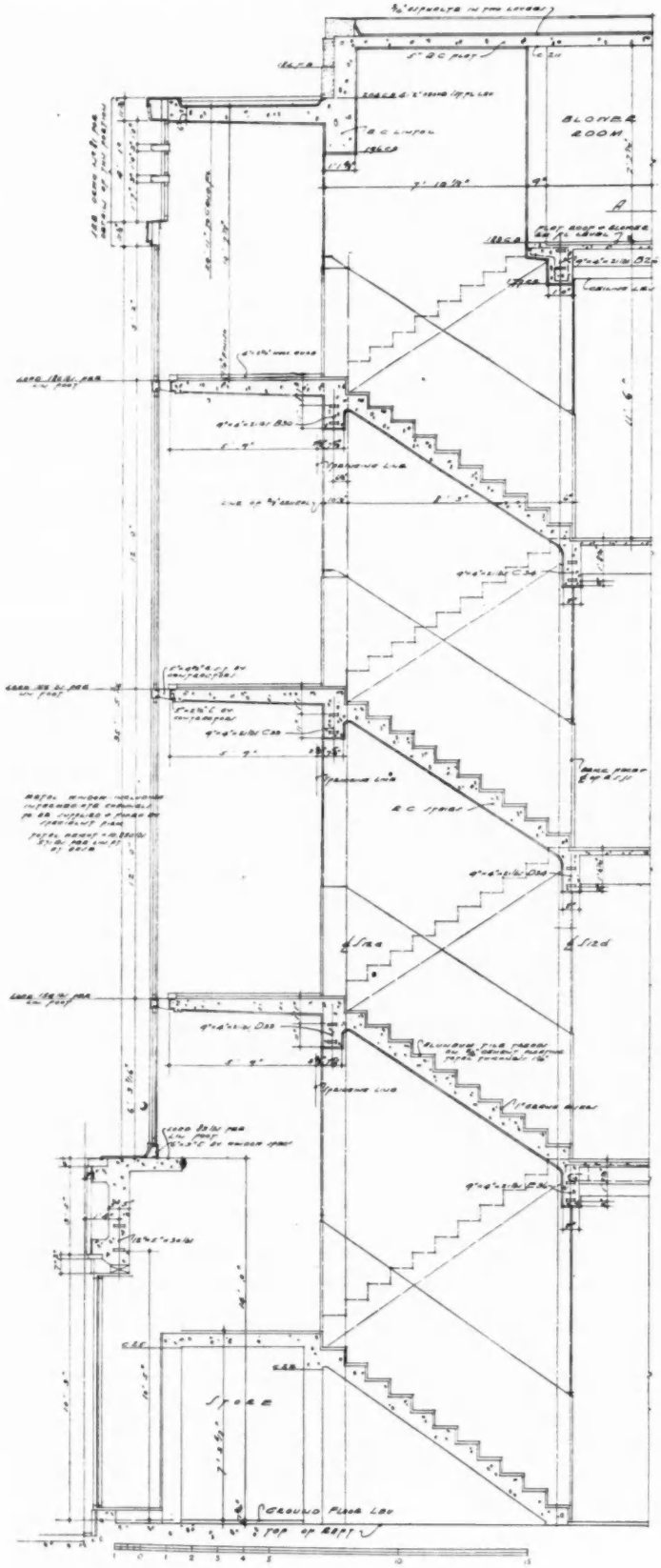
THIRD FLOOR PLAN

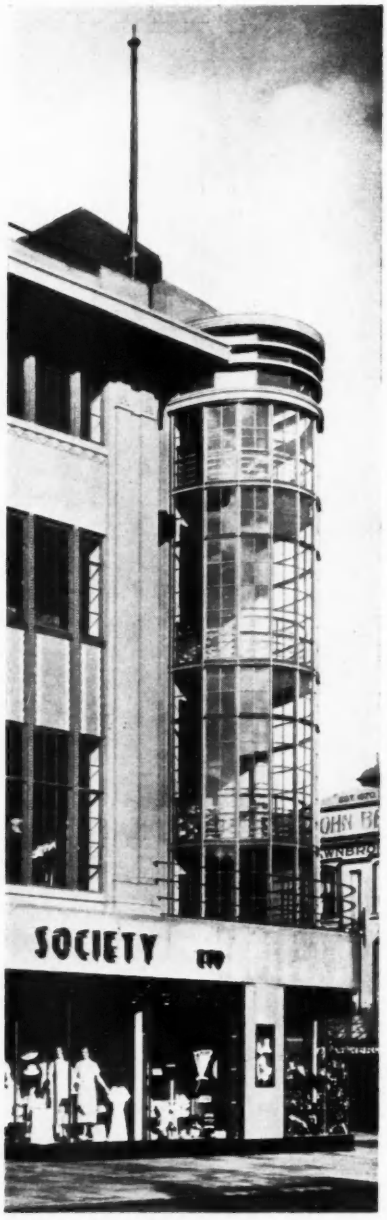


GROUND FLOOR PLAN

Ground floor plan containing the department store and display department, and third floor plan containing directorial offices and a large meeting hall. The intermediate floors contain the general offices.

CO-OPERATIVE SOCIETY'S PREMISES,





Above is an exterior view of the semi-circular staircase window, and on the left a section through the staircase. Working details of the window are given on page 270.

In this building the heating installation deserves special mention, being of an unusual kind. The actual source of heat consists of electrical conductors embedded in the thickness of thin sheets of millboard, which are applied as linings to the ceilings. The installation functions at a comparatively low temperature, and is entirely automatic in action. Heat losses are prevented by a system of cork insulation incorporated in the floors.

SOUTHPORT: BY W. A. JOHNSON

A view in the interior of the staircase, of which a section and external view are given opposite, showing the glazed show-cases inserted in the wall at eye level on the ground floor landing.

LETTERS FROM READERS

SIR GILES GILBERT SCOTT, R.A.
(President of the R.I.B.A.)
SIR PERCY HURD, M.P.
(Chairman of the Central Panels Committee.)
V. HARDING
M. L. ANDERSON
ARCHICONOMIST
ARTHUR WELFORD, A.R.I.B.A.
ARTUR G. BRAY
G. GRENFELL BAINES

The Advisory Panel System

SIR,—As your readers are aware, a system whereby the architectural profession can give assistance to the Local Authorities, as to the passing or rejection of plans submitted to them for approval under the Town and Country Planning Act, 1932, has been in existence for some years.

This system is generally known as the "Advisory Panel System."

A report by a Sub-Committee of the Central Panels Committee upon the extension of the existing organization has now been approved by all the bodies concerned, namely the C.P.R.E., the Institute of Builders and the R.I.B.A.

In order that the architect members of these panels may work on recognized and approved lines and also may be relieved of very difficult decisions where plans are submitted to them by their brother architects, the following Code of Procedure is being sent to the secretaries of the panels for their guidance :

(1) The decision of a Panel to advise a local authority to disapprove plans should only be given in cases where the design is illiterate and injurious to the locality, and should not depend upon questions of style or personal preference.

(2) Where plans submitted by properly qualified persons come up for review by the panel, before advice be given to the local authority to disapprove such plans, attempts should be made by personal interview with the applicant if possible to arrive at a satisfactory solution. Where such an attempt fails upon an important scheme reference should be made to a special committee, consisting of five (5) members of the Art Standing Committee of the R.I.B.A. and four (4) members of the Central Panels Committee.

By the approval of the report it is hoped that the panel system may become more and more widely used and thus that there may gradually be an improvement in the general standard of design ; and by regularizing the functions and general attitude of the panels themselves toward the plans submitted to them, that the architectural profession itself will work together for a high object—which is common both to itself and the public at large.

GILES GILBERT SCOTT
(President, Royal Institute of British Architects)
PERCY HURD
(Chairman, Central Panels Committee)

The A.A. Exhibition of Students' Work

SIR,—Mr. Howard Robertson cannot help feeling that my point of view is is biased. He is right. My point of view is biased in favour of modern architecture ; that is architecture based on the use and coherent expression of modern scientific methods.

Because a material or method of construction is in current use, it does not follow that this is a modern material or modern method of construction. I maintain that brick walls, and more so, timber roofs with dormer windows *are* old-fashioned, having been technically and aesthetically superseded by more scientific and modern building processes. It is surely the business of an architectural school to lead in the matter of modern technique and aesthetics, otherwise building will continue to lag behind the times and the only stimulating building be produced accidentally by engineers exploiting new methods of construction.

"The majority of students in the present-day schools, as well as the teaching staffs, are sincerely desirous of going as far in this direction as the present state of enlightenment and progress will permit." What does Mr. Robertson mean exactly by the present state of enlightenment and progress? The A.A. should lead and direct progress rather than follow somewhat timidly in its wake.

It is because I feel that the A.A. has such an urgent and responsible task before it that I venture to criticize the present results produced by the school.

V. HARDING
London

SIR,—Mr. Harding's letter in your issue for August 9, has that quality of absolute and inviolable certainty which is more refreshing when it is less indicative of immaturity.

So far as the A.A. curriculum itself is concerned Mr. Howard Robertson has already replied in what (were it not for Mr. Harding) I should consider to be unnecessary detail, and I have nothing to add. The remainder of the criticisms appear to be levelled, directly or by implication, at the Exhibition and at me as critic. The reply to these will be found in my original article—notably in the fifth paragraph.

M. L. ANDERSON
London

[*The fifth paragraph of Mr. Anderson's article ran as follows.*—ED., *A.J.*]

A casual walk round the exhibition, while producing a good deal of admiration both of freedom of design and of draughtsmanship, does not convey a true idea of the careful thought underlying the curriculum. "Research" is the key-word, and some imagination on the part of the visitor is necessary before it can be clear how far its meaning is taken. A student must have a *reason* for everything he does ; but even the "study sheets" (where they appear) show only those facts which are to be of actual use for the subject in hand ; they do not show the multitude of facts which, though learned, are for the moment irrelevant ; nor do they (nor can they) show clearly how design and construction are intricately woven together in the student's mind, so that each is regarded always in the light of the other. My great complaint about the exhibition is that the *output* of the school is given too much consideration, and the *methods* of and *reasons* for the output rather ignored. I have not the responsibility of putting the show together and so can afford to be glib ; and I feel that much is lost upon the visitor without some much more detailed review of the curriculum than is contained in the printed guide. I should like to see, if it be possible, a sort of pictorial lecture on the school's plan and policy. It is a most interesting educational scheme, whether applied to architecture or to anything else ; and I feel that the annual review of it should not lack the logical thought which is so admirably stimulated in the students.

Economics and the Architect

SIR,—I had hopes of stimulating a larger correspondence and a good deal more argumentative antagonism on the subject of credit reform and the Douglas Social Credit Scheme in these columns, but I have been disappointed.

Folk that have read the few letters on this matter which have been published I group as follows :—(i) Those that agree with the Douglas proposals ; (ii) those that disagree ; (iii) those that are not convinced but would like to hear more about them ; and (iv) those that don't care a damn. For the use of No. (iii) I append a bibliography.

Economic Democracy, by C. H. Douglas (Cecil Palmer. 6s.).

Bedsteads for reinforcement. *See Arthur G. Bray's letter on this page.*

Social Credit, by C. H. Douglas (3s. 6d.).
The Monopoly of Credit, by C. H. Douglas (3s. 6d.).
Economic Nationalism, by Maurice Colbourne (Figurehead. 3s. 6d.).
This Age of Plenty, by C. Marshall Hattersley (Pitman. 3s. 6d.).

There are also in existence two periodicals having the *Social Credit* policy. *The New Age* and *The New English Weekly*. The Green Shirts also run an organ, *Attack*, which can be obtained at their headquarters at 44, Little Britain, E.C.1. I add the name of another periodical, *The Week*, which, though not dealing directly with Social Credit, gives a good view of the happenings on the sewage farm of high finance which lies behind the delapidated paling of politics.

ARCHICONOMIST
London

SIR,—Mr. Biddulph covers a good deal of ground in his letter in THE ARCHITECTS' JOURNAL for August 16.

I can agree with him that "loose and erroneous statements . . . can only harm the cause of reform," but if he wishes for reform the rest of his letter is dyed-in-the-wool orthodoxy.

His statement that commercial(?) banks can *not* manufacture or destroy money at will is erroneous ; the reverse is true, and the facility is fundamental to banking. Also the system is relevant to world affairs.

Every bank loan or overdraft creates a deposit (money) and does not diminish any deposit already existing, and every purchase by a bank on its own account, whether of securities or otherwise, creates a deposit. Reversing the process every repayment of a loan and every sale by a bank destroys a deposit (see Post War Banking, by by the Rt. Hon. R. McKenna, chairman of the Midland Bank).

Banks can and do control the quantity and quality of money by both methods, at will and to suit their own business. That being "money lending," the implication is obvious.

When writing of the "real cost" of house building Mr. Biddulph confuses the cost of the loan to a bank with the cost of the same loan to a borrower. The real cost of a loan to a bank, for house building or for any other purpose, is the cost of writing up the figures in its books—which may be said to be nothing at all. The real cost to the borrower is the amount of the loan plus interest on it, which he has to collect and pay out of money already existing from previous bank loans (deposits). The total "debt" to the bank may amount to three times the amount of the loan if repayment be spread over a considerable period.

Mr. Biddulph's error is fundamental ; from it arise the others which it would be useless to discuss.

As Mr. Biddulph contends that banks do not create money at will, may I ask him to explain :—

(a). What does Mr. McKenna mean when he says " I am afraid the ordinary citizen will not like to be told that the banks or the Bank of England can create or destroy money " ?

(b). How does money increase ? Say, from the £1,000 million (approx. of deposits in 1914 to the £2,000 million (approx.) deposits in 1934 ?

(c). How, when and where was the first deposit made ?

(d). Who is the beneficial owner of Credit ?

ARTHUR WELFORD
Saxmundham

This Arshetecture

SIR.—Reference is made to the use of iron bedsteads as reinforcement in concrete under " This Arshetecture " in your current issue.

The photograph enclosed, taken last month at Penzance, might be of interest. You will note numerous bedsteads *and* spring mattresses.

ARTHUR G. BRAY
London

Perforated Pages

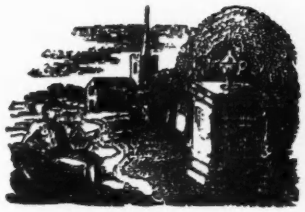
SIR,—May I advance a suggestion regarding your excellent publication, THE ARCHITECTS' JOURNAL ?

The idea occurred to me when tearing out the Working Details Plates for filing. Why not perforate the whole of the pages ?

The suggestion may have been made before, in which case I apologise, but, if not, I am sure that advertisers using your pages would consider the provision an advantage, as many architects detach the advertisements for future reference.

G. GRENFELL BAINES
Preston

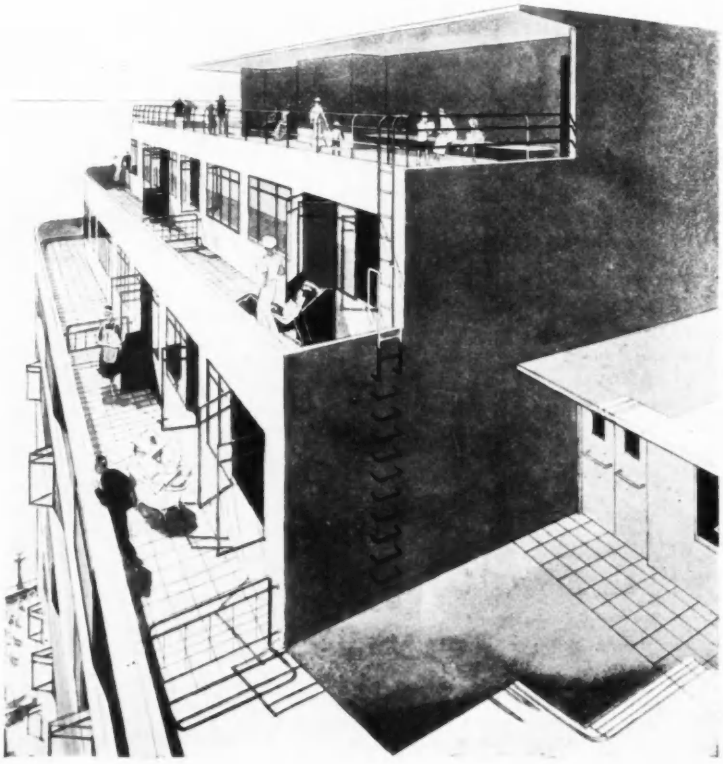
[*We are grateful to our correspondent for making this suggestion which, as a matter of fact, has been made before. There are, however, a number of technical objections to perforation throughout the issue, though ideally it might be the right presentation to aim at.*—ED., *A.J.*]



PYLONS IN THE NEW FOREST

Many visitors to the New Forest this summer have come to the conclusion that the Commissioners of Crown Lands made a mistake when they declined to accept the proposals put forward by the Central Electricity Board for the route to be taken by the pylons to carry the cables (writes a special correspondent). The Board, after a most careful survey of South Hampshire and out of regard for the amenities of the district, proposed a route among the scrub and running as far as possible on low and sheltered ground. Local magnates were immediately up in arms. The Verderers of the New Forest rejected the proposed route and the Commissioners refused to give sanction. Accordingly the pylons have been erected on high ground running round the Forest, where they are far more visible than if they had been erected on the route proposed originally, and they also disfigure the beautiful valley of the Avon.

EMBASSY COURT, BRIGHTON:



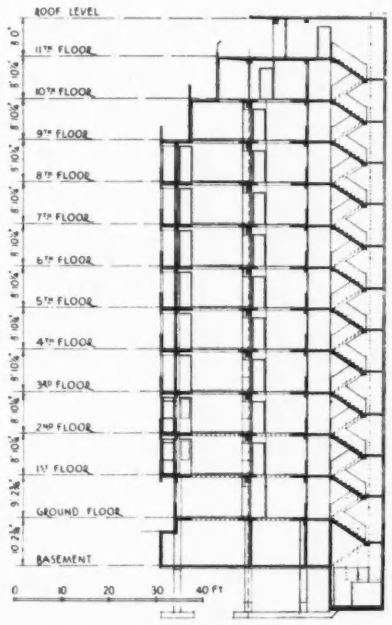
Above : a sketch of the building as it will appear from the sea front. Left : a sketch of the upper terraces, set back from the general building face. The two lower terraces shown are private balconies for the various flats and the upper one provides communal recreation space for the whole block.

This block of flats, which is now under construction, will be twelve storeys in height and will contain flats of nine different types, the rents ranging from £155 for a flat with one bedroom, one reception-room, bathroom, and kitchen to £500 for a flat with three bedrooms, two reception-rooms, two bathrooms and kitchen. Each flat has an open balcony and a glass-enclosed sun-room that can also be thrown open in fine weather (see fenestration details on later pages). A continuous open gallery at the rear serves the goods entrances and emergency stairs. In the basement, as well as the heating and electrical installations, are a general garage and a number of private lock-up garages.

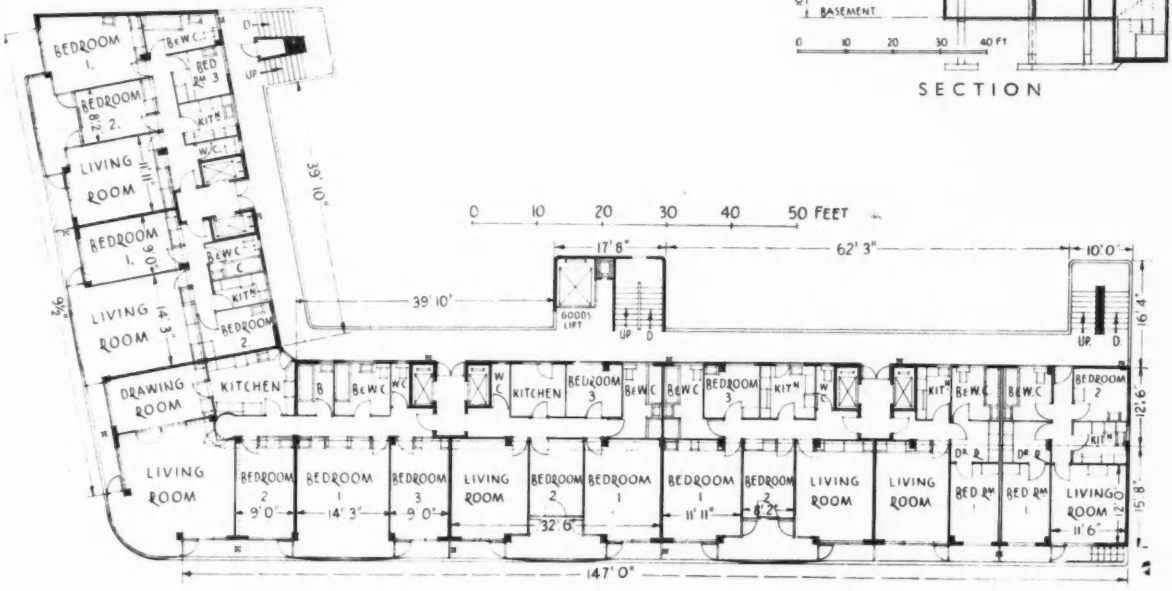
BY WELLS COATES

The building was originally designed for the system of reinforced concrete construction known as the D.B.G. (diagonal beam grid) system, which has been successfully used on the continent and has the advantage of giving a continuous floor of minimum thickness without projecting beams in the ceiling, allowing complete flexibility of internal planning. The inventor of this system, Dr. Szego, of Budapest, paid a visit to England to study its application in this particular case. However, the local authorities refused to sanction this form of construction in their area, and the use of it had to be abandoned.

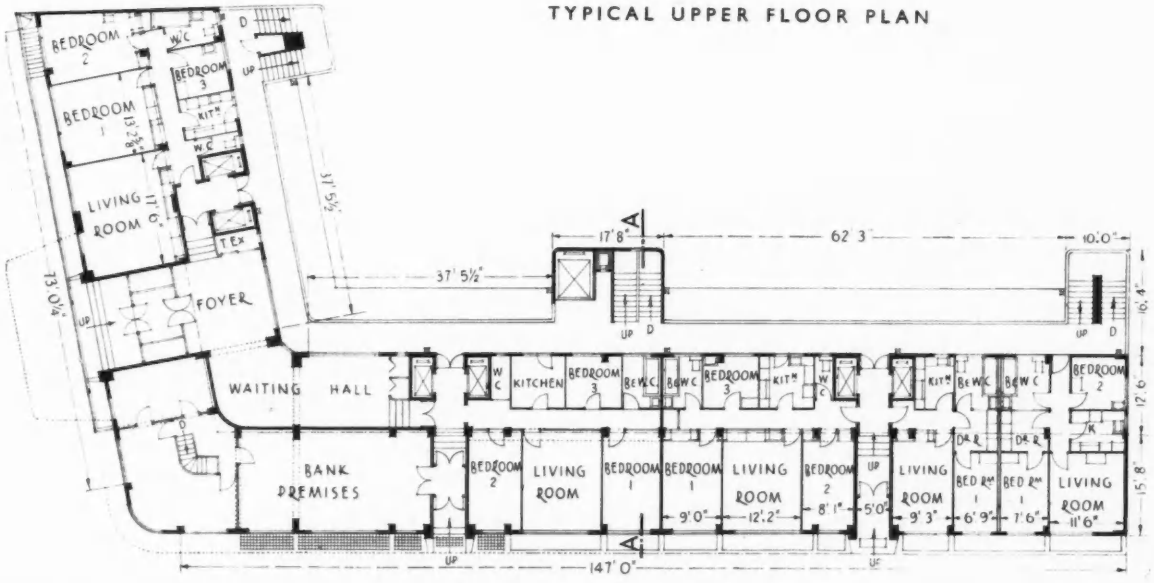
Wishing still to avoid projecting beams, the architect designed an alternative method of construction which is now being carried out. Under this system the three pairs of lift shafts, together with the solid wall connected with them that runs the whole width of the building, act each as a single homogeneous stanchion between which the floors span over intermediate piers—all in reinforced concrete. The balconies on the front and the gallery along the back are cantilevered out from these piers, the division and external walls being non-structural. The three projecting staircase blocks act as stiffeners on the lee side of the building.



SECTION

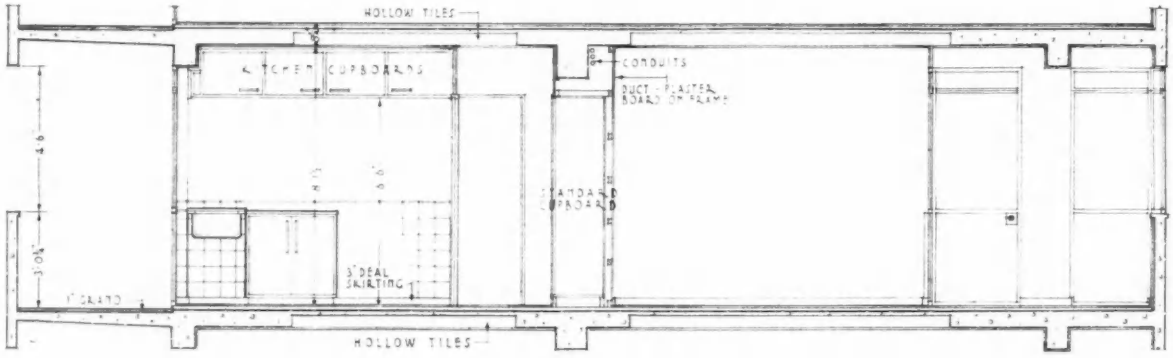


TYPICAL UPPER FLOOR PLAN



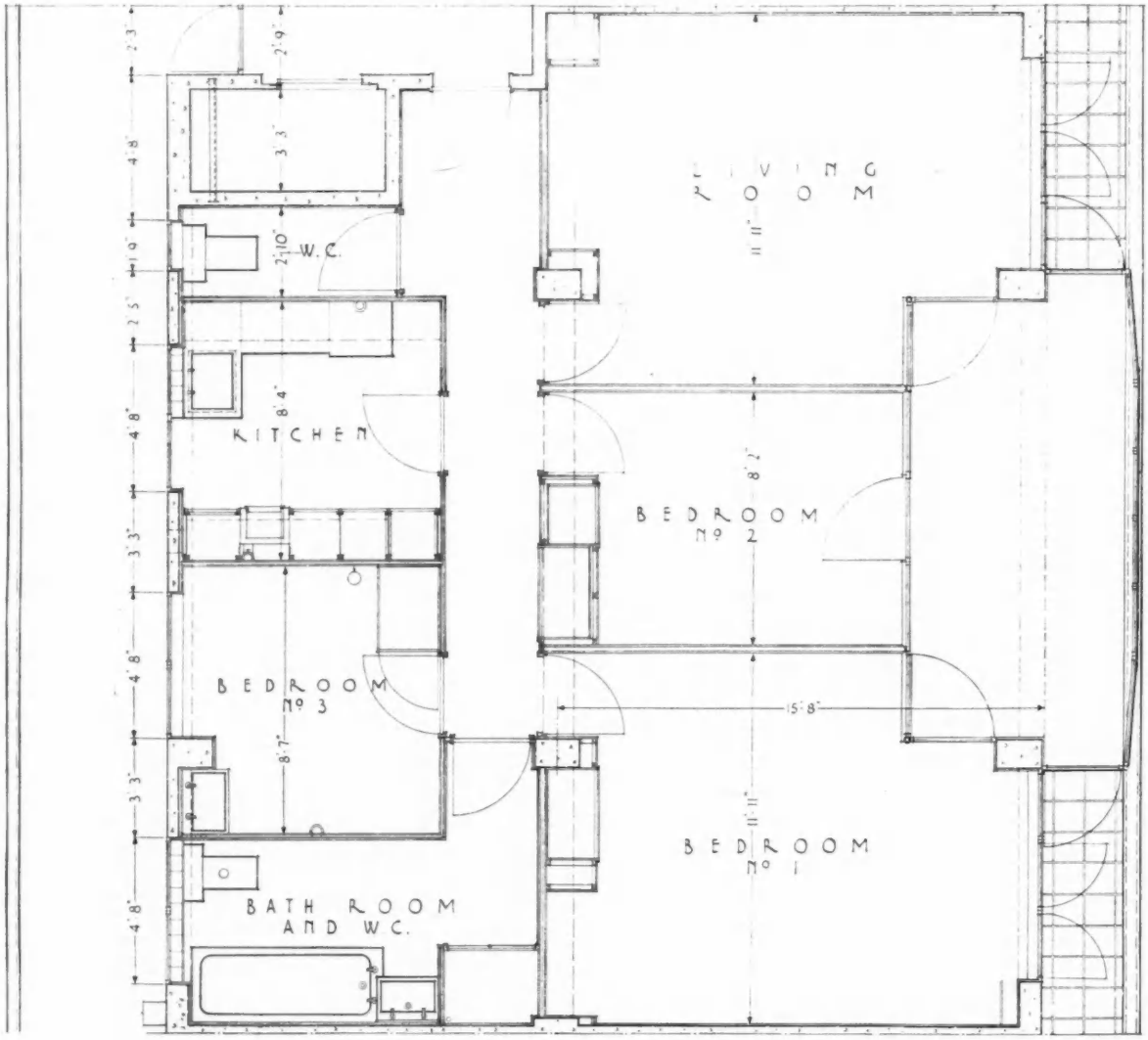
GROUND FLOOR PLAN

EMBASSY COURT, BRIGHTON:



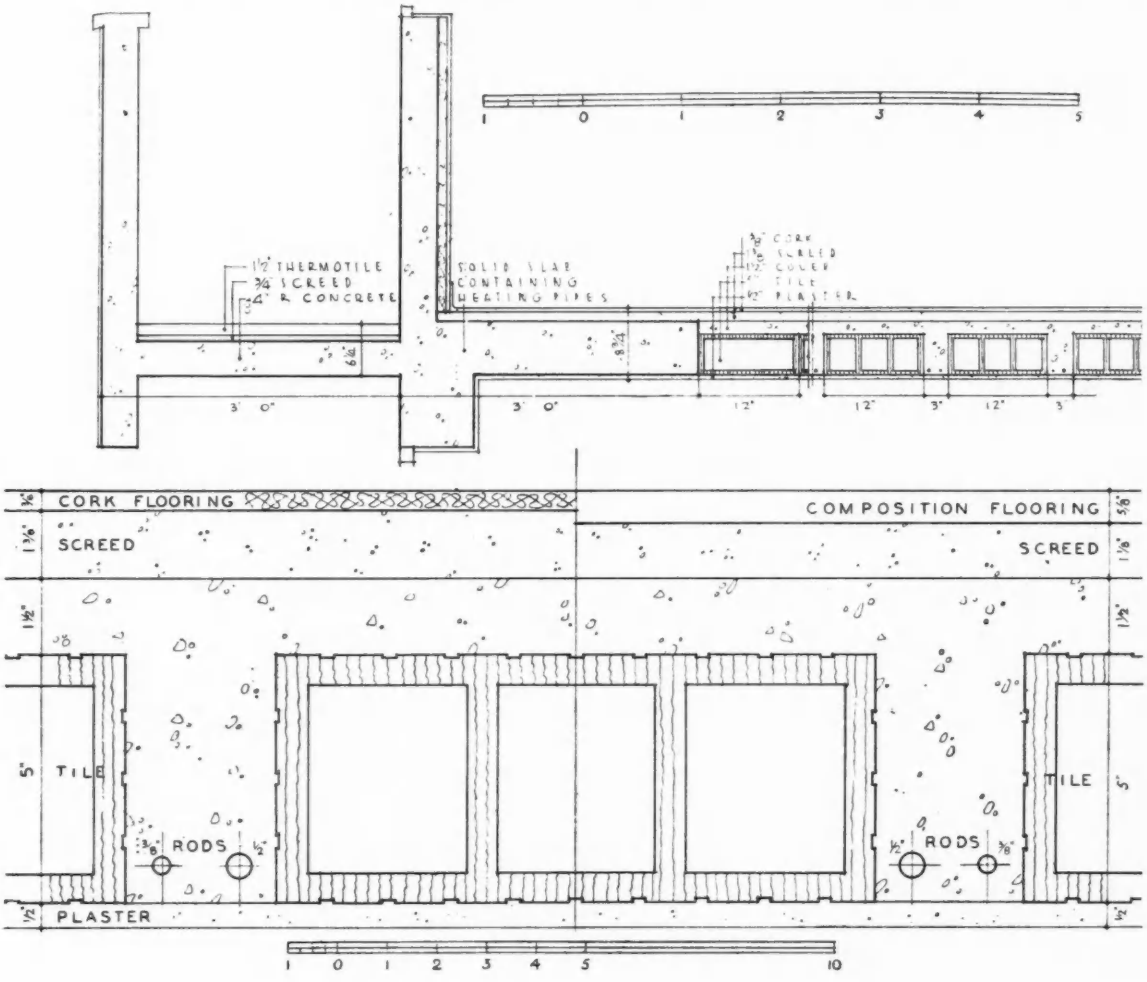
CROSS SECTION

SCALE OF FEET 0 1 2 3 4 5

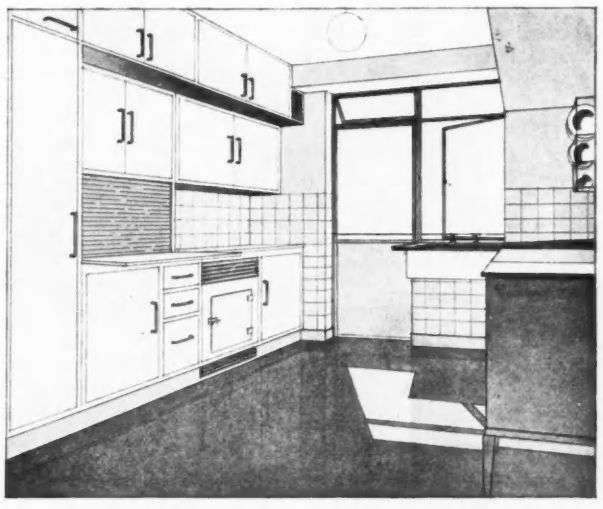


Above is the plan of a typical flat. The glazed sun-room, accessible from living-room and both bedrooms, which is standard throughout the flats, is shown in detail on pages 271-272. At the top of the page is a cross-section through one floor of the building. The walls are rendered externally and have internal insulation of cork.

FLATS UNDER CONSTRUCTION



The cross-section on the facing page shows the floor and wall construction, the cantilevered balconies and the method of boxing in the beams that connect the internal piers to provide a duct for services. On this page, above, is a detail of the floor construction. The solid concrete floor is projected three feet on the inside of the beam to counterbalance the cantilevered balcony, the rest of the floor being of hollow block type. In the large scale detail the cork flooring shown is used in living-rooms and bedrooms and the composition flooring in kitchens and bathrooms. The sketch on the right shows the interior of a typical kitchen.

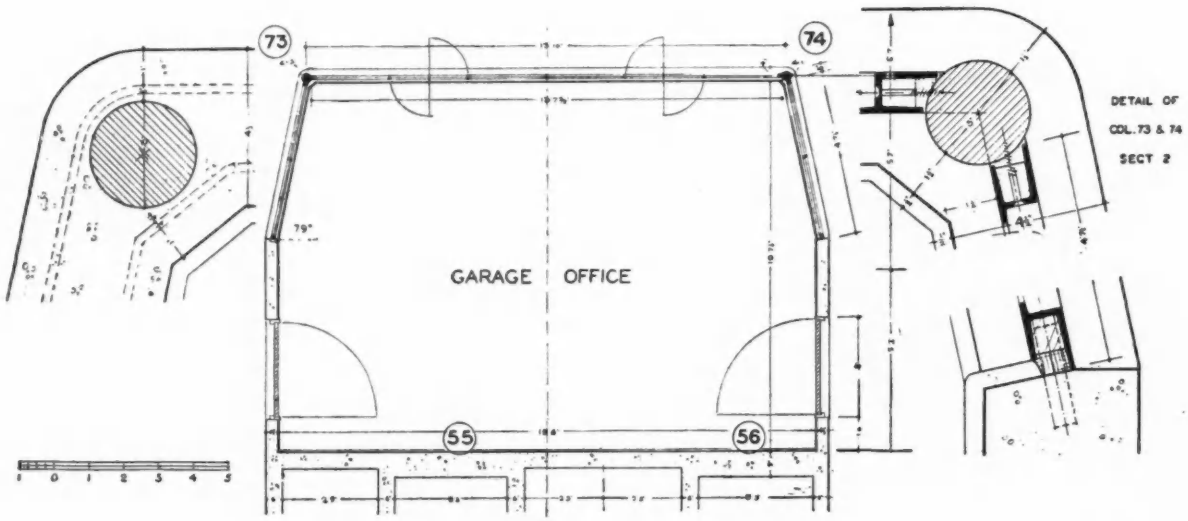


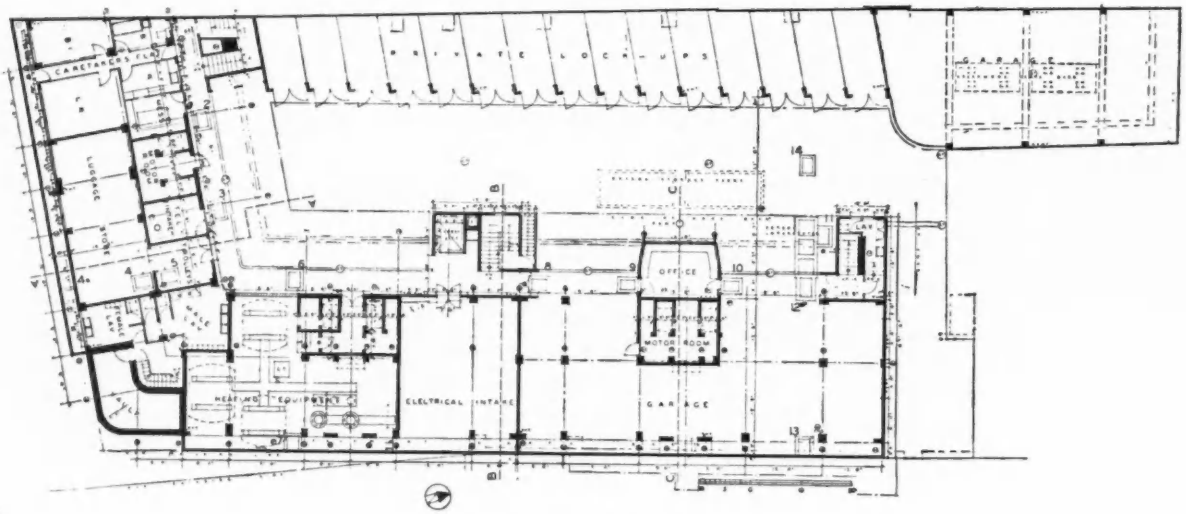
DESIGNED BY WELLS COATES

EMBASSY COURT, BRIGHTON

DESIGNED BY WELLS COATES

Left : a sketch of the courtyard at the rear showing the garage entrance with glass fronted control-office, the tiers of service galleries and, on the right-hand side, the private lock-up garages. Below are the basement plan and an enlarged plan of the garage control office, with details of its window construction.

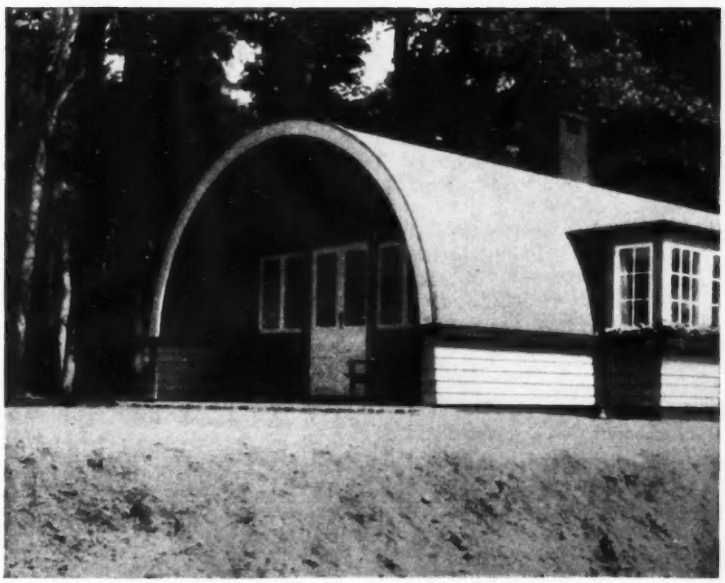


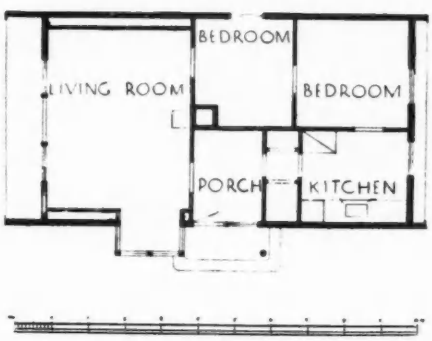


BASEMENT FLOOR PLAN

HOUSE ON THE DANISH COAST

The simplified and very inexpensive type of wood construction used in this house has been designed for small buildings such as holiday camps, summer schools, farm buildings and week-end cottages. It consists of curved rafters fixed at the foot to a wood cill and covered on both sides with insulating paper and boarding, the boarding being plastered on the inside and sheathed on the outside with waterproof material. Further insulation can be obtained by filling in the space between the rafters, but even when this is left open houses of this type of construction have been found warmer and as dry as those with 14 in. brick walls. The example illustrated here, being near the coast, has no bathroom. The cost was less than half that for a house of the same area of ordinary construction. The illustrations shown are two exterior views, a sketch of the interior of the living room and the plan.

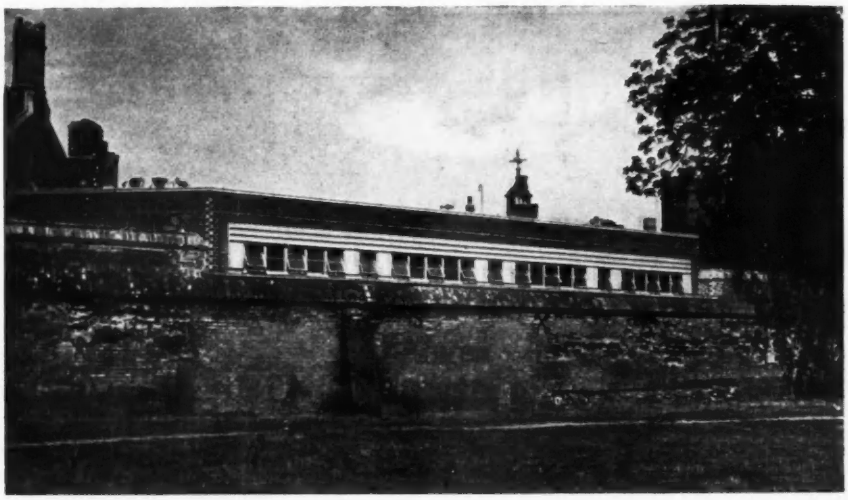




DESIGNED BY CARL BRUMMER

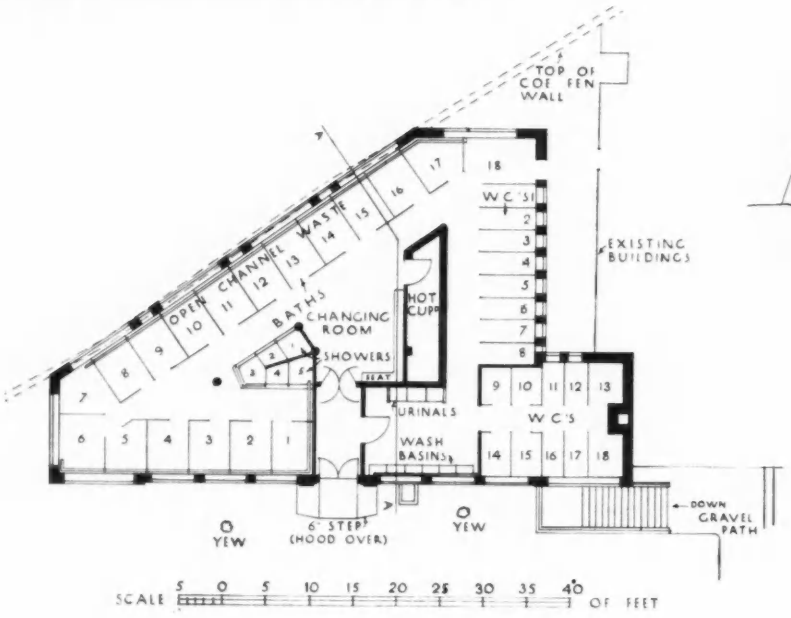
COLLEGE BATHS AT CAMBRIDGE

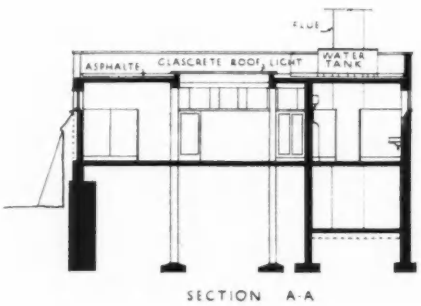
DESIGNED BY H. C. HUGHES



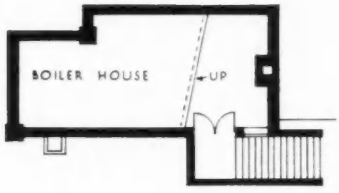
This is a block of 18 baths and 18 w.c.'s, built for Peterhouse College. It is on a triangular site between the pen side of the third (or Gisborne) Court of the College and the mediæval wall. The old wall has been incorporated in the wall of the new building, which looks over it across Coe Fen, the level inside the College being about four feet higher than that of the Fen.

The building has been designed to take a possible future extension of two more storeys, which would be arranged round a triangular light-well and approached by an outside staircase.





SECTION A-A



Model of the Cité Hospitalière de Lille, designed by Paul Nelson: view from the south-east.

LITERATURE

THE COMPLETE HOSPITAL

[*By Robert Townsend*]

Cité Hospitalière de Lille. By Paul Nelson. Paris: Editions "Cahiers d'Art." Price 27s. 6d.

CONTEMPORARY architects tend more and more to consider the "problem"—the resolution of the programme, to be the fundamental feature of architectural endeavour, purely formal and æsthetic aspects being relegated to second place. A great many architects fail to solve the contemporary architectural problems in all its aspects because to do so involves a personal sacrifice on the part of the architect. It means the dumping of a great number of conceptions that no longer have a place of importance in modern thought, which is becoming more and more workmanlike—and less complacent. The result is that these architects bewail most clamorously that the hard-heartedness of the business world compels them to sacrifice the refinements of their beloved "architecture" to "practical" considerations. They do their best to drag in little bits in unseen corners and under "modernistic" guise. They lack the courage to grasp living reality.

This unwillingness or inability to think on a new and revolutionary basis is probably responsible for the tremendous interest in the designing of hospitals and hospital competitions; for in the majority of hospital work a rigid programme is laid down, with the result that some sort of solution can be produced by ingenuity and jig-saw puzzle methods with the minimum of thinking. The more cut and dried the requirements the better the average architect likes it—the more he is told to do the less he has to think.

Mr. Nelson, in his design for the Hospital at Lille, has not been content to take an already formulated list of requirements; he has started by building up a programme based on the analysis of the vital purpose of the hospital—the restoration and maintenance of health. From this basis he has constructed the complete organization—how complete it is can best be seen from a close study of this book in which the hospital is illustrated and described. The smooth running of a hospital depends entirely upon its organization, and Mr. Nelson has striven to make this as perfect as possible.

There will be controversy over the conditioned-air ventilation, over the mode of constructions and over many details, but I think there will be very little controversy over the organization of the scheme. It is seldom that architects are presented with so complete a review of a single scheme. The whole conception is represented minutely in this volume and this makes it a particularly valuable piece of work. This book, like that other very interesting survey of a single scheme, *Groupe Scolaire de Villejuif*, is edited by "Cahiers d'Art"—and the production is very good. It is very pleasing to find the information concerning each plan made as full as possible—the marking of the plans is clear and the idea of translating the captions and information

into English and German is very happy. It is to be hoped that this scheme which Mr. Nelson was commissioned by the city to prepare will be realized—and provide a great stimulus to all architects.

THE UNDERSTANDING OF ART

[*By Myfanwy Evans*]

Fine Art. By H. S. Goodhart-Rendel. Oxford: The University Press. Price 3s. 6d. net.

THIS book is not, and does not profess to be, pure æsthetics; it is an introduction to the arts, consisting of a common-sense survey under four headings: The Materials of Art—what is it made of?; The Making of Art—how is it made?; The Enjoyment of Art—what can we get from it? and The Criticism of Art—how can we test its quality? (A little like the programme of a nature film.) Each of these problems was the subject of a lecture delivered by Mr. Goodhart-Rendel at Oxford in his capacity of Slade Professor of Fine Art. He has tried to deal with the questions practically rather than theoretically—to indicate practical methods of approach for the artist and the art-lover. It does not therefore seem to me common-sense to have tried to deal with all the arts at once. Only the abstract generalizations of pure æsthetics can do that, and in lectures of this kind any such attempt leads to constant misunderstandings. In some places the arts are considered separately; in others yoked together in uneasy twos and threes, with qualifications for special cases. When the reader meets a generalization he finds himself applying it to a single art (the one with which he is most pre-occupied at the moment) and disagrees with it, only to discover that it should be applied to Art as a whole: or he applies it to art as a whole when it should refer only to one particular one. The fact that he is supposed to be dealing with "the fine arts" makes Mr. Goodhart-Rendel feel that he must at least mention every art—and so he goes out of his way to make a very silly remark about the cinema. He says first of all that "Cinematographic art *by its reliance upon photography*. . . .remains for the present a fantastic subdivision of the Drama" (my italics). He then goes on, as an admirer of Mr. Disney, to suggest that painting should entirely take the place of photography; which shows a complete misunderstanding of the subject. All this is very tiresome, and is not fair either to the author or to his readers.

At the beginning of the first lecture Mr. Goodhart-Rendel divides the arts into Useful, and Fine. The first "must serve and may please," the second "must please and may serve." Architecture he divides into two, a fine art—Architecture proper; a useful art—Engineering. Later he compares architecture with sculpture, saying that the difference between them is one of degree, not of kind—both of which views seem to me to suggest that a work of architecture might either be hollow, or solid all through, providing it were massed and finished gracefully. In another lecture, Mr. Goodhart-Rendel says that no work of fine art ought to be produced save for a special place and purpose—thus contradicting his first proposition, which perhaps is as well.

One other cause of this kind of discrepancy is that Mr. Goodhart-Rendel never makes it quite clear whether he is speaking of past, present, or future art; and whether he is narrowing his consideration down to things which can ideally be called works of fine art, or whether he is widening it to include everything that has ever been considered as such.

In "The Materials of Art" there is a distinction made between material and vehicle—in music sounds are the vehicle, but the ideas of sounds are the material—in painting flat shapes and colours presented on the canvas are the vehicles, but the ideas of them are the material. This method of analysis is used in order to show that a work of art can be completed without ever being presented—that is, a symphony can be composed without musical instruments, or a building designed without bricks. But if such an analysis is begun it seems that it ought to be carried further (into subtler if less practical distinctions). The materials suggested here are really only the mediums. My creative idea may use the medium of musical sounds to express itself, then the piano will be its vehicle; but my conscious thought and emotions influenced by the subconscious are the ultimate material of any work of art I may produce. Mr. Goodhart-Rendel has a good deal to say about the subconscious but not in this very important place.

The general approach to the question of taste in the third lecture is far more sympathetic and broadminded than that of most specialists—I quite agree with Mr. Goodhart-Rendel's horror of recent experiments for testing good and bad taste. His resolute determination not to muddle abstract art and mathematics, by insisting on its ultimate appeal to associations is refreshing.

Reading this book has revived an old doubt as to whether it is really satisfactory to print lectures verbatim. Very often what can be said in a lecture with complete clarity does not get across in print.

LAW REPORT

CITY BUILDING DISPUTE.

Franklin and others v. *Brass and another.—Chancery Division. Before Mr. Justice Clauson.*

THIS was an action brought by Messrs. L. B. Franklin, M. M. Keyser, J. A. Franklin, G. L. Schlesinger, E. A. Franklin and A. E. Franklin for an injunction to restrain the defendants, Sir William Brass and Sir Roland Thomas Nugent from making or continuing any alterations or additions to buildings on the site of Nos. 5 and 6 Throgmorton Street, E.C., which should exceed the heights of the buildings previously on the site, and so as to interfere with the light of the plaintiffs' premises, Nos. 31 and 33 Throgmorton Street, to any further extent than was permitted by an agreement made in December, 1899.

Mr. H. Christie, K.C., and Mr. S. E. Pocock appeared for the plaintiffs; and Mr. Spens, K.C., and Mr. Charles Harman for the defendants.

Mr. Christie said the action was to enforce the terms of the agreement of December, 1899. The defendants' premises were on the opposite side of the road to those of the plaintiffs, and the defendants were making alterations and additions to the upper floors of their premises, with the result that those premises would be higher than the buildings previously there and would interfere with the light of the plaintiffs' premises.

Mr. Spens, for the defendants, contended that the agreement of 1899 was solely to control light, and his submission was that the defendants could build as they liked so long as they kept inside the requisite angles of light.

The expert evidence for the plaintiffs was given by Mr. Charles Henry Gage and Mr. A. S. E. Akerman. Mr. Percy W. Waldram and Mr. S. Tatchell were witnesses for the defence.

In giving judgment his lordship said he was satisfied that the plaintiffs' building was just the same as it was before the operations complained of. Although there was a slight physical interference it could be spoken of as being so trivial that the Court would not interfere. He did not think it had made the slightest difference as regarded the enjoyment of any occupation of the plaintiffs' premises. He had to consider what were the rights of the parties as they flowed from the agreement. In his opinion on the proper construction of the agreement the plaintiffs' action failed. He did not believe, having regard to the fair meaning of the clause in the agreement, that there was any interference, for practical purposes, with the enjoyment of light to the plaintiffs' premises. If he had been able to construe the agreement favourably to the plaintiffs he would not have been able to grant a mandatory injunction. He did not believe that the damages would have been more than 40s., and the difference, assuming that the construction of the agreement had been favourable to the plaintiffs, would have been that the plaintiffs would have got the costs of the action instead of it being dismissed with costs against them.

His lordship accordingly dismissed the action with costs.

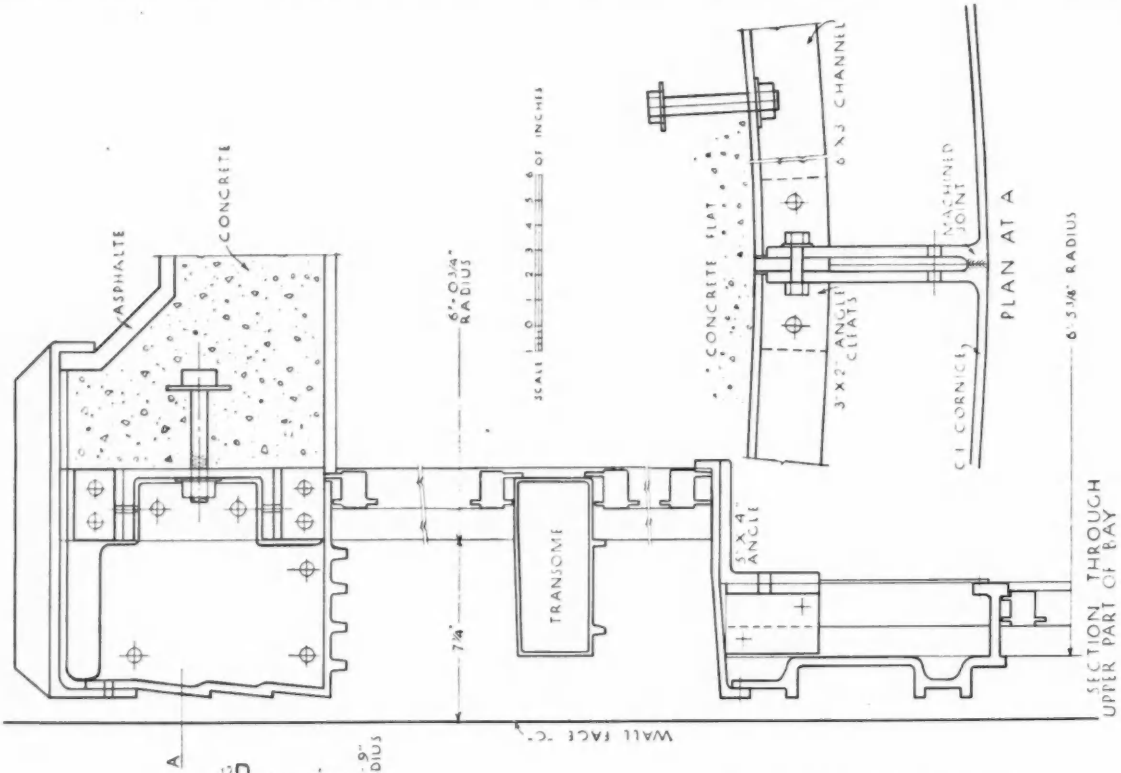
WORKING DETAILS : 105

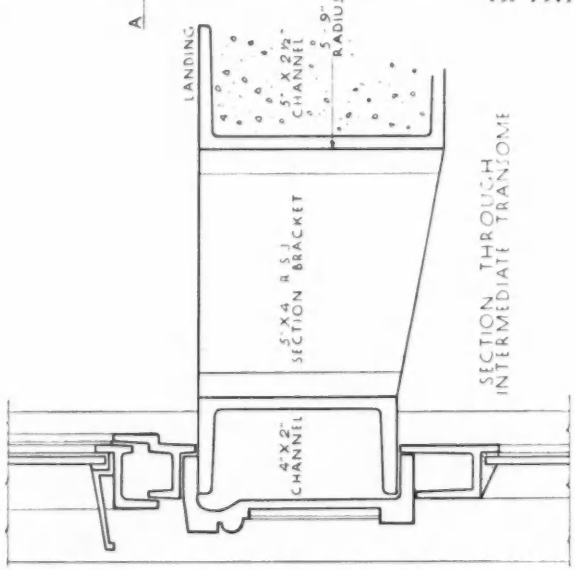
STAIRCASE WINDOW • CO-OPERATIVE PREMISES, SOUTHPORT • W. A. JOHNSON

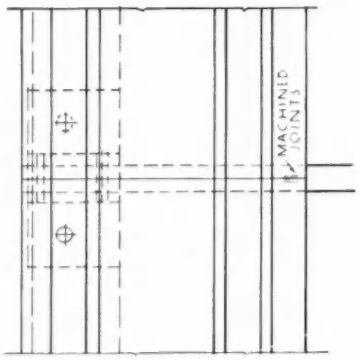
The semi-circular staircase window beside the corner entrance. Its construction is shown on the drawing overleaf.

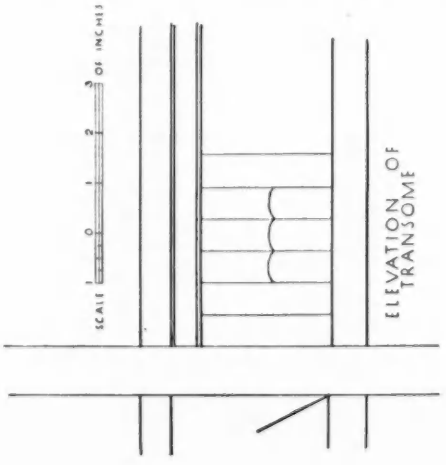
WORKING DETAILS : 106

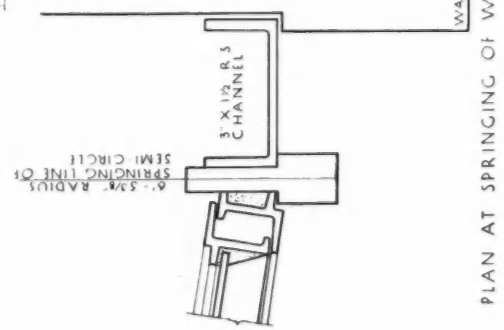
STAIRCASE WINDOW • CO-OPERATIVE PREMISES, SOUTHPORT • W. A. JOHNSON







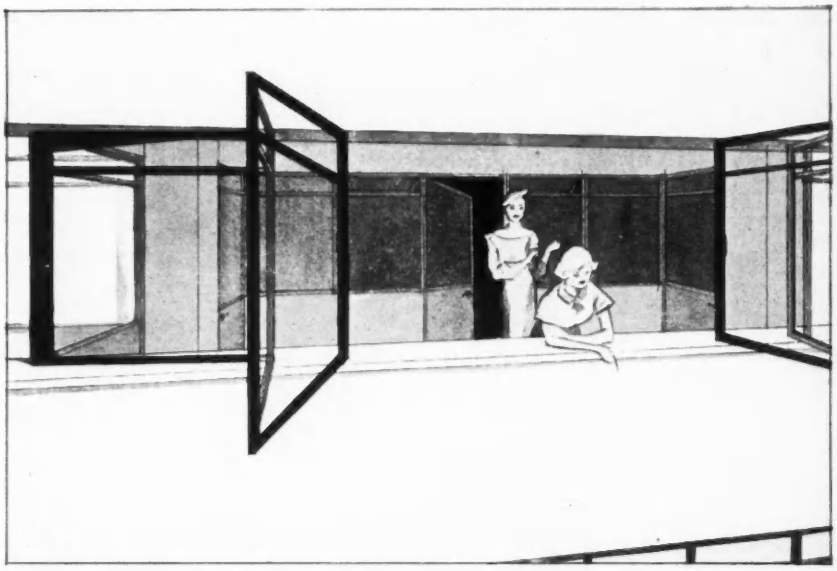




Details of the semi-circular staircase window illustrated overleaf.

WORKING DETAILS : 107

GLAZING OF SUN-ROOM • FLATS AT BRIGHTON • WELLS COATES



Above is a sketch of the standard fenestration to the glazed sun-room provided for every flat in Embassy Court, Brighton. The windows are of sliding-folding type, purpose made of standard metal section. The door at the side gives access to the open balcony, and there is access from three rooms inside (see plan reproduced overleaf).

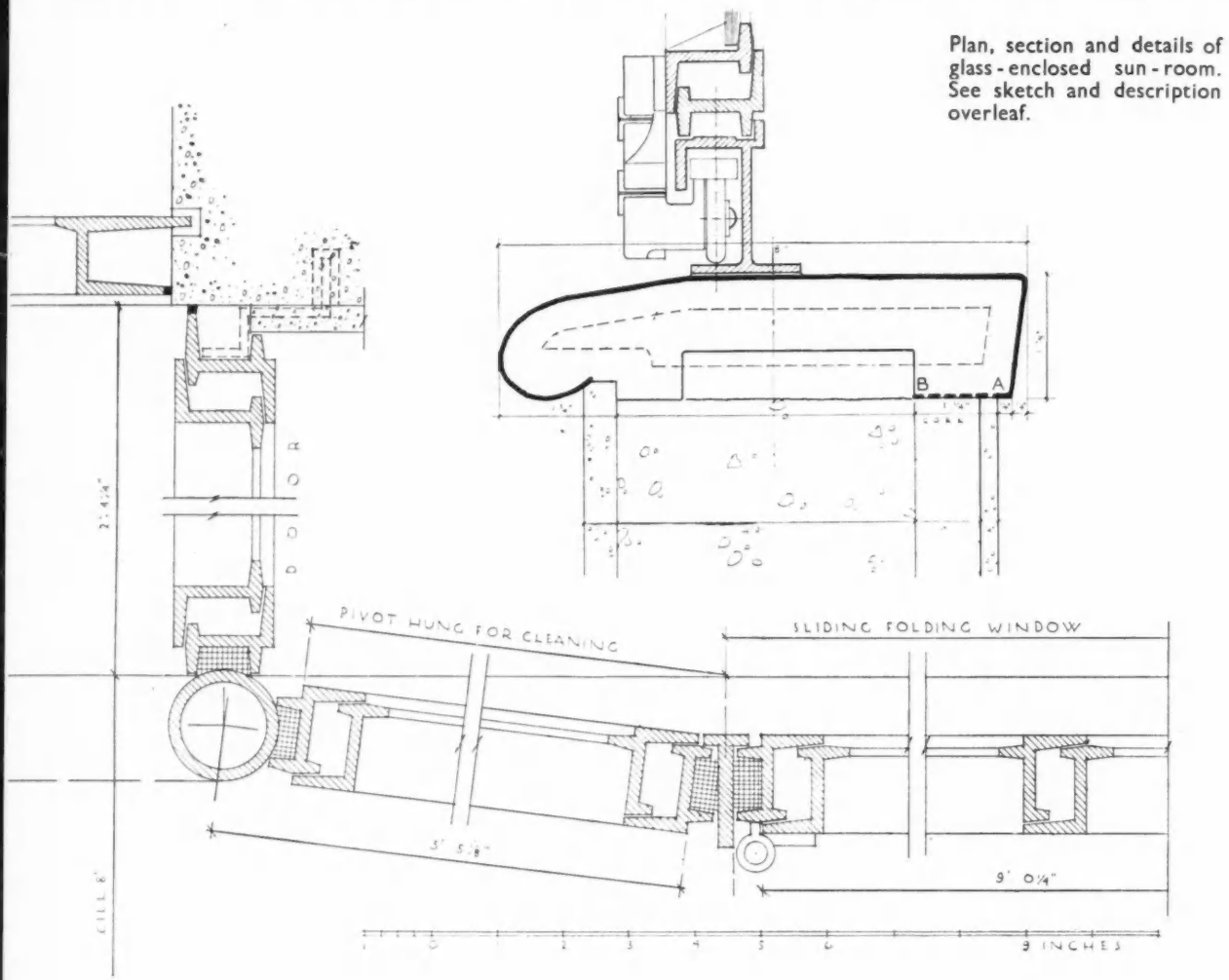
The slight change of plane in the side panels, though incidentally giving the elevation a more interesting surface, is functional in origin; it was desired to keep the glazing flush with the outside face of the balcony, and the angled return of the side panel direct to the tubular door-post avoids the necessity of a very wide corner-post (which would obstruct light and view) or a small panel of glass covering the thickness of the parapet wall.

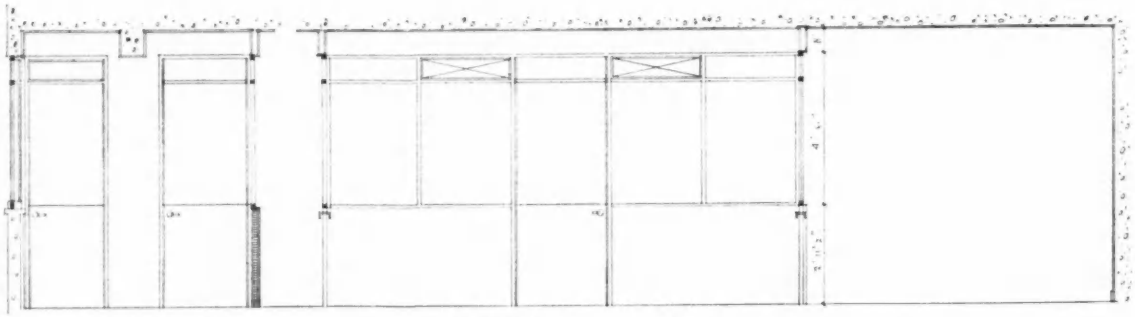
The drawings overleaf show lay-out and details of these windows. The balcony coping shown in the section, which is continuous along the whole length of the balconies, is of specially designed glazed tile.

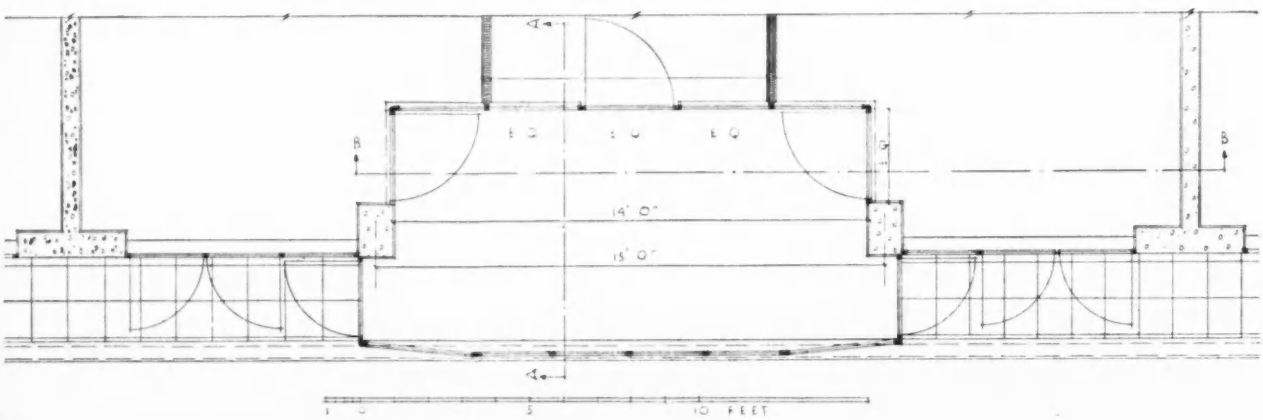
WORKING DETAILS : 108

GLAZING OF SUN-ROOM • FLATS AT BRIGHTON • WELLS COATES

Plan, section and details of glass-enclosed sun-room. See sketch and description overleaf.







IN THAT CONTINGENCY

The following abstracts of inquiries represent a number of those recently submitted to the Building Research Station. The information given in the replies quoted is based on available knowledge. It has to be borne in mind that further scientific investigations may in the course of time indicate directions in which the replies might be supplemented or modified. Moreover, the replies relate to the specific subject of each inquiry, and are not necessarily suitable for application to all similar problems. [Crown Copyright Reserved.]

Condensation in Underground Store

¶ *An inquirer had constructed an underground chamber for storing honey. The walls were in solid 9 in. brickwork, the floor was concreted and both walls and floor were then coated with a bituminous preparation. The floor was cement screeded over the bitumen. The walls were lined with ½ in. thick insulating board. The ceiling was also covered with insulating boards nailed to the underside of the 7 in. deep floor joists. Floor boards 1½ in. thick were laid on the joists and the space between was filled with sawdust.*

Access to the store was obtained by a trap-door communicating with a building over the store. Ventilation was provided by a 4 in. drainpipe connecting with the outside air.

The object of the construction was, of course, to keep the store both cool and dry. When the store was put into use early in April, the temperature remained constant for some time at 42° F. and then commenced to rise. When the store was visited at the end of June it was found that the ceiling was covered with drops of water, the tins of honey were covered with mist and both the insulating board and the floor were covered with mould. The temperature was 57° F.

The description of the behaviour of the honey store suggests to us that condensation of moisture is responsible for the damp conditions which have developed. The heavy deposition of moisture on the ceiling is characteristic of condensation and this may explain the dampness of the other surfaces and the dew deposition on the tins of honey. If seepage of moisture were responsible for the trouble, it would be expected that evidence of damp conditions would have been forthcoming earlier. Its occurrence at the particular period mentioned is significant.

It is thought, therefore, that the damp is caused by w arm moist air leaking into the underground store and depositing its moisture on the relatively cold walls, ceiling and foodstuff. The trouble appears to have been first noticed during a spell of wet weather.

If the dampness is caused by condensation, deposition should only occur when the weather is both wet and warm. At such times it would be advantageous to seal the cellar as perfectly as possible from the outside air.

During the warm, dry periods of the year, in order to keep the temperature as low as possible we would recommend that the cooling power of the night air should be utilized to cool the cellar. Forced air circulation should be adopted and used when the outside air temperature is lower than that of the cellar for, say, nine hours, from 10 p.m to 7 a.m. The air should be drawn in at the lowest part of the cellar and expelled near the top. The chamber should then be sealed from the external air. This procedure should serve both to dry the store and keep it cool.

The conditions which arise must unavoidably favour mould growth on any organic materials that may be used, and there is also a possibility of dry-rot setting in. The mould growths on the surface of the ceiling boards might tbe destroyed by painting with a 5 per cent. solution of magnesium silicofluoride. It will not be possible to treat the concealed surfaces, upon which mould is probably present, without dismantling the floor, but if drier conditions are produced in the cellar the development of mould will be hindered.

Staining of Plaster Over Creosoted Timber

¶ *THE engineer to a local authority reported that the wall plates, to both ground and upper floors in some houses on an estate erected under his supervision, had been impregnated with creosote before fixing, as a protection against dry-rot. Some time after completion, staining of the internal plaster developed over the creosoted timber in a considerable number of the houses. To remove the stains and prevent their reappearance, the following methods had been tried :*

1. Plaster cut out and made good.

2. Plaster given one coat of shellac knotting and distempered.

3. As 2, but one coat flat white paint instead of distemper.

4. Two coats aluminium paint ; one coat flat white paint.

5. Proprietary paint.

None had been entirely successful.

Owing to the penetrating quality of creosote, it was considered doubtful whether any treatment of the plaster surface would be entirely satisfactory, and it was recommended that the stained plaster should be cut out and the treatment applied direct to the timber. The difficulty of sealing the creosote into the timber is quite as great as closing the surface of the plaster, but by applying a sealing compound near the origin of the trouble the likelihood of sufficient quantities of creosote passing into the plaster to cause a stain at the surface is much reduced. Experiments have been made with a number of special preparations applied to freshly creosoted wood and subsequently painted with a white paint. The conditions are severe, and none of the treatments entirely prevented the staining of the paint, but, with the procedure recommended above, and in view of the fact that the timber was creosoted some time ago, one of the proprietary treatments supplied for the purpose might well be sufficient to prevent the staining of the new plaster.

An area of brickwork alongside the plates should also be treated, since some of the creosote will have been absorbed into the surrounding brickwork and may have "crept" for considerable distances.

An alternative treatment would be to cut away the plaster and apply a sheet of lead foil over the creosoted timbers and neighbouring brickwork, but it might be difficult to replaster over the metal.

Probably the most reliable method would be to batten out and replaster on lathing out of contact with the creosote, but this would involve a break in the plastered face. Since, however, the affected areas are presumably close to ceilings, a break in this position might not be considered very objectionable.

With regard to future work, it is suggested that if treated timber is to be used, a preservative other than a tar oil preparation should be used. Sodium fluoride or magnesium silicofluoride solutions would no doubt be satisfactory in this case. Instructions for mixing either of these are given in Forest Products Research Bulletin No. 1, "Dry Rot in Wood" (2nd edition).

Paving for Stables

¶ *AN inquiry was received from a builder with respect to materials which could be used for repairing the paving of some stables. The present pavement is of bricks, but these are badly worn. Information as to the relative merits of vitreous paving bricks and granolithic paving was desired.*

It is regretted that we have no test data for the wearing properties of vitreous paving bricks, but abrasion tests have been carried out on a number of hard engineering bricks and comparable results are available for a range of specimens of granolithic concrete. The results are tabulated below :—

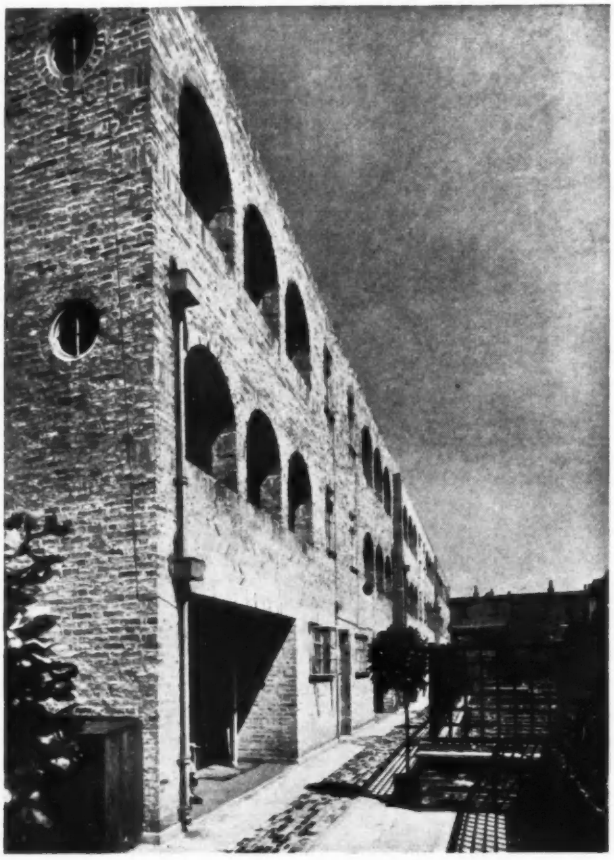
Material.	Amount of wear in abrasion test.
Granolithic paving	·025 up to ·1
Blue engineering brick (pressed)	·012
Red engineering brick (pressed)	·007 to ·008

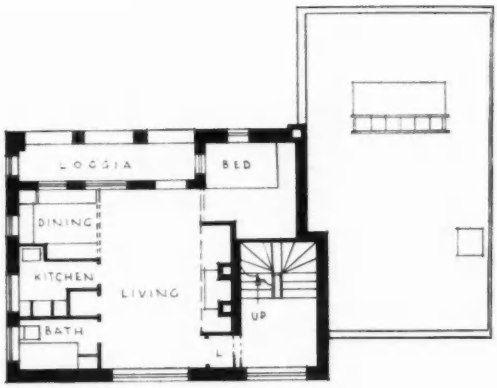
It will be seen that the engineering bricks are considerably more resistant to abrasion than the best of the granolithic pavings tested ; furthermore, it is quite possible that the special paving bricks may be even harder than the ordinary engineering bricks. On this information alone we should be very doubtful whether granolithic paving would prove as durable as hard paving bricks for the very severe conditions of the floors of stalls for heavy draught horses.

Another aspect has to be considered, however, viz., the suitabilty of a worn brick pavement as a base for the concrete paving. Granolithic concrete floor finishes are characterized by the richness of the mixes used. This implies a serious tendency for shrinkage crack formation and, owing to the fact that the floor will dry out at the top surface, there is a marked tendency for the paving to curl at the edges. These effects can only be restrained by thoroughly good adhesion to the base on which the paving is laid, and most of the failures of granolithic paving which are reported to us are due to failure of adhesion.

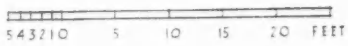
The conditions in the case with which you are concerned are far from favourable for good adhesion ; the bricks may be expected to have a vitreous texture with very low absorption indeed ; the joints, and to a less extent, the bricks themselves, will be contaminated with urine. Under these conditions the durability of a granolithic paving is problematical.

FOUR BLOCKS OF FLATS,





FIRST FLOOR PLAN



GROUND FLOOR PLAN

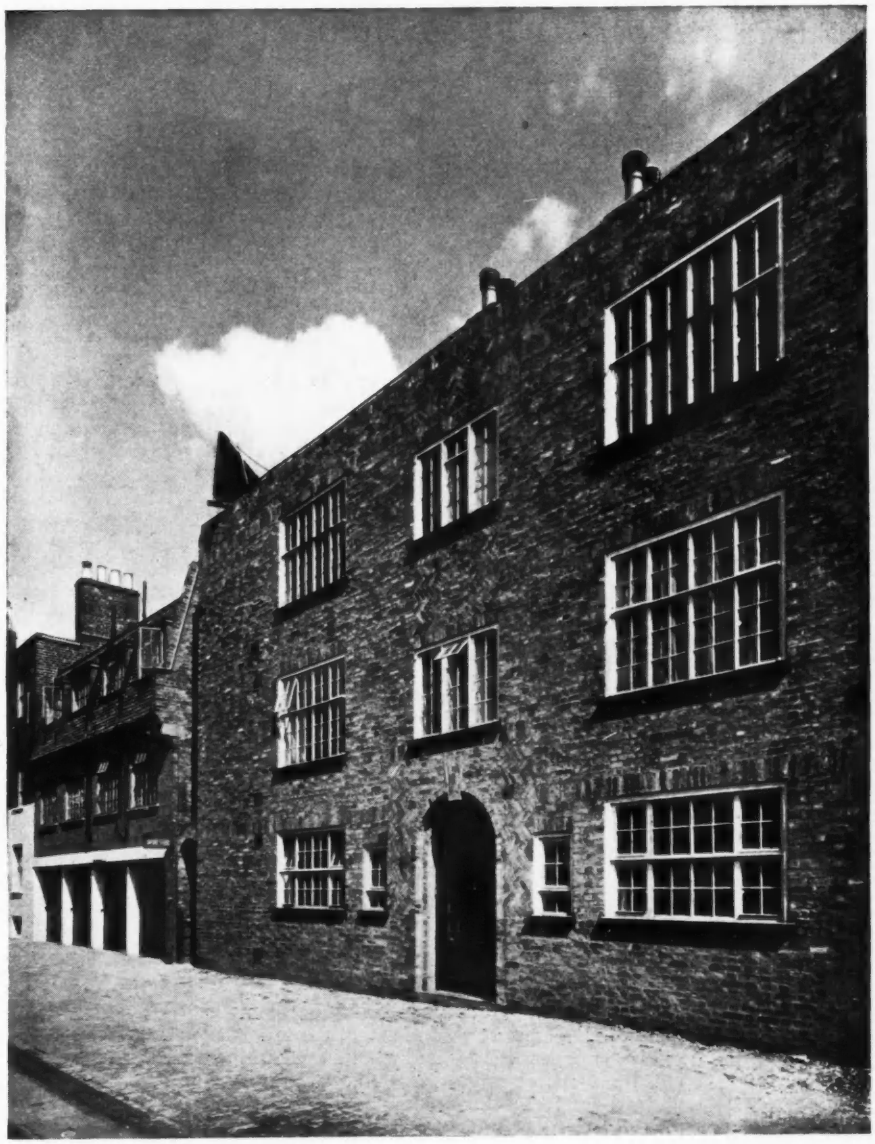
H. FELTON

DESIGNED BY AUSTIN BLOMFIELD

This series of flats consists of four units, three of them identical and the fourth, being on a corner site, differently planned. On this page are the plans of the corner block and two views of the rear elevations of the flats, the top one taken from the small back gardens, and the bottom one from the window of one of the houses in Cadogan Street opposite.

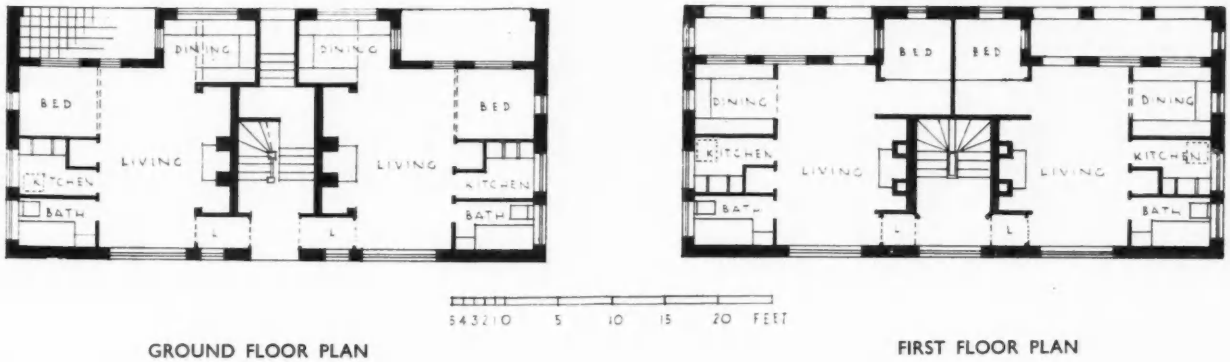
The flats are built in brick, the facing bricks being mixed old London stocks. These are laid in a herringbone pattern along the first floor balconies and, on the front elevation shown on the opposite page, in panels above the windows and around the door.

LITTLE ORFORD STREET, CHELSEA



H. FELTON

On this page are: right, a photograph of the principal elevation of one of the blocks to Little Orford Street, and, below, plans of the three identical units.



GROUND FLOOR PLAN

FIRST FLOOR PLAN

EXTENSION OF TIME

FOR BUILDING CONTRACTS

[*By T. J. Sophian*]

BUILDING contracts usually contain clauses providing for the extension of time for the completion of the works to be executed under the contract. Such clauses are essential for the purpose on the one hand of safeguarding the contractor, and on the other of preserving the right of the building owner to recover liquidated damages in the event of the time having to be necessarily extended where the contractor is called upon to do extra work not originally contemplated by the contract.

The effect of such a clause on the respective right and liabilities of the parties was recently considered in an important case that was tried before Mr. Justice Du Parcq, *Miller v. London County Council*.

The clause in that case was in a somewhat unusual form, since it conferred a power to extend time "either prospectively or retrospectively," and the decision given in that case determines the proper meaning to be given to the words "or retrospectively" when used in such a clause.

The material portion of the clause was in the following terms :—

"The contractor shall complete . . . the whole of the work . . . within a period of seven calendar months from the date of the engineer's order to commence. . . . Provided always that if by reason of additional work or enlargements of the work or for any other just cause . . . the contractor shall in the opinion of the engineer have been unduly delayed or impeded in the completion of the work or any part of it, it shall be lawful for the engineer, if he shall think fit, to grant from time to time, and at any time or times by writing under his hand such extension of time for completion of the work, *and that either prospectively or retrospectively*, and to assign such other time or times for completion as to him may seem reasonable, without thereby prejudicing or in any manner affecting the validity of the contract, . . . and any and every such extension of time shall be deemed to be in full compensation and satisfaction for and in respect of any loss or injury sustained or sustainable by the contractor in the premises, and shall in like manner exonerate him from any claim or demand on the part of the Council for and in respect of the delay occasioned by the cause or causes in respect of which any and every such extension of time shall have been granted, but no further or otherwise . . ."

The contract further provided for the payment of liquidated damages by the contractor in the event of his failure to complete the work by the contract time or such extended time as was granted by the engineer in pursuance of the powers contained in the previous clause.

The material facts were as follows: The original contract time for the completion of the work was November 15, 1931. Extra work was ordered by the engineer, and the whole of the work was not completed until July 25, 1932. Negotiations thereafter took place between the engineer and the contractor as to, *inter alia*, the length of extra time which should have been allowed. Eventually the engineer on November 17, 1932, long after the completion of the whole of the work, issued a certificate bearing the date July 25, 1932, stating, *inter alia*, that he allowed the contractor an extension of twelve weeks in respect of certain delays for which the contractor was not responsible, thereby making the extended time for completion February 7, 1932.

Subsequently, on February 3, 1933, the engineer further certified that £2,625 was payable by the contractor as liquidated damages in respect of the delay in completion, between the date of the extended time for completion, viz., February 7, 1932, and the date of the actual completion, viz., July 25, 1932.

The question accordingly arose as to whether there had been a proper exercise by the engineer of his powers under the clause for extension of time, and whether accordingly the contractor was liable to pay liquidated damages.

Now the general principle appears to be well settled, and it may be stated in the language of *Hudson on Contracts*, 6th Edition, at p. 359. The principle is as follows :—

"Where there is power to extend the time for delays caused by the building owner and such delays have in fact taken place, but the power to extend the time has not been exercised, either at all *or within the time expressly or impliedly limited by the contract*, it follows, unless the builder has agreed to complete to time notwithstanding such delays, that the building owner has lost the benefit of the clause. The contract time has in such a case ceased to be applicable, there is no date from which penalties can run and, therefore, no liquidated damages can be recovered."

In other words, where a time is stipulated for the completion of the work and then a delay is caused by the building owner, e.g., by requesting extra work to be done, the building owner can no longer rely on the requirement that completion shall take place by the original contract date.

To meet this a clause empowering the time to be extended is inserted ; but the power given to the building owner to determine what extension shall be allowed and to bind the contractor to complete the whole of the work by the extended time can only be effective if it is exercised properly.

For this purpose it must be exercised within the time expressly or impliedly provided for by the contract.

The next question accordingly that arises is as to the time when the power of extension must be exercised, i.e., at what time or times may the building owner (through the engineer or architect as the case may be) determine what extension is to be granted. On this point, again, one may refer to *Hudson on Building Contracts*, where this statement of the law appears :

"The extension of time need not necessarily, it would seem, be granted *before the contract date for completion*. If, for example, a strike were to last over the contract date, the extent of the delay might not be known, nor the necessary extension of time be granted, *until after the contract time had expired*. But each extension of time should, it would seem (depending always, however, upon the terms of the particular contract), *be granted at the time of the delay*, or *where the cause of the delay is continuing and its extent uncertain, within a reasonable time after the delay has come to an end*."

Now where the cause of the delay is not of an uncertain character, as, for example, where extra work is ordered by the building owner, the power of determining the extension of the time must be exercised and the actual extension must accordingly be specified at the time. This at any rate was the view taken by the Court of Appeal in New Zealand in the case of *Anderson v. Tuapeka County Council*, *19 N.Z.L.R.*, and it appears to have been approved by Mr. Justice Du Parcq in *Miller v. London County Council*.

In the above case, it was held that the alleged extension was ineffective because it was not allowed when the extra works causing the delay were ordered, the Court being of opinion that the extended time should have been fixed when giving the orders for the extras.

In the light of these principles, can it be said that the insertion of the words "or retrospectively" in the extension clause in *Miller v. London County Council* was intended to confer an extraordinary power on the engineer, entitling him to determine and grant the extension, not only after the contract date, but even after the substituted date for completion had gone by ?

Mr. Justice Du Parcq refused to construe the words in such a revolutionary sense. In his opinion the words "or retrospectively" were inserted merely

to make it clear that an extension should be valid even though it was not granted at the time, but so long, however, as it was granted within a reasonable time after the delay had come to an end. It could also, in his opinion, be read as meaning that an extension might be granted even though the *contract* date for completion had passed. The clause, however, did not confer any power to fix a new date for completion and grant extensions of time at some date subsequent not only to the contract date but to the substituted date for completion. In other words, there was no power under the clause to fix the extension of time, *ex post facto*, as it were, after the whole of the work had been completed. As this, in fact, was what the engineer had purported to do, there had been no valid exercise of the power within the time limited by the contract, and the building contractor accordingly could not be held liable for liquidated damages.

Another important point raised by the case was as to the right of the building contractor to be paid retention money. The contract provided that one-half of the retention money should be paid on the issue of the certificate of completion and the balance after the expiration of the period of maintenance. A clause in the contract, however, provided that no sum or sums of money should be considered to be due and owing to the contractor "unless the engineer shall in writing . . . have certified or recommended the amount to be paid as such *instalment* or *balance* to the contractor." . . . No such certificate, however, as the judge held, had been issued, although the engineer had given a certificate of completion.

Mr. Justice Du Parcq considered that the contractor was not entitled to the first half of the retention money, since the retention money came within the ambit of the clause requiring the engineer's certificate as to "instalment" or "balance," the issue of such a certificate being a condition precedent to the contractor's right to recover the money.

As Mr. Justice Du Parcq put it: "Retention money is money which is kept in hand as not being immediately payable although due. When the date for its payment arrives, that payment must, in my view, fall within one of the two named categories: it is either instalment or balance. It may be called a balance in the sense that it adjusts the amounts between the parties at that date. It may be called an instalment, because what the contract calls 'the final balance' still remains to be paid. It must, in my view, be one or the other."

As *Miller v. London County Council* is of great importance, all those interested or concerned with building contracts should carefully bear in mind the points decided by the case.

Mr. F. R. S. Yorke, A.R.I.B.A., is away on holiday. His Trade Notes will be resumed on his return at the end of the month.

Manufacturers' Items.

In addition to its well-known series of booklets, the British Portland Cement Association, of 20 Dartmouth Street, Westminster, S.W.1, also issues a number of memoranda notes and type specifications relating to concrete work.

Among the subjects so treated are the following: non-slip aggregates; curing concrete roads with bituminous emulsions; dimensions of swimming baths; concrete piling systems; concrete cricket pitches; concrete tennis courts; squash rackets courts; construction of model yacht ponds; heating of open air swimming bath water; suppliers of plant and accessories for swimming bath construction; precast concrete flooring systems; concrete playgrounds; in situ concrete floors; sampling concrete materials for laboratory tests; and suppliers of accessories for concrete road construction.

The notes and memoranda may be obtained by those in Great Britain actively interested in any one of the above subjects, on application to to the Association at the address given above.

*

Messrs. Lumbys, Ltd., of Greetland Boiler Works, Halifax, have recently marketed a new automatic steel sectional boiler for burning anthracite. The manufacturers, in a leaflet describing this new boiler, point out that "it is of the pressed steel sectional type and has *no fire grate* and *no ashpit*. The fuel is not burned in the ordinary sense but is converted into gas with a clear bright flame without any trace of smoke or carbon. The peculiar method of introducing warm secondary air in various zones of the interior ensure the spontaneous and complete combustion of the gases as soon as they are liberated from the fuel, and the curtain of fire thus liberated covers the whole of the economiser tubes. The boiler is operated by a small silent electric fan with about 1½ in. W.G. pressure and controlled by thermostat which automatically stops and starts the fan according to the flowpipe temperature. Under normal working conditions clinkering and refuelling is done every 24 *hours*, and is only a few minutes' task. Clinkering consists in removing two cakes of clinker, one on each side of the burner, and is *non-adherent*. The chimney temperature averages about 300° F. Combustion is complete and there is always a depression in the boiler which avoids accidents or explosions. Lighting is almost instantaneous and there is a strong production of gas 5 to 10 minutes after lighting. As a result of the perfect and smokeless combustion a fuel efficiency of *over 90 per cent.* is obtained.

"Cost of upkeep is cheap, as will be noted from following fuel values, bearing in mind also the saving in attention.

"London Gas Coke at 12,500 B.T.U. per lb. used in a Boiler working at a usual efficiency of 65 per cent. and costing 40s. per ton, costs 2½d. per 100,000 B.T.U.

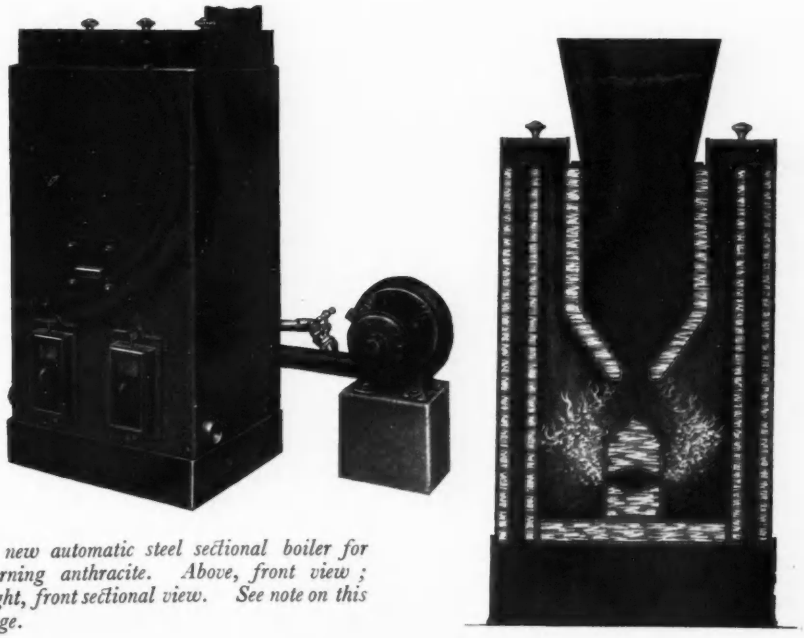
"Anthracite at 15,000 B.T.U. per lb. used in Lumbys Automatic Boiler working at 90 per cent. efficiency and costing 35s. per ton, costs 1½d. per 100,000 B.T.U."

Two illustrations of the boiler are reproduced on this page.

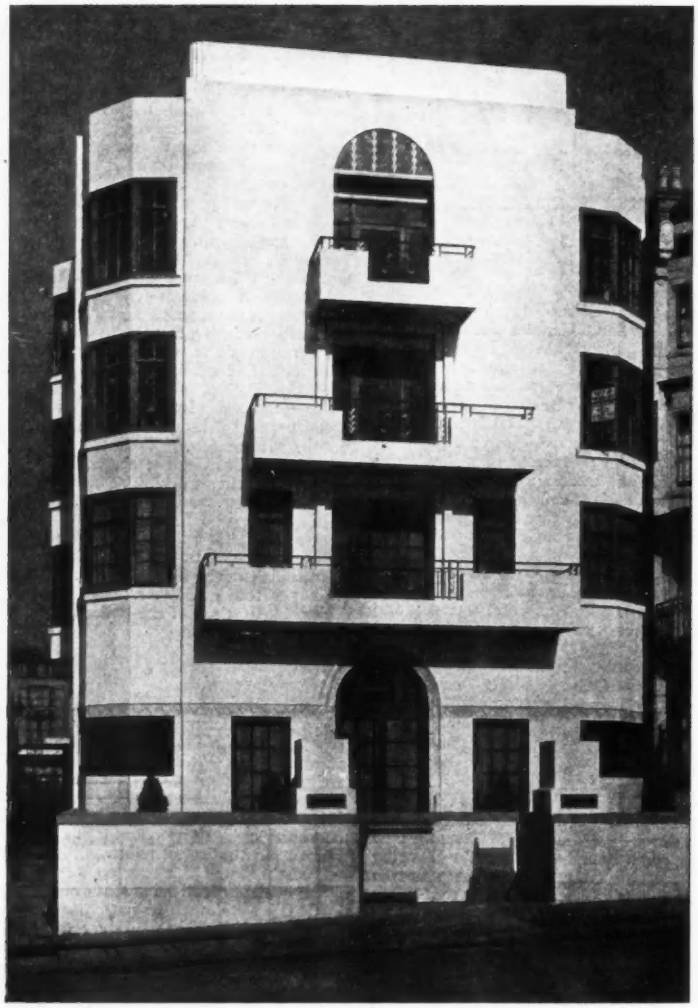
*

Mr. Alfred Bossom, M.P., F.R.I.B.A., in a foreword to *White Lead Paints*, a book recently issued by the White Lead Publicity Bureau, writes: "Building, construction and property maintenance form one of the largest and most important industries in the world, and their continual expansion connotes a corresponding increase in the use of paint. It has been estimated that some £10,000,000 is spent on paint alone in the United Kingdom every year, quite apart from the much larger expenditure on the operation of painting. Every architect, surveyor and engineer, therefore, or indeed anyone connected with the upkeep of property, has a vital interest in this subject.

"This book, as its title implies, contains both



A new automatic steel sectional boiler for burning anthracite. Above, front view; right, front sectional view. See note on this page.



The Pier Hotel, Brighton ; Clayton and Black, Architects. The exterior of this building is protected from the disintegrating effects of seaside atmosphere by white lead paints. From WHITE LEAD PAINTS, *reviewed on page 277.*

a practical statement of the case for White Lead as the basic pigment for paint and a number of specifications for reference purposes. The merits of White Lead and its use on all types of surface are well illustrated by a series of photographs and some fine examples of decoration in colours.

" The volume may, in fact, be considered as a reminder of the past achievements, the youthful vigour and the progressive outlook of one of our oldest established industries."

The book is divided into six sections. The first describes the chief characteristics of white pigments used in paint ; section two, entitled " Painting and Decorating," discusses priming paints, finishes, etc. ; section three, under the heading " The Specification of Paintwork," is chiefly devoted to British Standard Specifications ; section four deals with corrosion ; section five, entitled " Practical Specifications," covers specifications for new work, maintenance painting and painting metal surfaces ; and section six is devoted to chapters on " Some Common Painting Defects—Their Cause and Cure." The book contains over 30 full-page plates, mostly in colour, and 160 pages of text. Copies of the book are obtainable (price 2s. 6d., plus 6d. for postage) from the White Lead Publicity Bureau, Rex House, 38 King William Street, E.C.4.

*

Messrs. James Combe and Son, Ltd., who recently completed the all electric plant for the Empire Pool and Sports Arena, Wembley, are to be responsible for the design and installation of the plant at the Pioneer Health Centre, Peckham, to the instruction of the Engineer, Sir E. Owen Williams, K.B.E.

SOCIETIES AND INSTITUTIONS

THE WELSH SCHOOL OF ARCHITECTURE

The following awards have been made as a result of the Sessional Examinations at the Welsh School of Architecture at the Technical College, Cardiff. Professor L. B. Budden, M.A., F.R.I.B.A., and Mr. W. B. Edwards, M.A., B.ARCH., A.R.I.B.A., are the External Examiners.

Fifth Examination for the Diploma awarded at the end of the five years' full-time course, exempting from the R.I.B.A. Final Examination : Diploma with Distinction in Thesis, Construction and Design, C. H. Francis ; Diploma with Distinction in Thesis and Construction, T. Hill ; Diploma with Distinction in Thesis, L. F. Hurley ; Diploma with Distinction in Thesis, E. H. Owen ; Diploma with Distinction in Thesis and Design, D. W. Roberts ; Diploma with Distinction in Thesis, I. G. Thomas ; Diploma, A. S. Thomas.

Fourth Examination : D. K. Cumming, J. L. Milburn, J. R. S. Shedden, W. G. Sweet, Miss A. M. Wride.

Third Examination for the Certificate awarded at the end of the three years' full-time course, exempting from the R.I.B.A. Intermediate Examination : Certificate with Distinction, I. J. Lewis, H. E. A. Scard ; Certificate : D. H. Lewis, H. Namik, S. Smith, W. G. Sweet, C. R. B. Vickery.

Second Examination : D. S. Owen, N. P. Thomas, L. W. D. Wall.

First Examination : J. T. Butler, R. A. Furlong, R. I. Greatrex, Miss G. Staley.

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

Following are the names of the specialists, general contractors and some of the sub-contractors for the buildings illustrated in this issue.

Co-operative Society premises at Southport (pages 254-257, 269-270). General contractors, Co-operative Wholesale Society Ltd., Building Department. Sub-contractors : C. W. S. Shopfitting Department, shop fronts and shop fittings ; Trussed Concrete Steel Co., Ltd., concrete floors ; Mather and Platt, Ltd., sprinklers ; Dart Cash Carrier Co., Ltd., cash tubes and vacuum cleaning ; Richard Crittall & Co., Ltd., electric heating ; C.W.S., Ltd., Engineers Department, electric lighting ; Leonard Stead and Son, Ltd., fibrous plaster ; Etchells, Congdon and Muir, Ltd., passenger and goods lifts ; Art Pavements and Decorations, Ltd., staircase wall tiling and terrazzo ; John Stubbs and Sons, quarzite floor pavings ; Henry Hope and Sons, Ltd., steel windows, patent glazing and ceiling light ; J. and H. Patteson, Ltd., granite ; Geo. Wragge, Ltd., staircase balustrades and railings ; J. Ashton Floyd, carving ; Haskins (E. Pollard, Ltd.), shop window blinds and roller shutters ; Synchronome, Ltd., electric clocks ; Bangham and Fleming, wall and floor tiling ; John Broadfoot and Sons, Ltd., lintile floor coverings ; S. Newton & Co., Ltd., signs ; Boro' Electric Signs, Ltd., neon ; Doulton & Co., Ltd., sanitary fittings.

Peterhouse Baths, Cambridge (page 266). General contractors, Coulson and Sons, who were also responsible for the flush doors. Sub-contractors : Kleine Co., upper floors and pillars ; B.R.C., reinforced concrete for ground floor ; Stamford Brick Co. and Grovesbury Brick Co., bricks ; Limmer and Trinidad Ashpalt Co., roof covering ; J. A. King & Co., glass roof light ; Rowe & Co., partitions ; Diespeker & Co. Ltd., terrazzo floors ; Allied Guilds, Ltd., G.S.T. wall and ceiling finish ; Gordon Russell, Ltd., lever handles ; Ridgeon and Son, sanitary fittings ; Wynn's, " Economic " showers ; Henry Hope & Co., steel windows ; Dent and Son, wrought iron grille over entrance ; Cambridge Electric Supply Co., electric lighting ; Troughton and Young, electric fittings ; Wontner, Smith and Gray, hot water ; Clare Sheppard, cast brass figure in grille ; W. Parker Dyson designed the wrought iron straps, S.P. and keys.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

BANSTEAD. *School.* The Surrey Education Committee is to proceed with the erection of a central school at a cost of £29,080.

CARSHALTON. *Schools.* The Surrey Education Committee is to erect another elementary school on the St. Helier Estate, at a cost of £35,150, and to extend the St. Helier, Carshalton elementary school at a cost of £14,600 and the infants' school at a cost of £3,860.

CATERHAM. *Houses.* Plans passed by the U.D.C.: 34 houses, Ninehams Road, for Mr. W. J. Burstow; 18 houses, Hillbury Road, Warlingham, for Messrs. R. J. Clarke & Co. Sir Bernard Greenwell is in negotiation with the U.D.C. regarding his proposal for the development of land in Godstone Road by the erection of 62 houses.

COULSDON. *Houses.* Plans passed by the U.D.C.: Six houses, Windermere Road, for Mr. C. S. Banks; four houses, Green Lane, for Mr. A. H. Jennings; four houses, Oakes Road Kenley, for Messrs. E. B. Hayward, Ltd.; house, Court Avenue, and four houses, The Glade, for Firmus Constructions, Ltd. Plans submitted: New street, off Chipstead Valley Road, for Mr. A. H. Jennings; two houses, Chaldon Way, for Mr. J. C. Hutchison; six shops and flats, and six houses, off Chipstead Valley Road, for Mr. A. H. Jennings; two houses, Meads Way, for Mr. A. Beaurain; two houses, Bradmore Way, for Messrs. Wylie and Berlyn, Ltd.; four houses, Coulsdon Road, for Firmus Constructions, Ltd.; two houses, Meads Way, for Mr. T. A. Goring; six houses, Coulsdon Road, for Mr. C. H. Ridge; eight houses, Coulsdon Road, for Messrs. F. W. Rees and Partners. The U.D.C. has passed the following estate development plans: Houses, Sanderstead Court, for Mr. C. H. G. Taylor; 30 houses, off Purley Oaks Road, for Messrs. Thomas and Son; and three houses, Sanctuary Tea Rooms, for Mr. G. E. Lewis.

EALING. *Factories, Flats, etc.* Plans passed by the Corporation: Six houses, Ingram Way, for Messrs. Bostock and Hollins; 30 houses, Twyford Avenue, for Messrs. R. Lancaster and Sons; 15 houses, Mayfield Gardens, for Gt. Western Land Co., Ltd.; eight houses, Highland Avenue, for Messrs. R. C. Nudd, Ltd.; six houses, Adriene Avenue, for Messrs. Taylor Woodrow, Ltd.; two houses, Highland Avenue, for Mr. A. G. Bailey; shops, flats and showrooms, Drayton Green Road, for Messrs. Hall-Jones and Partners; 36 flats, Cleveland Road, for Messrs. Toms and Partners; 48 houses, Bridge Avenue, for Mr. R. J. Ward; eight flats, Mount Avenue, for Leamington Court Estates, Ltd.; five houses, Church Road, for Mr. F. A. Wright; 19 houses, Ealing Road, for Messrs. Grainger Bros., Ltd.; 32 flats, Corringway, for Messrs. Haymills, Ltd.; factory, Horsenden Lane, for Messrs. A. Sanderson and Son; factory, Wadsworth Road, for Messrs. Vinco, Ltd.; 10 shops and flats, Northfield Avenue, for Mr. M. Henden Winder; 24 flats, The Grove, for Messrs. Harold Bailey, Dudley and Farrier; 24 flats, Montpelier Road, for Messrs. Burnett and Eprille; 16 flats, Campbell Road, for Mr. J. R. Fairbairn; 21 shops and 112 flats, Haven Green, for Housing Corporation of Great Britain, Ltd.

LEWISHAM. *Development Scheme.* Messrs. Powell and Foster, Ltd., are to develop land in Marvel's Lane.

SANDERSTEAD. *Shops.* Mr. A. D. Sanderson is to erect 24 shops on land off Addington Road, between Old Farleigh Road and a point approximately opposite Selsdon Road.

SANDERSTEAD. *Houses and Streets.* Plans submitted: 26 houses, Birdwood Close, for Mr. H. N. Dering; 13 houses, Lower Barn Road, for Messrs. John Laing and Sons, Ltd.; and five new streets, off Limpsfield Road, for Chapple Estates, Ltd. The Coulsdon and Purley U.D.C. has passed lay-out plans for the erection of 302 houses at Limpsfield Road.

SOUTHALL-NORWOOD. *Houses.* The Sudbury Estate Co., Ltd., having arranged certain points with the U.D.C., is to proceed witn the erection of 122 houses on the Northolt estate. The U.D.C. is to prepare a scheme for the erection of houses at Allenby Road.

SOUTHERN COUNTIES

AYLESFORD. *Estate development.* Mr. Robert Lawrence is to develop an estate at Teapot Lane.

BECKENHAM, ETC. *Schools.* The Kent Education Committee is to enlarge the County School for Girls. The Board of Education has approved plans of the Kent Education Committee for the enlargement of the County School for Girls, Frith Road, Dover. The Kent Education Committee is to acquire a site at Crayford for the erection of a junior school. The Kent Education Committee is to acquire a site at Chartham for the erection of a central school. The Kent Education Committee is to erect a central school on the Westwood site, and an elementary school on the Hurst site at Bexley.

BOGNOR REGIS. *School.* The West Sussex C.C. is to acquire a site for the erection of a school.

BOURNEMOUTH. *Houses, Flats, etc.* Plans passed by the Corporation: Four shops, Richmond Hill, for Mr. R. Ives; flats, De Lisle Road, for Miss M. Barnett; five bungalows, Columbia Trees Road, for Mr. F. J. Marks; flats, Wentworth Avenue, for Mr. S. G. Watson; two houses, Wimborne Road, for Messrs. Tomlinson and Matley; 12 flats, Belle Vue Road, for Mr. T. P. Gossling; shops, etc., Castle Lane, for Mr. E. J. Keane; shop, Tuckton Road, for Mr. F. Elcock; flats, Gervis Road East, for Mr. D. A. Wood; two houses, Hillview Road, for Mr. T. Owen; two flats, Green Road, for Mr. C. J. Robinson; two houses, Columbia Road, for Mr. Saunders; four flats, Draycott Road, for Mr. W. Chapman; two bungalows, Hillview Road, for Mr. F. E. Etches; two flats, Belle Vue Road, for Mr. C. W. Williamson; three houses, Verona Avenue, for Mr. A. Bedford; three houses, The Grove, Moordown, for Mr. A. F. V. Holly; four houses, Namu Road, for Mr. W. F. Alner; six flats, West Cliff Road, for Mrs. J. L. Starkey; four flats, Christchurch Road, for Messrs. Harrocks; three houses, Woodside Road, for Mr. W. W. Woolidge; two houses, Wharf Road, for Miss Stone; three houses, Verona Avenue, for Mr. A. Bedford; two flats, Swanmore Road, for Mr. W. W. Thompson; three houses, Cheriton Avenue, for Mr. H. Scott; two houses, Gordon Road, for Mr. F. H. Beaumont; flats, Wimborne Road, for Dr. H. Simmons; two flats, St. Catherine's Road, for Mr. G. F. Hirst; two houses and shops, Ripon Road, for Mrs. A. Richards; four houses, Markham Road, for Mr. J. T. Ward; four houses, Pine Vale Crescent, for Mr. L. H. Lockyer. Plans submitted: Four flats, Christchurch Road, for Mr. T. J. Whiting; six houses, Pine Road, for Mr. E. F. P. Richards; two bungalows, Bascot Road, for Mr. W. J. Clapcott; and shops and flats, Holdenhurst Road, for Mr. F. E. Kimber.

CHICHESTER. *Hospital.* The West Sussex C.C. is to erect a new hospital with accommodation for 120 beds, at an estimated cost of £65,000.

CHICHESTER. *Children's Home.* The West Sussex C.C. is to proceed with the scheme for the erection of a children's home at an estimated cost of £21,000.

HORSHAM. *School.* The West Sussex Education Committee is to undertake extensions at the high school for girls, including the provision of an assembly hall, two laboratories, a domestic subjects room, an art room, etc., at a total estimated cost of £11,350.

SHOREHAM. *School.* The West Sussex C.C. is to proceed with the erection of the new boys' senior school at Shoreham, at an estimated cost of £18,630.

WORTHING. *Hospital Extension.* The West Sussex C.C. has made a grant of £1,000 to the Board of Management of the Worthing Hospital as a contribution towards the erection and equipment of a maternity block at the hospital. Worthing Corporation is also to make a grant of £1,000. The total cost of the work is estimated at £12,000.

MIDLAND COUNTIES

BROMSGROVE. *School.* The Worcestershire Education Committee is to consider further a scheme for the extension of the county high school, at an estimated cost of £12,570.

BROMSGROVE. *Reconstruction.* The Worcestershire C.C. Public Assistance Committee recommends the reconstruction of the institution, at an estimated cost of £15,000.

CHESTERFIELD. *Baths.* The Parks Committee of the Corporation is discussing further various points regarding the proposed central baths, including a suggestion that the site be selected on the Rose Hill estate.

CHESTERFIELD. *Houses, etc.* Plans passed by the Corporation: Two houses, Newbold Avenue, for Mr. S. G. Wells; two houses, Brockwell Lane, for Mr. H. Rodgers; two houses, Paxton Road, for Mr. H. Walker; new central offices, New Beetwell Street, superintendent's house, New Beetwell Street, two inspectors' houses, Park Road, and workshops and garages, Park Road, for Chesterfield and Bolsover Water Board.

EVESHAM. *Police Station.* The Standing Joint Committee of the Worcestershire C.C. is to purchase a site and erect thereon a police station and married quarters' accommodation. The total estimated cost of the buildings is £12,000, plus £3,000 for the site.

MANSFIELD. *Houses.* Plans passed by the Corporation: Two houses, Cranmer Grove, for Mr. J. Jeffrey; 12 houses, Beckett Avenue, for Messrs. Church and Benton; shop, Stockwell Gate, for Mr. T. B. Davies; six houses, Big Barn Lane, for Mr. J. W. Ward; six houses, Robin Down Lane, for Mr. J. P. Smith; two houses, Eakring Road, for Mr. G. E. Taylor; 10 houses, Carisbrooke Drive, for Messrs. Rose, Curtis & Co.; 204 houses, Cator Road, Radmanthwaite Road, etc., for Mr. A. Farnsworth; four houses, Kate Moody Lane, for Messrs. H. Blythe and Son. Plans submitted: Eight houses, Laurel Avenue, for Mr. W. Brailsford. The Corporation is seeking sanction to borrow £10,650 for the erection of 34 houses on the Ravensdale estate by direct labour.

NORTHERN COUNTIES

CLATTERBRIDGE. *Hospital.* The Cheshire C.C. recommends a scheme for extensions at Clatterbridge with a view to converting the premises into a county hospital with the consequent additional accommodation, at an estimated cost of £97,100.

DEWSBURY. *Houses.* The Corporation is to erect 64 houses on the Dawgreen area for rehousing purposes. The Housing Committee has appointed a sub-committee to consider a scheme for the erection of houses for aged persons.

DEWSBURY. *Houses.* The Housing Committee of the Corporation has approved lay-out plans for the erection of 42 three-bedroomed houses, 24 two-bedroomed houses and eight bungalows, at the Heckmondwike Road site (No. 2) for rehousing persons displaced under clearance schemes. Plans passed by the Corporation: Four houses, Staincliffe Road, for Mr. P. Asquith; two houses, Rathlin Road, for Mr. R. Greensmith; eight houses, Back Slaithwaite Road, for Messrs. A. T. and E. Brooke; eight houses, Grasmere Road, for Messrs. S. Scott and Sons; six houses, Ravensthorpe Road, Thornhill, for Mr. J. Tierney; drug warehouse and shop front alterations, Wellington Road and Halifax Road, for Dewsbury P.I.S., Ltd.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I	II
			s. d.	s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A	Aberdeen ..	Scotland	1 6	1 1½
A_1	Abergavenny ..	S Wales & M.	1 5	1 0½
A_2	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A_2	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie ..	Scotland	•1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B_2	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry ..	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_1	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_2	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	•1 7	1 2½
A	Birmingham	Mid. Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth ..	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton ..	N.W. Counties	1 5½	1 1½
A_2	Boston ..	Mid. Counties	1 4	1 0
A_2	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A	Brighton ..	S. Counties	1 4	1 0
A	Bristol ..	S.W. Counties	1 5½	1 1½
B_2	Brixham ..	S.W. Counties	1 2½	11
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B_2	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
	Burslem ..	Mid. Counties	1 5½	1 1½
	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury ..	N.W. Counties	1 5½	1 1½
A	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff ..	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A_2	Chelmsford ..	E. Counties	1 4	1 0
A_2	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester ..	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley ..	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A_2	Colchester ..	E. Counties	1 4	1 0
A	Colne ..	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby ..	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_1	Dorchester ..	S.W. Counties	1 2½	11
A	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A_2	Dumfries ..	Scotland	1 5	1 0½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N.E. Coast	1 5½	1 1½
A_2	EASTBOURNE	S. Counties	1 4	1 0
A_2	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	•1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE	E. Counties	1 4	1 0
A_2	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S.W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A	Glasgow ..	Scotland	1 6	1 1½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	Gosport	S. Counties	1 4½	1 0½
A_2	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	•1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull ..	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh ..	N.W. Counties	1 5½	1 1½
B_2	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln ..	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	•1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A_2	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_2	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid. Counties	1 5½	1 1½
A_2	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford ..	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	•1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth ..	Scotland	•1 5½	1 1½
A_2	Peterborough ..	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	•1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A_2	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A_2	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby ..	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	Slough ..	S. Counties	1 4½	1 0½
A_1	Solihull ..	Mid. Counties	1 5	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stirling ..	Scotland	1 6	1 1½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud ..	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A_2	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist. ..	N.E. Counties	1 5½	1 1½
A_2	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay ..	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall ..	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick ..	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid. Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby ..	Yorkshire	1 4½	1 0½
A	Widnes ..	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor ..	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A_2	Wycombe ..	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

• In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 8
Mason (Banker) . . . . . ,,	1 7
,, (Fixer) . . . . . ,,	1 8
Plumber . . . . . ,,	1 7
Painter . . . . . ,,	1 6
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 7
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 3
Timberman . . . . . ,,	1 3
Navvy . . . . . ,,	1 2½
General Labourer . . . . . ,,	1 2½
Lorryman . . . . . ,,	1 5
Crane Driver . . . . . ,,	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . . per ton	2 2 0
Blue Lias Lime . . . . . ,,	1 16 6
Hydrated Lime . . . . . ,,	3 0 9
Portland Cement, in 4 ton lots (d/d site, including Paper Bags) . . ,,	1 18 0
Rapid Hardening Cement, in 4 ton lots (d/d site, including Paper Bags) ,,	2 5 6
White Portland Cement, in 1 ton lots ,,	8 15 0
Thames Ballast . . . . per Y.C.	6 3
½" Crushed Ballast . . . . ,,	6 9
Building Sand . . . . ,,	7 3
Washed Sand . . . . ,,	8 3
2" Broken Brick . . . . ,,	8 0
½" ,, ,, ... ,,	10 3
Pan Breeze . . . . ,,	6 6
Coke Breeze . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . .per F.R	0 9	1 1
Bends . . . each	1 9	2 6
Taper Bends . . ,,	3 6	5 3
Rest Bends . . ,,	4 3	6 3
Single junctions . . ,,	3 6	5 3
Double . . . ,,	4 9	6 6
Straight channels . .per F.R.	1 6	2 6
½" Channel bends . . each	2 9	4 0
Channel junctions . ,,	4 6	6 6
Channel tapers . . ,,	2 9	4 0
Yard gullies . . ,,	6 9	8 9
Interceptors . . ,,	16 0	19 6
IRON DRAINS:		
Iron drain pipe . . per F.R.	1 6	2 6
Bends . . . each	5 0	10 6
Inspection bends . . ,,	9 0	15 0
Single junctions . . ,,	8 9	18 0
Double junctions . . ,,	13 6	30 0
Lead wool . . lb.	6	—
Gaskin . . . ,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . per M.	2 18 0
Grooved do. . . . ,,	3 0 0
Phorpres bricks . . . ,,	2 17 3
Phorpres Cellular bricks . ,,	2 17 3
Stocks, 1st quality . . ,,	4 11 0
,, 2nd ,, . . ,,	4 2 6
Blue Bricks, Pressed . . ,,	8 17 6
,, Wirecuts . . ,,	7 17 6
,, Brindles . . ,,	7 0 0
,, Bullnose . . ,,	9 0 0
Red Sand-faced Facings . ,,	6 18 6
Red Rubbers for Arches . ,,	12 0 0
Multicoloured Facings . .	7 10 0
Luton Facings . . . ,,	7 10 0
Phorpres White Facings . ,,	3 17 3
Phorpres Rustic Facings . ,,	3 12 3
Midhurst White Facings . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . ,,	21 0 0
Headers . . . . ,,	20 10 0
Bullnose . . . . ,,	27 10 0
Double Stretchers . . ,,	29 10 0
Double Headers . . ,,	26 10 0
Glazed Second Quality, *Less* . ,,	1 0 0
,, Buffs and Creams, *Add* . ,,	2 0 0
,, Other Colours . . ,,	5 10 0
2" Breeze Partition Blocks . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 10
3" ,, ,, ,, . .	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

The following d/d F.O.R. at Nine Elms:	s. d.
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . ,,	2 11
York stone . . . . ,,	6 6
,, Sawn templates . . ,,	7 6
,, ,, Paving, 2" . . F.S.	1 8
,, ,, ,, 3" . . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . per M.	28 17 6
22" × 12" Marchionesses . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . ,,	15 10 0
18" × 9" Ladies . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, green ,, ,,	24 7 4
Best machine roofing tiles . . ,,	4 10 0
Best hand-made do. . . . ,,	5 0 0
Hips and valleys . . . each	9½
,, hand-made . . . ,,	10
Nails, compo . . . . lb.	1 4
,, copper . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . as 1" F.S.	9
Deal, Joiner's . . . ,, ,,	5
,, ,, 2nds . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . ,, ,,	4
Teak, Moulmein . . ,, ,,	1 3
,, Burma . . . ,, ,,	1 2
Walnut, American . . ,, ,,	2 3
,, French . . . ,, ,,	2 3
Whitewood, American . . ,, ,,	1 1
Deal floorings, ½" . . . Sq.	18 6
,, ¾" . . . ,,	1 1 6
,, 1" . . . ,,	1 2 0
,, 1¼" . . . ,,	1 5 0
,, 1½" . . . ,,	1 10 0
Deal matchings ½" . . . ,,	14 0
,, ¾" . . . ,,	15 6
,, 1" . . .	1 4 0
Rough boarding ½" . . ,,	16 0
,, 1" . . . ,,	18 0
,, 1¼" . . . ,,	1 6 0

Plywood, per ft. sup.

Thickness	⅛"	¼"	⅜"	½"
Qualities	AA. A. B.	AA. A. B.	AA. A. B.	AA. A. B.
	d. d. d.	d. d. d.	d. d. d.	d. d. d.
Birch	4 3 2	5 4 3	7½ 6 4½	8½ 7 6
Alder	3½ 3 2	5 4 3	6½ 5½ 4½	8 7 6
Gaboon				
Mahogany	4 3 3	6½ 5½ 4½	9½ 7½ –	1/0½ 10 –
Figured Oak				
1 side	8½ 7 –	10 8 –	11½ – –	1/6 – –
Plain Oak				
1 side	6½ 6 –	7½ 7 –	9½ – –	1/– – –
Oregon Pine	5 4 –	5½ 5 –	6 – –	– – –

	d.
Scotch glue . . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:

(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	½"	¾"	1"	1½"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
,, 3'-11½" long ,,	7	9	1/3	1/8	3/–
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3
,, ,, 3'-M-½" long ,,	8	10	1/5	1/11	3/6
Bends . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . ,,	1/–	1/3	1/10	2/6	5/1
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/–	2/–
Flanges . . . ,,	9	1/–	1/4	1/9	2/9
Caps . . . ,,	3½	5	8	1/–	2/–
Backnuts . . . ,,	2	3	5	6	1/1
Iron main cocks . . ,,	1/6	2/3	4/2	5/4	11/6
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–

Discounts:

TUBES.

	Per cent.		Per cent.
Gas . . .	65	Galvanized gas .	52½
Water . . .	61½	,, water	47½
Steam . . .	57½	,, steam	42½

FITTINGS.

Gas . . .	57½	Galvanized gas .	47½
Water . . .	52½	,, water	42½
Steam . . .	47½	,, steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ⅜" . . ,,	8 6
,, ,, ½" . . ,,	8 3
,, ,, ⅝" . . ,,	8 0
,, ,, ¾" . . ,,	7 6
,, ,, ⅞" . . ,,	7 6
,, ,, 1" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1½" . . ,,	7 6
	3" 4"
Cast-iron rain-water pipes of ordinary thickness metal . . F.R	s. d. 8 10
Shoes . . . . each	2 0 3 0
Anti-splash shoes . . ,,	4 6 8 0
Boots . . . . ,,	3 0 4 0
Bends . . . . ,,	2 7 3 9
,, with access door . . ,,	— 6 3
Heads . . . . ,,	4 0 5 0
Swan-necks up to 9" offsets . ,,	3 9 6 0
Plinth bends, 4½" to 6" . ,,	3 9 5 3
Half-round rain-water gutters of ordinary thickness metal . . F.R.	5 6
Stop ends . . . . each	6 6
Angles . . . . ,,	1 7 1 11
Obtuse angles . . . ,,	2 0 2 6
Outlets . . . . ,,	1 9 2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	18 6
,, drawn pipes . . . ,,	17 0
,, soil pipe . . . ,,	18 6
,, scrap . . . ,,	10 6
Solder, plumbers' . . . lb.	9½
,, fine do. . . . ,,	1 0
Copper, sheet . . . ,,	8½
,, tubes . . . ,,	11
	4" 6"
L.C.C soil and waste pipes: 3"	
Plain cast . . F.R.	1 0 1 2 2 6
Coated . . ,,	1 1 1 3 2 8
Galvanized . . ,,	2 0 2 6 4 6
Holderbats . . each	3 10 4 0 4 9
Bends . . . ,,	3 9 5 3 10 3
Shoes . . . ,,	2 10 4 4 9 6
Heads . . . ,,	4 8 6 5 12 9

PLASTERER

	£ s. d.
Lime, chalk . . . per ton	2 5 0
Plaster, coarse . . . ,,	2 10 0
,, fine . . . ,,	4 15 0
Hydrated lime . . . ,,	3 0 9
Sirapite . . . ,,	3 6 0
Keene's cement . . . ,,	5 0 0
Sand, washed . . . Y.C.	11 6
Hair . . . . lb.	6
Laths, sawn . . . bundle	2 4
,, rent . . . ,,	3 9
Lath nails . . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft.		s. F.S. 2½
,, 26 oz. ,, ,, ,, ,,		,, 3
Flemish, Arctic, Figured (white)*		,, 7
Blazoned glasses . .		,, 2 6
Reeded: Cross Reeded		,, 11
Cathedrals: eleven varieties (white)*		,, 6½
Crown sheet glass (n/e 12 in. x 10 in)		,, 2 0
Flashed opals (white and coloured)		,, 1 0 and 2 0
¼" rough cast; rolled plate .		,, 7
¼" wired cast; wired rolled .		,, 10
¼" Georgian wired cast . .		,, 11
¼" Polished plate, n/e 1 ft. .		,, †10 to ‡1 1
,, ,, 2 . .		,, †1 2 ,, ‡1 4
,, ,, 4 . .		,, †2 3 ,, ‡2 6
,, ,, 8 . .		,, †2 9 ,, ‡3 2
,, ,, 20 . .		,, †3 7 ,, ‡4 2
,, ,, 45 . .		,, †3 11 ,, ‡4 7
,, ,, 100 . .		,, †5 0 ,, ‡5 7
Vita glass, sheet, n/e 2 ft. .		,, 1 3
,, ,, over 2 . .		,, 1 9
,, ,, plate, n/e 2 ft. .		,, 3 0
,, ,, 7 . .		,, 5 0
,, ,, 15 . .		,, 6 0
,, ,, over 15 . .		,, 7 6
"Calorex" sheet 21 oz., and 32 oz.		,, 2 6 and 3 6
rough cast ¼" and ⅜"		,, 8½ ,, 1 0
Putty, linseed oil . .		lb. 3

*Colours 1d. F.S. extra.

†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s. d.
White lead in 1 cwt. casks . .	cwt. 2 6 0
Linseed oil	gall. 2 2½
Boiled oil	,, 2 4½
Turpentine	,, 4 1½
Patent knotting	,, 14 0
Distemper, washable . . .	cwt. 2 6 0
,, ordinary . . .	,, 2 0 0
Whitening	,, 4 0
Size, double	firkin 3 0
Copal varnish	gall. 13 0
Flat varnish	,, 14 0
Outside varnish	,, 16 0
White enamel	,, 1 15 0
Ready-mixed paint . . .	,, 13 6
Brunswick black . . .	,, 7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR

		£ s. d.
Digging over surface n/e 12" deep and cart away	Y.S.	2 9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.	8 6
" to form basement n/e 5' 0" deep and cart away	"	9 0
" " 10' 0" deep and cart away	"	9 6
" " 15' 0" deep and cart away	"	10 0
" " add	"	6
If in stiff clay	"	4 0
If in underpinning	"	1 0
Planking and strutting to sides of excavation	F.S.	5
" " to pier holes	"	5
" " to trenches	"	3
" " extra, only if left in	"	10 0
Hardcore, filled in and rammed	Y.C.	1 6 0
Portland cement concrete in foundations (6-1)	"	1 12 6
" " (4-2-1)	"	1 16 0
" " underpinning	"	7
Finishing surface of concrete, spade face	Y.S.	

DRAINLAYER

		4" s. d.	6" s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
" junctions		3 9	4 6
Gullies and gratings	"	16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER

	£ s. d.
Brickwork, Flettons in lime mortar	Per Rod 27 10 0
" " in cement	" 28 15 0
" Stocks in cement	" 35 0 0
" Blues in cement	" 52 0 0
Extra only for circular on plan	" 2 0 0
" backing to masonry	" 1 10 0
" raising on old walls	" 2 0 0
" underpinning	" 5 10 0
Fair Face and pointing internally	F.S. 1½
Extra over flettton brickwork for picked stock facings and pointing	" 8½
" " " red brick facings and pointing	" 11
" " " blue brick facings and pointing	" 1 4
" " " glazed brick facings and pointing	" 3 6
Tuck pointing	" 7
Weather pointing in cement	" 3½
Slate dampcourse	" 10
Vertical dampcourse	" 1 1

ASPHALTER

		s. d.
½" Horizontal dampcourse	Y.S.	4 6
½" Vertical dampcourse	"	6 9
½" paving or flat	"	4 0
1" paving or flat	"	5 6
1"×6" skirting	F.R.	1 0
Angle fillet	"	2
Rounded angle	"	2
Cesspools	Each	5 0

MASON

		s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17 9
Bath stone and do., all as last	"	13 6
Artificial stone and do.	"	13 0
York stone templates, fixed complete	"	10 6
" thresholds	"	13 6
" sills	"	1 0 6

SLATER AND TILER

		£ s. d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20"×10"	Sqr.	3 10 0
Do., 18"×9"	"	3 7 0
Do., 24"×12"	"	3 17 0
Westmorland slating, laid with diminished courses	"	6 0 0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3 0 0
Do., all as last, but of machine-made tiles	"	2 16 0
20"×10" medium Old Delabole slating, laid to a 3" lap (grey)	"	4 6 0
" " " " " " (green)	"	4 15 0

CARPENTER AND JOINER

		£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2 5 0
Shuttering to sides and soffits of beams	F.S.	8
" to stanchions	"	8
" to staircases	"	1 8
Fir and fixing in wall plates, lintols, etc	F.C.	3 9
Fir framed in floors	"	4 6
" " roofs	"	6 6
" " trusses	"	7 6
" " partitions	"	8 6
½" deal sawn boarding and fixing to joists	Sqr.	1 14 6
1" " " " " "	"	1 17 6
1½" " " " " "	"	2 3 0
½"×2" fir battening for Countess slating	"	9 6
Do. for 4" gauge tiling	"	12 0
Stout feather-edged tilting fillet	F.R.	4½
Patent inodorous felt, 1 ply	Y.S.	2 3
" " " 2 "	"	2 9
" " " 3 "	"	3 3
Stout herringbone strutting to 9" joists	F.R.	10½
1" deal gutter boards and bearers	F.S.	1 2
1½" " " "	"	1 6
2" deal wrought rounded roll	F.R.	8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2 1 0
1¼" do.	"	2 10 0
1½" do.	"	2 17 0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S.	1 6
1¼" do	"	1 9

CARPENTER AND JOINER—*continued*

		s. d.
1¼" deal moulded sashes of average size	F.S.	1 9½
2" " " " "	"	1 11½
1¼" deal cased frames double hung, of 6"×3" oak sills, 1½" pulley stiles, 1½" heads, 1" inside and outside linings, ¾" parting beads, and with brass faced axle pulleys, etc., fixed complete	"	3 7
2" " " " "	"	3 10
Extra only for moulded horns	Each	6
1½" deal four-panel square, both sides, door	F.S.	2 0
2" " " "	"	2 8
1½" " but moulded both sides	"	2 4
2" " " "	"	3 0
4"×3" deal, rebated and moulded frames	F.R.	1 0
4½"×3½" " " "	"	1 4
1½" deal tongued and moulded window board, on and including deal bearers	F.S.	1 9
1½" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2 6
1½" deal moulded wall strings	"	2 1
1½" " outer strings	"	2 4
Ends of treads and risers housed to string	Each	1 9
3"×2" deal mouided handrail	F.R.	1 3
1"×1" deal balusters and housing each end	Each	2 0
1½"×1½" " " " "	"	2 9
3"×3" deal wrought framed newels	F.R.	1 3
Extra only for newel caps	Each	6 0
Do., pendants	"	6 0

SMITH AND FOUNDER

		£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.	15 6
Riveted plate or compound girders, and hoisting and fixing in position	"	19 6
Do. stanchions with riveted caps and bases and do.	"	19 0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	"	17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.	11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1 10

PLUMBER

		£ s. d.
Milled lead and labour in flats	cwt.	1 12 0
Do. in flashings	"	1 15 6
Do. in covering to turrets	"	2 3 0
Do. in soakers	"	1 7 6
Labour to welted edge	F.R.	3½
Open copper nailing	"	3
Close " "	"	4

	½" s. d.	¾" s. d.	1" s. d.	1½" s. d.	2" s. d.	4" s. d.
Lead service pipe and fixing with pipe hooks F.R.	10	1 0	1 3	2 0	2 10	—
Do. soil pipe and fixing with cast lead tacks	—	—	—	—	—	5 6
Extra, only to bends Each	—	—	—	—	2 0	6 9
Do. to stop ends "	6½	8	9	11	1 0	—
Boiler screws and unions "	3 3	3 9	5 0	8 0	—	—
Lead traps "	—	—	—	6 3	8 9	—
Screw down bib valves "	6 9	9 6	11 0	—	—	—
Do. stop cocks "	7 0	9 6	12 6	—	—	—

		£ s. d.
4" cast-iron ½-rd. gutter and fixing	F.R.	1 0
Extra, only stop ends	Each	1 0
Do. angles	"	1 6
Do. outlets	"	2 9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.	1 2
Extra, only for shoes	Each	1 3
Do. for plain heads	"	5 6

PLASTERER AND TILING

		s. d.
Expanded metal lathing, small mesh	Y.S.	2 0
Do. in n/w to beams, stanchions, etc.	"	2 9
Lathing with sawn laths to ceilings	"	1 3
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	"	1 5
Do. vertical	"	1 7
Rough render on walls	"	1 2½
Render, float and set in lime and hair	"	1 9
Render and set in Sirapite	"	1 11
Render, backing in cement and sand, and set in Keene's cement	"	2 9
Extra, only if on lathing	"	4
Keene's cement, angle and arris	F.R.	6
Arris	"	1½
Rounded angle, small	"	3
Plain cornices in plaster, including dubbing out, per 1" girth	"	1½
1" granolithic pavings	Y.S.	3 6
1½" " "	"	4 6
6"×6" white glazed wall tiling and fixing on prepared screed	"	17 6
9"×3" " " " "	"	1 2 6
Extra, only for small quadrant " angle	F.R.	8

GLAZIER

		s. d.
21 oz. sheet glass and glazing with putty	F.S.	7½
26 oz. do. and do.	"	8½
Flemish, Arctic, Figured (white) and glazing with putty	"	1 1
Cathedral glass and do.	"	1 2
Glazing only, British polished plate	"	7
Extra, only if in beads	"	2
Washleather	F.R.	4

PAINTER

		s. d.
Clearcolle and whiten ceilings	Y.S.	6
Do. and distemper walls	"	9
Do. with washable distemper	"	1 1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	"	3 3
Do. on woodwork	"	3 6
Do. on steelwork	"	3 0
Do. and brush grain and twice varnish	"	3 6
Stain and twice varnish woodwork	"	1 11
Stain and wax-polish woodwork	"	4 0
French polishing	F.S.	1 2
Stripping off old paper	Piec	2 0
Hanging ordinary paper f om	"	2 9

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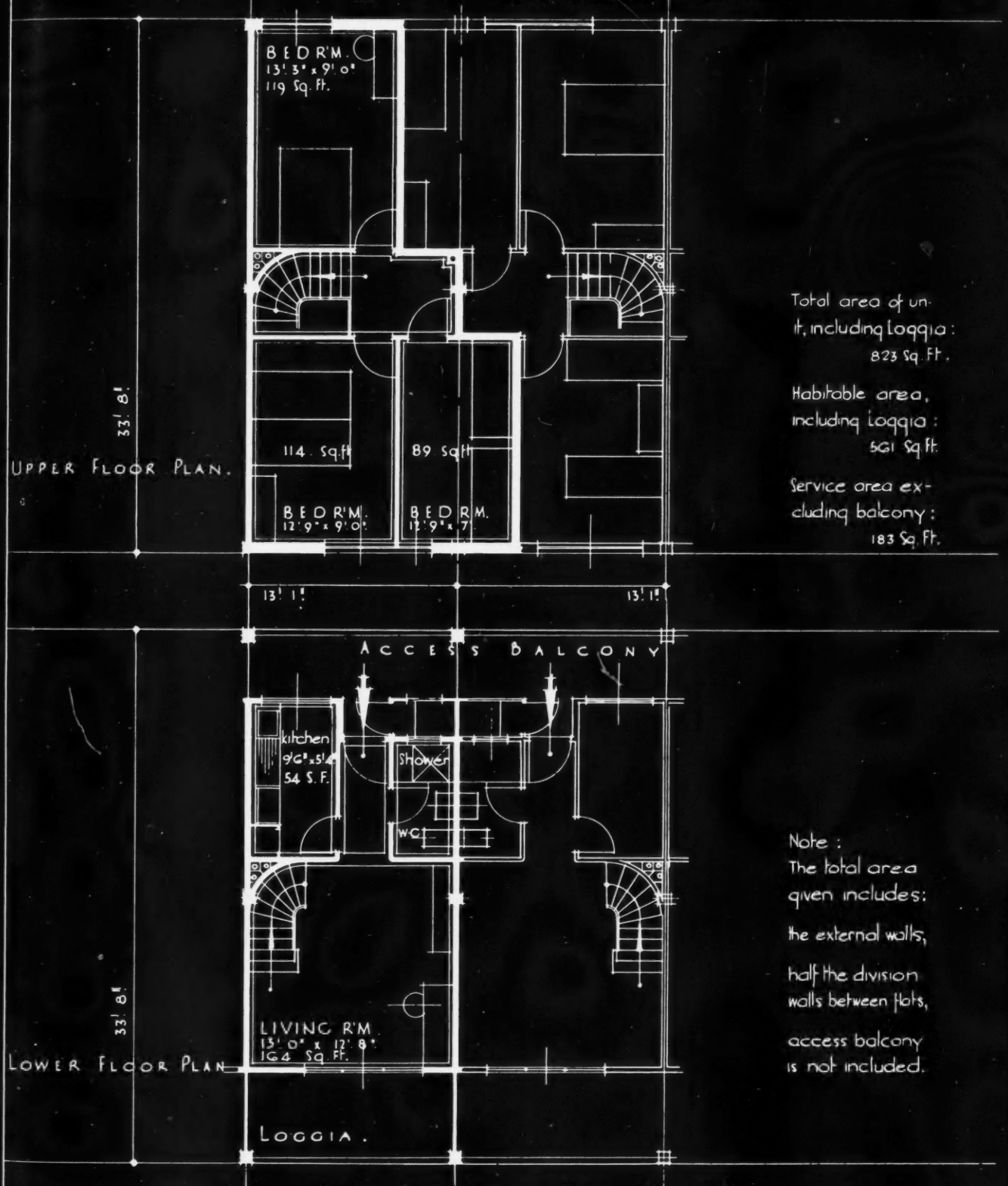
TYPES OF FLAT UNIT : BARCELONA.

ACCESS : Balcony.
TYPE : 4-room, kitchen & bathroom.



Total area of unit, including Loggia: 823 Sq. Ft.

Habitable area, including Loggia: 561 Sq Ft.

Service area excluding balcony: 183 Sq. Ft.

Note:
The total area given includes:

the external walls,

half the division walls between flats,

access balcony is not included.

INFORMATION SHEET : INDUSTRIAL HOUSING, 8.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1

Supplement to THE ARCHITECTS' JOURNAL for August 23, 1934

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET
• 137 •

INDUSTRIAL HOUSING—VIII
(BARCELONA)

THE flat unit shown is of the maisonette type of four rooms, with internal stair to the upper floor from each living room. Access balconies are therefore provided on every other floor, and adjoining kitchen and bathroom windows are kept sufficiently high to prevent people from looking in.

Each dwelling consists, on the lower floor, of a living room, a terrace which can be attached to the living room during the summer (by means of large folding glazed screens), a separate kitchen, a shower, a washstand and w.c., an entrance and a scullery. No common wash-houses have been provided, as they make it necessary for the women to leave their houses, and this makes it more difficult for them to attend to their household duties. On the upper floor are three bedrooms.

The plan does not include any inner yard or court, the dwellings all receiving their light and ventilation direct from the outside. All the dwellings have openings on both faces of the block, making easy cross ventilation.

The structure of the buildings is entirely of rolled steel ; in this way, the two functions performed by the walls have been separated : *to support*, a function which is here performed by the steel structure, and *to insul*ate, the isolation of which function enables the wall to be entirely in insulating materials, giving it a minimum of thickness and weight, and ultimately resulting in much less load to be carried, and not inconsiderable saving in foundations. Floors are of pre-cast beams in asbestos cement.

The design of the structure allows a maximum of freedom on the lower floors for the installation of common services, such as clubs, cafes, libraries, premises for co-operatives, etc., which can be constructed after the dwellings have been occupied and the co-operative life of all the tenants has been organized.

In some of the blocks the stanchions on the lower floor are left entirely free in order to leave open the passage under the blocks.

The service area includes all that space which is not used as living accommodation for the occupants, i.e., service area includes kitchenette, wardrobe, shower, w.c. and lobby. Where bathrooms occur they are also included. In the lower floor plans the loggia has been included in the total unit and habitable areas.

Previous Sheets dealing with housing (Nos. 124, 128, 132, 133, 134, 135 and 136) were presented with our issues for July 5, July 19, August 2, August 9 and August 16.

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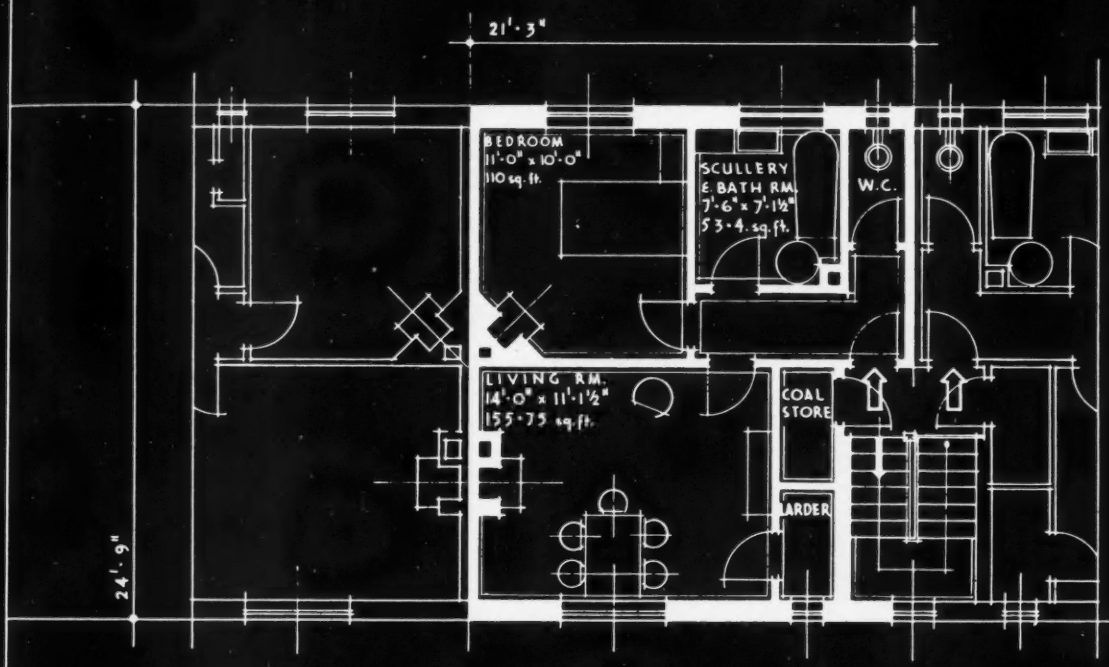
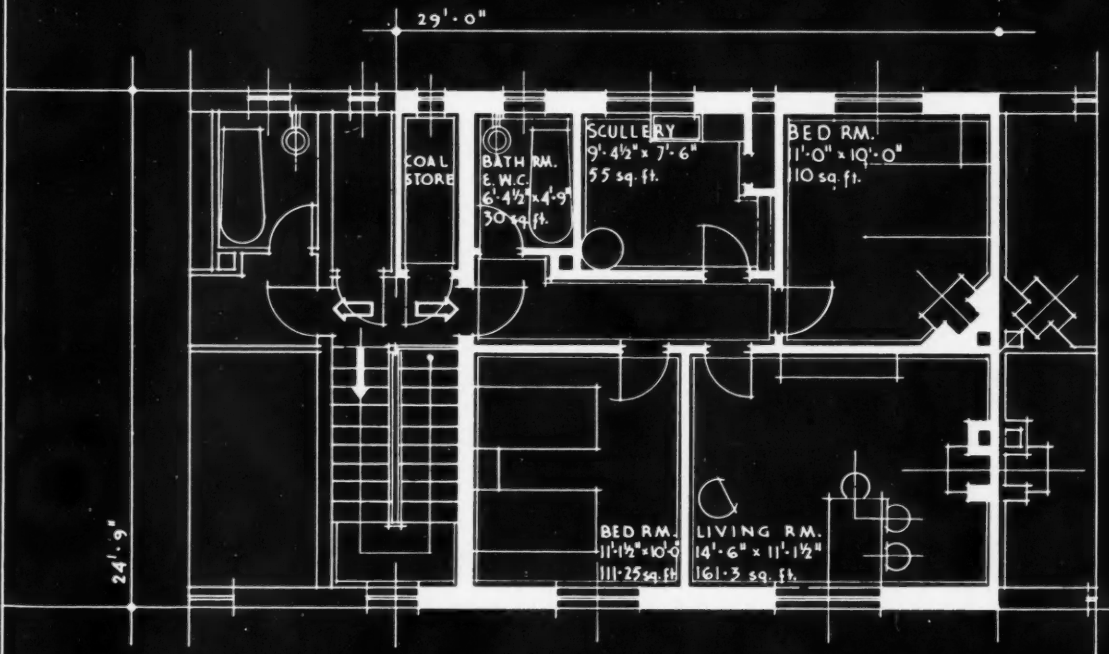
TYPES OF FLAT UNIT : NOTTINGHAM.

ACCESS : Internal staircase.
TYPES : 2-room, combined scullery & bathroom.
3-room, scullery & bathroom.



Total area of unit : 526 sq. ft.
Service area : 167·45 sq. ft.
Habitable area : 265·75 sq. ft.



Total Areas given include : the external walls, ½ the division walls between flats, half the area of the stair.

Total area of unit : 717·75 sq. ft.
Service area : 203 sq. ft.
Habitable area : 382·55 sq. ft.

INFORMATION SHEET : INDUSTRIAL HOUSING, 9.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON.

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

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INDUSTRIAL HOUSING—IX
(NOTTINGHAM)

THE flat units illustrated are two- and three-room standard normal types in two- to five-storey blocks for use where a higher density of dwellings is required than can reasonably be provided in cottages. Both plans have access by internal stair.

The upper drawing is the two-room unit, and it will be noticed that the kitchen and bathroom are here combined, the covered bath forming a general worktop when not in use. Hot water services are thus centralised in the one room, with consequent saving in the plumbing arrangements.

Reasonable coal storage and larder space is provided, and it should be noted that the traditional open fire has been retained in both the bedroom and the living-room.

The lower floor, the three-room type, is planned on similar lines to the two-room, with the same overall width of blocks and main rooms. In this case, however, separate bathroom accommodation is provided, and a larger kitchen-scullery obtained in the general enlargement of the scheme. The coal store, in particular, is more adequately sized, with direct access as before from the stair landing.

The service area includes all that space which is not used as living accommodation for the occupants, i.e., service area includes kitchenette, wardrobe, shower, w.c. and lobby. Where bathrooms occur they are also included.

In the upper plan, bathroom and scullery area is included in the " service " figure.

Previous Sheets dealing with Housing (Nos. 124, 128, 132, 133, 134, 135 and 136) were presented with our issues for July 5, July 19, August 2, August 9 and August 16.

STAND FOR 25,000

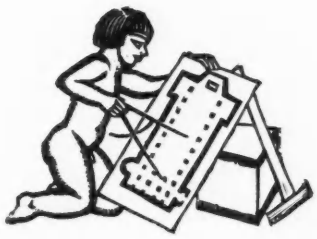
IN PREPARATION FOR THE FOOTBALL SEASON

THE new stand which is being built at the Tottenham Hotspur Football Club's ground at White Hart Lane is due to be finished in three weeks. The architect is Archibald Leitch. The stand runs the whole length of the ground, is sixty feet high and accommodates 25,000 people in two tiers, increasing the capacity of the ground to 78,000. Under the new stand is a running track 150 yards long, for training in bad weather.

LONDON RIVER

The announcement of the intended preparation of a town-planning scheme for London raises again the question of the development of riverside areas, and the hope that at last the problem is to be approached intelligently and coherently.

The two reaches of the river most in need of consideration are at Hammersmith (above) where the celebrated Malls are in danger, and the South bank opposite the Temple (left) where acquisition of the land for improvement is part of the L.C.C.'s current programme. See the leading article on the facing page.



AN OPEN LETTER TO MAJOR HARRY BARNES

THE week, Sir, before last we addressed an open letter to your distinguished colleague on the London County Council, Mr. Herbert Morrison. This letter constituted an appeal to him to approach sanely, and without submission to popular delusions as to the real purpose of civic development, the replanning of one portion of the territory under the Council's jurisdiction—the South bank of the Thames. It was occasioned by the Council's announcement of their intention to acquire Thames-side property with a view to improvement.

Since then an even more momentous announcement has been made by the L.C.C., this time with yourself as spokesman : nothing less than the proposal to prepare a town-planning scheme for London—to undertake a programme whose immensity is only equalled by the urgency of its accomplishment. This week, therefore, we address you, Sir, bringing respectfully to your notice certain aspects of this proposal that appear to us to need immediate consideration.

The first, elementary though it may sound, concerns the necessary base on which the whole programme must be founded : the recognition that the word *town-planning* must be used in its fullest sense. Planning must consider the whole town as a single indivisible entity. Hitherto London has been treated as an accumulation of a number of small units, each controlled by its own local authority—and has suffered accordingly. A strong central planning authority is essential. If each authority is allowed to prepare the scheme for its own area, concentrating inevitably on local to the detriment of communal benefits, and these are pieced together to cover the whole area of London (and called a town-plan for London), the result will be little more intelligible than before. Local authorities are always painstaking and well intentioned, but their very constitution prevents their taking a detached view : they are tied inevitably by their year-to-year financial responsibility to their own rate-payers.

An example of the disadvantages this entails is to be found at Brighton. There a town-planning scheme has long been in existence, and the local authority has been proud of its possession of one and of the protection it affords to surrounding amenities. But when the provision of another form of amenity came to be discussed—a motor race-track on the South Downs, they were only too eager to throw over their ideals of rural preservation for the material and financial attractions of commercial enterprise. There was argument, but commerce won. The race-track is being built, and councillors soothe their consciences by talk of the benefits the scheme will bring to Brighton in the way of increased trade and increased popularity as a resort. That is an example of the approach to town-planning on a basis of local expediency instead of universal benefit. Another, not yet accomplished, it is true, but threatened, is to be found as near home as Hammersmith. There the celebrated Malls—a unique and every year more valued survival of civilized London—are in danger, because the local council, finding themselves to be losing money on one of their housing enterprises in the neighbourhood, feel compelled to recoup the loss by seeking to develop at a profit their land on the river front. That development will inevitably be of an industrial nature, and the precious character of this stretch of the river will be lost. With a town-planning scheme that considered London as a whole, the parts being not separate but interdependent, a perfect balance-sheet for every borough would not be necessary ; the Malls would be a city-wide asset, and the cost of maintaining them set perhaps against profitable industrial development in a more suitable locality.

The whole question of the river is indeed one of London's foremost town-planning problems, and is the second consideration to which we would draw your attention. Hammersmith, though as one of the most beautiful and certainly the most irreplaceable portions of the river-front, we feel it to be of particular urgency, is not alone in demanding co-ordinated control. The South bank we have already referred to ; Waterloo Bridge has been prematurely dealt with ; the placing of the new power station at Battersea has been found open to criticism ; the whole system of the bridges badly needs revision—the problems are too numerous to mention. The Thames, the *raison d'être* of London, in spite of competitive traffic facilities by road, rail and air, still fills essential functions as London's artery and lungs. It needs foresight and courageous planning to prevent, in a city of the age and irregular life-history of London, the onset of those deadly diseases, hardening of the arteries and congestion of the lungs.

We have merely tried to indicate some of the problems a town-planning enterprise for London will have to solve—typical, but by no means exhaustive. May we finally congratulate you, Sir, and your Council on their civic-mindedness in undertaking this gigantic enterprise, and on their courage in accepting this terrific responsibility ; and may we hope that the confidence you have expressed in the adequacy of your Council's preparations will be fully justified by the results.

B

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NOTES & TOPICS

UNDERGROUND LONDON

I HEAR the most exciting reports of the new Leicester Square tube station that is to be opened shortly. A cinema magnate would no doubt call it "super." It has provoked some pseudo-scientific speculations by popular press paragraphists about subterranean civilization in the future.

*

The only thing likely to bring about that unpleasant possibility is our inability to keep our old, savage passions from rendering the surface of the world temporarily uninhabitable.

*

An eminent architect said to me this week: "Isn't a tube railway just an admission of our total inability to pull down and re-plan a city? We have to tunnel under the mess, instead of re-arranging it intelligently."

*

But what about the noise? Wouldn't it be sounder to say that our allowing *any* railway to remain above ground in a city is an admission of inability to plan.

*

Not so long ago a great engineer, who has the most explosive views about London as it is, said: "London will be the safest place in the next war. No enemy would dream of bombing it, and giving us the chance to become more efficient as a nation by replanning it."

DISAPPOINTMENT

But, while I'm on the subject of tubes: in another part of London the Underground Railways—the organization in which I had the most perfect confidence—has let me down. I had occasion last week to visit Holborn Underground Station for the first time for some months, and discovered with a shock what the London Passenger Transport Board have permitted there.

*

When the new station was finished its gigantic moving staircase was one of the most exciting things in London. You plunged down through a lovely white tunnel into the middle of the earth, and had a view from top to bottom whose scale was quite overwhelming. It was one of the first sights one would have shown to an intelligent foreigner to prove that we sometimes preserved a sense of the fitness of things.

*

But now what has happened? The series of huge semi-circular lunettes that form the ceiling of the staircase have been let out for advertising purposes to a firm (for its own sake let it be nameless) of furnishers, who have painted them with a series of advertisements which, to say the least, are not all that they should be in colour or design.

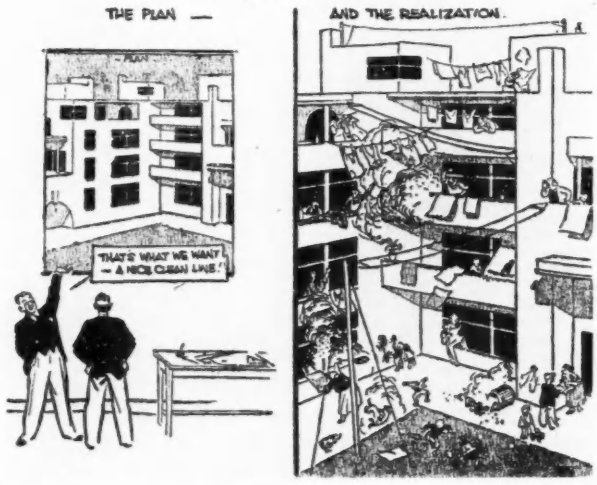
*

The whole effect, in fact, is ruined. Fotunately this dramatic piece of design remains unspoilt if approached from the bottom—from that direction the advertisements are hidden; so I shall have to take my intelligent foreigner that way, and, when we get to the top, keep him busily in conversation, pointing out the beauties of Holborn or the noble stateliness of Southampton Row, lest he should look back and see what happens behind.

*

But what is the reason for it all? Is it the new bureaucratic control that insists on squeezing advertising revenue out of every square inch of space; and what advertising! Coming from the Underground Railways, with their tradition of enlightenment, it is adding insult to injury.

Peep Into The Future



This drawing is reproduced from "The North Eastern Daily Gazette." The caption below it read: "It is suggested that Scotland might have tenement houses in the continental style."

Montrose House, Petersham. See Astragal's note on this page.

They used to have far more sense of dignity and of the appropriate.

TRADE UNION SENSE

I have just seen a copy of Mr. Luke Fawcett's presidential address to the Amalgamated Union of Building Trade Workers at its Dorchester Conference : It is sound sense, even if some of it is not excitingly new. In general, the union seems to have the will to resist strongly any encroachment on its members' rights, but any attempt at rationalization in the building industry would, I think, be supported as strongly by the operatives as by the employers.

*

He had some strong things to say about the effect on the Building Industry of the Government's recent "economy at any price" policy. However, it is hoped they know better now, so there is no use rubbing it in.

MORE ABOUT GRAVESTONES

Since I commented last week on the movement towards improving the design and material of headstones, two utterances in the press have come to my notice.

*

The first (in importance, but not date), is a letter from Mr. Murray Adams-Acton to *The Morning Post*. He points out that economy is largely the cause of the horrors which bespatter churchyards and cemeteries ; he also makes a statement which, on consideration, I believe to be true enough, namely that "contemporary monumental masons bring less knowledge and taste to their task than any other class of British artisan."

*

The Swindon Advertiser, on the other hand, is a little bit nervous. "Most of our graveyards are in advance of continental graveyards in dignity and care," it says, "and any attempt to fetter the choice of family mourners would, I feel sure, be resented."

*

There's the rub ! The feeling for "smart" tombstones has almost become a tradition in this country, and, as the same writer truly says, many vicars have become unpopular in their parishes for the gentlest move towards a reformation.

*

The mere fact that graveyards in this country are not so bad as many on the Continent is cold comfort. I find myself driven to consider the war cemeteries of France and Belgium where the standard headstone is turned to dignified architectural as well as memorial account.

*

After all, headstones are fairly "standardized" already. The monumental mason is the man to convert ; the public will follow.

ANOTHER THREAT TO ANOTHER BEAUTY SPOT

This time it is Surrey : the section which is bounded by the Blackdown, Hindhead and Hascombe Hills. Enter Mr. H. M. Salmon.

*

Mr. Salmon, according to *The Evening Standard*, has said that his business is making bricks, that he must go where there is clay, and that he bought 190 acres of clay land outside the village of Hambledon, three miles from Chiddingfold, with the idea of starting to make bricks there.

*

If Surrey had a plan the difficulty might not have arisen at all. Why shouldn't Mr. Salmon make bricks if the people of Surrey are too indolent to protect themselves against industrial development ?

*

Meanwhile, over the border in Sussex, somebody has had the wit to make a five years' plan for housing development at Hayward's Heath, where the new Franklands Village will grow gracefully in intelligently preserved surroundings.

*

Mr. Harold G. Turner, F.R.I.B.A., M.INST.C.E., is the architect and surveyor of this new village which will never suffer, as nearly all other residential districts suffer, from the proximity of unplanned industrial enterprise.

MONTROSE HOUSE

I'm sorry to keep harping on this house, but I meant to give a picture of it all along. This is it on this page, as it appears in *Some Lesser Known Architecture of London*, by James Burford, A.R.I.B.A., and J. D. M. Harvey.

*

The house (for readers who do not remember my original note), is reported for sale and "development" is mentioned. That seems a pity because Petersham, despite its nearness to London, is a survival intact of eighteenth-century orderliness. It is not the house that matters quite so much as its part in Petersham. ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

The MARS contribution to the New Homes for Old Housing Exhibition at Olympia 288

"Unpainted wood is a mental healer" 289

"The machine is taking from us our work, hitherto our only moral claim on bread; we must therefore find another claim on bread; and we find one in the machine itself because the machine is of our own making, and therefore ours by right, inheritance and merit" 295

For general purposes it is found that, when positioned about 18 ins. above the top limit of the area to be illuminated and 30 ins. away, strip lighting in picture galleries gives the best results 297

THE ARCHITECTS' DIARY

Thursday, August 30

ARCHITECTURAL ASSOCIATION. *Annual Excursion. Visit to Norway. Last day.*

Friday, August 31

R.I.B.A. ARCHITECTS' UNEMPLOYMENT COMMITTEE. *At 7 Bedford Square, W.C.1. Exhibition of work done under the Architects' Emergency Scheme. Open until further notice.*

Saturday, September 1

EXHIBITION OF COTSWOLD ART AND CRAFTSMANSHIP, 1934. *In the Alcuin Press Gallery, Chipping Campden. Last day.*

INSTITUTION OF GAS ENGINEERS. *At Zurich. 2nd International Gas Conference. Until September 4. Opening day.*

BUILDING TRADE STATISTICS

The current issue of the Ministry of Labour *Gazette*, gives particulars from 146 local authorities regarding the estimated cost of buildings for which plans were passed during the second quarter of this year. These show remarkable increases over the corresponding quarter last year, as follows:

	1934 £	1933 £
Dwelling houses	19,366,200	16,528,200
Factories, workshops ..	1,479,500	899,100
Shops, offices ..	1,208,200	1,168,300
Public buildings	1,899,200	1,456,600
Other buildings	2,292,800	1,817,200
	£26,245,900	£21,869,400

For July the total this year was £8,720,000, compared with £7,677,200 in 1933.

MARS AT THE BUILDING EXHIBITION

The MARS (Modern Architectural Research) Group is collaborating with the New Homes for Old Committee in an exhibit dealing with problems of slum-clearance at the Building Trades Exhibition at Olympia, which opens on September 12. The MARS Group's exhibit consists of an indication of a method of attacking problems of slum clearance.

The exhibit is divided into two sections—one an analysis of the existing conditions, and the other an attempt to discover the possibilities that exist of changing the situation indicated by section one.

The first section occupies three walls of the exhibition space and begins with a large map of London showing the chaotic state of existing circulation. Photographs show that not only is the traffic overcrowded, but that the inhabitants are also chronically overcrowded. A section of this chaos is separated out for analysis. The Group has selected Bethnal Green for this purpose, as this borough is fairly small and is not complicated by through traffic—heavy industry, etc. It is, of course, understood that it is not sufficient to draw an inference for the whole from the study of one borough, but the analysis of one borough indicates the method of studying the whole.

A brief historical survey comes next, showing how the growth and development of the borough is dependent upon the growth of world-wide economic and productive forces. After this, existing conditions in the borough of Bethnal Green are analysed in detail, with maps showing communications, gas and water mains, electric sub-stations, etc., statistics of overcrowding, details of families, occupations, daily migration to and from the borough, in fact as far as is possible in so restricted a space showing how the inhabitants of Bethnal Green live and what amenities they have at their disposal.

The picture given by this analysis is a very gloomy one, showing that the majority of the population is forced by poverty to live in the most disgraceful conditions. The next question is, how to set about correcting this state of affairs, and on the last wall of the MARS exhibit an attempt is made. The capacity of the employed and unemployed worker to pay what is known as an "economic" rent is analysed, and then the amount of dwelling space he can rent for this.

This analysis shows clearly that under normal financing conditions, even including subsidies, working people cannot afford to pay an "economic" rent and at the same time live at a decent level.

The evil effect of some well-meant schemes is shown, when (as for example recently at Stockton) the standard of living of workers in a new housing scheme is lower than it was in the old overcrowded areas, as they have less to pay for food.

This exhibition represents only a small portion of MARS work, and the group is studying in greater detail the question of housing for workers and slum clearance which so far has been studied from one side only.

The Group hopes to exhibit some of this work in the spring of 1935.

DR. ROTHENSTEIN ON THE WESTMINSTER CATHEDRAL MOSAICS

In a letter to *The Daily Telegraph*, Dr. John Rothenstein, director of the Sheffield Art Galleries, makes a contribution in the following terms to the extensive criticism that has recently been made of the designs for the mosaics in Westminster Cathedral:

"To criticize so ambitious and so arduous an undertaking as the mosaic decoration of Westminster Cathedral—more especially as it is already in progress—is an ungrateful task.

"But, like many other admirers of Bentley's great church, I must none the less voice the misgivings I feel after inspecting the model (now on exhibition in the crypt) showing the proposed treatment of the great apse of the Sanctuary.

"The interior of Westminster Cathedral by general consent takes a high place among the masterpieces of modern architecture: the proposed decorations are, I believe, unworthy of it.

"Were they carried further, this noble interior, now so mysterious, so serene and so austere, would become instead trite, restless and opulent."

WIRRAL DEVELOPMENT

A new village in Wirral on garden city lines, architect designed, is projected by the Wirral Development Co., Ltd., registered last week. Lord Leverhulme, governor of Unilever, Ltd., Mr. James L. Simpson, director of Unilever, Ltd., and Mr. Thomas W. Harley, solicitor, are named as the first directors. The nominal capital of the company, which was registered as a "private" company, is £10,000, and the company's objects are "to acquire any lands and buildings in Cheshire or elsewhere, to carry on the business of builders, contractors, furnishers, etc."

Mr. Simpson was joint architect with Sir John Burnet of Unilever House, and he has been responsible for much of the firm's architectural work.

The site for the new village is on the Dee side of Arrowe Park—which was formerly owned by Lord Leverhulme and was sold by him to Birkenhead Corporation—in the Wirral Urban District Council's area.

PROFESSOR ADSHEAD'S BLACKPOOL APPOINTMENT

Sir Giles Gilbert Scott, as president of the R.I.B.A., has appointed Professor S. D. Adshead, M.A., M.ARCH., F.R.I.B.A., as the expert who is to view and report on various sites in connection with the proposed Town Hall at Blackpool.

Among the sites which have been suggested are the present site in Talbot Square; the Pembroke Estate at North Shore; Stanley Park; the present Victoria Hospital site in Whitegate Drive; and a site near the Talbot Road bus station.

ROYAL LANCASTER INFIRMARY

The final extension of the Royal Lancaster Infirmary is to be opened on November

24, by Lady Sefton. The architect for the extension, which will have cost £75,000, is H. A. Paley. The foundation-stone was laid in 1933 by the Princess Royal.

COMPETITION FOR A MONUMENT IN LENINGRAD

The Academy of Sciences of the U.S.S.R. has announced a competition for the best design for a monument to commemorate the centenary of the birth of the great Russian chemist, D. I. Mendeleev. The prize offered for the best design is 5,000 roubles. The monument is to be put up in Leningrad between the building of the Leningrad University and the Academy of Sciences, near the embankment of the Neva.

THE PEOPLE'S PALACE

As soon as the plans are officially passed, work will be started on the new People's Palace in the Mile End Road, which is to replace the building burnt down in 1931. The main hall will contain seating accommodation for 1,600 people.

LONDON CHAMBER OF COMMERCE

The new building of the London Chamber of Commerce at the junction of Cannon Street and Queen Street is to be officially opened by H.R.H. Prince George on October 10.

SMOKE AND SLUMS

The creation of new slum areas by smoke polluted atmosphere is to receive special consideration at the annual conference of the National Smoke Abatement Society which takes place at Glasgow from September 27 to September 29. Dr. J. Johnstone Jervis, Medical Officer of Health for Leeds, will be the chief speaker on the subject of slum clearance and smoke prevention and the representatives of numerous local authorities who will attend will pool their experiences.

Dr. J. S. Owens, who is in charge of the investigations into atmospheric pollution on behalf of the Department of Scientific and Industrial Research, and has invented many of the delicate instruments used for the measurement of atmospheric pollution, is to describe the latest developments in this direction. New instruments for the measurement of smoke emission will also be demonstrated.

Special consideration is also to be given by the conference to the effects of smoke upon visibility and aviation, and upon horticulture.

The delegates to the conference will be given a civic reception by the Lord Provost in the City Chambers and the discussions will take place in the Council Hall. The chairmen at the various sessions will include Dr. H. A. des Voeux, President of the Society and Dr. John R. Currie, professor of Public Health at Glasgow University.

MANCHESTER CIVIC CENTRE

Plans are being prepared by the Town Planning Committee of the Manchester City Council to zone the Town Hall area of the city as a Civic centre, and a report on the scheme is to be submitted to the Council.

Among the suggestions in connection with the proposed Civic Centre is that the scheme for the provision of an Art Gallery on the old Infirmary site might be abandoned in favour of a site in the vicinity of St. Peter's Square.

ALL HALLOWS, LOMBARD STREET

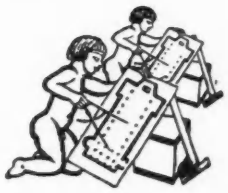
New developments are reported in *The Times* in connection with the Church of All Hallows, Lombard Street. The church authorities have already put in hand the work of pulling down the east wall, which is in a highly dangerous state, as ordered by a City Magistrate. Mr. Sydney Tatchell, the architect, has removed the reredos and the altar, and a screen is to be placed at the east end of the church to take the weight of the roof and the south and north walls while the dangerous wall is being demolished. The foundations are to be examined, and an estimate will be formed of the sum needed to make the church absolutely safe.

ANNOUNCEMENTS

Mr. Raymond Morgan has left Clifford's Inn, and his new address is 22A Queen Anne's Gate, Westminster, S.W.1. Telephone : Victoria 8925.

Mr. A. Geoffrey Bazeley, M.A., A.R.I.B.A., has opened an office at Greenmarket Chambers, Penzance. Telephone No. : Penzance 592.

COMPETITION NEWS



Competitions Open

September 22.—Sending-in Day. Civic Centre, Tunbridge Wells, for the Corporation of Tunbridge Wells. Assessor : E. Berry Webber, F.R.I.B.A. Premiums of £300, £200, £100 and £75. Conditions are now obtainable (deposit £1 1s.) from Mr. J. Whitehead, Town Clerk, Tunbridge Wells. The last day for submission of designs is September 22.

October 1.—Sending-in Day. Proposed Municipal Assembly Halls, Wolverhampton, for the Wolverhampton Corporation. Assessor : C. Cowles Voysey, F.R.I.B.A. Premiums : £350, £250 and £150. Conditions from the Town Clerk, Town Hall, Wolverhampton. Last day for questions was May 21. (Deposit £1 1s.)

Competitions Pending

Lay-out of, and scheme for building on the prison grounds, York, for the York Corporation. Premiums : £250, £150 and £100.

New college for technical, commercial and art studies, Birmingham, for the Birmingham Education Committee.

Central offices, Hertford, for the Herts C.C. Premiums : £350, £250 and £150.

Technical college, Bolton, for the Bolton Education Committee. Premiums : £500, £250 and £100.

Civic building in connection with the proposed scheme for a civic centre, Enfield, for the Enfield U.D.C.

Development of the Tuns Gate site, Guildford, for the Guildford T.C. (limited competition).

Rebuilding of Bishopsgate Police Station and Police Hospital, for the City of London Corporation. Premiums : £250, £100 and £50.

Town hall, for the Southall-Norwood U.D.C.

Municipal centre, Romford, for the Romford U.D.C.. Premiums : £250, £100 and £50.

Town hall, Bury, for the Bury T.C. Assessor : J. Hubert Worthington, F.R.I.B.A.

THIS ARSHETECTURE

An Englishwoman is going to Turkey at the invitation of Mustapha Kemal to teach the housewives there the art of home-building.

But she will not be staying more than two or three months because, she says, "the women of England are deplorably ignorant on the subject, and need teaching just as much as any one else."

She is Miss Grace Cope, the only honorary woman member of the Incorporated Association of Architects, and she will leave for Angora in about two weeks.

On the way out she will hand out advice on home-life to the women of Algiers, Alexandria, Jaffa, Beyrout, and Istanbul. M. Venizelos has invited her to deliver the women of Greece from their unscientific conception of home comfort.

Miss Cope said to me yesterday : "If I had a million pounds I should design lectures so that every English girl on leaving school would have a knowledge of architecture, design, materials, colours and housekeeping and their mental effect on people.

"I shall tell the women in Turkey, for instance, to use natural woods in their homes. Unpainted wood is a mental healer.

"I shall advise them to use glass entirely at the table. Its clearness has a distinct effect on the mind.

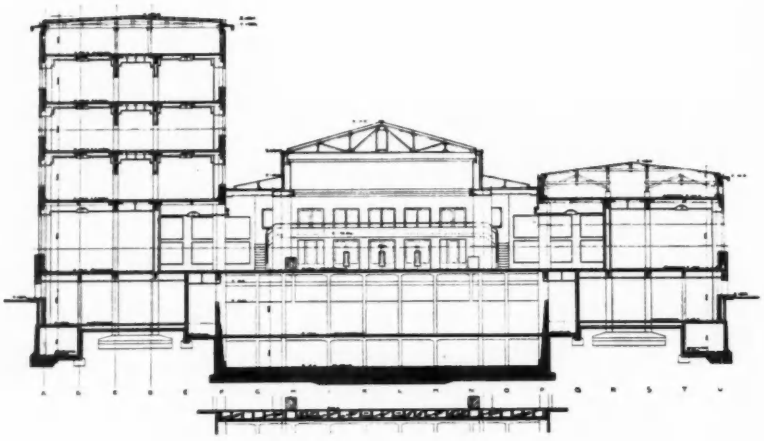
"I shall explain the importance of colour. Wives must study their husbands, and find out which colours give ease and stimulation to their minds.

"All women should realize that the home is the foundation of the nation, and the kitchen the foundation of the home."

From THE DAILY EXPRESS.

HEALTH INSURANCE BUILDING,

Above: View from the Hospital wing looking along the rear elevation of the main building. Right: Cross section.

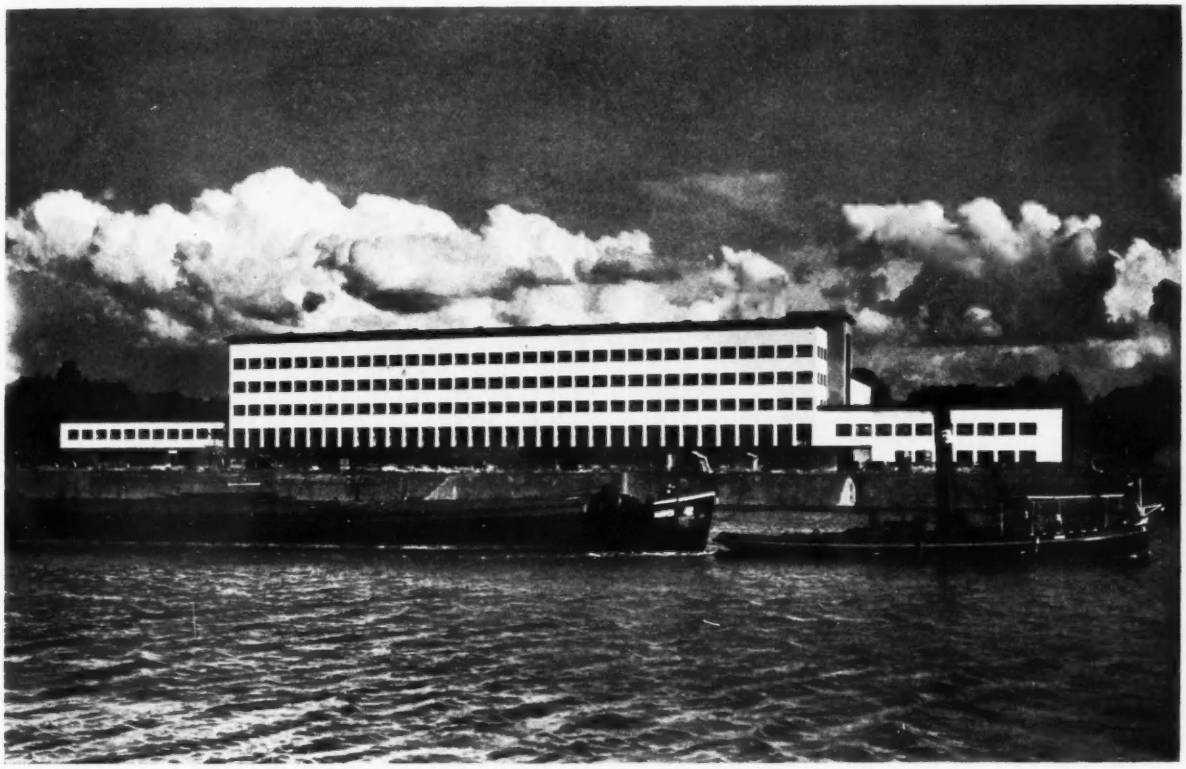


CROSS SECTION

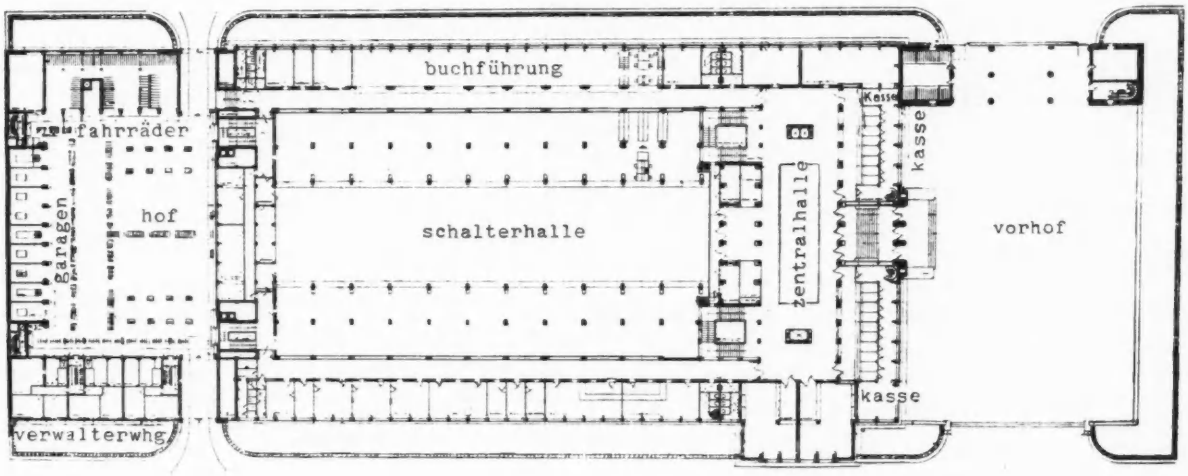
In Germany every employed person in receipt of under 300 marks a month as salary is obliged to insure him- or herself against sickness and physical incapacity on much the same principle of the employer's and the State's participation as in England. There are several sick insurance associations controlled by the various branches of industry, but the State organization known as the Allgemeine Ortskrankenkasse, which has branches in all the big industrial centres, is by far the most important. The building here illustrated is the headquarters in Frankfort-on-Main, the "A.O.K.", as this organization is usually called. The A.O.K. has given up the panel system because it was found to result in heavy losses for the State, and now employs its own doctors and runs its own hospitals and sanatoriums. This explains why an Ortskrankenkasse is partly an administrative office building and partly a completely equipped hospital out-patients department.

When a workman reports sick, he is sent a form with which he presents himself to the local Ortskrankenkasse, where he is registered. Here he is given another form to admit him to the consulting room of the particular staff doctor to whom his case is allotted. All these consulting rooms are in the same building, and in it, also, he undergoes most of the treatment prescribed.

FRANKFORT: BY ERNST BALSER



View of the principal façade from across the River Main.



GROUND FLOOR PLAN

On the ground floor the Frankfort-on-Main Ortskrankenkasse has a large public hall, divided into alphabetically arranged counters, where insured persons can pay in their sickness contributions and receive their sickness benefits or medical examination forms. The first floor consists of consulting rooms, with the most up-to-date equipment, X-ray installation, etc., and also contains directors' and board rooms and a medical lecture theatre. The floor above is devoted entirely to dental treatment, the making of dentures, etc. The top floor contains all forms of medical baths, and is also fitted up for massage treatment.

HEALTH INSURANCE BUILDING, FRANKFORT

1

2

3

4

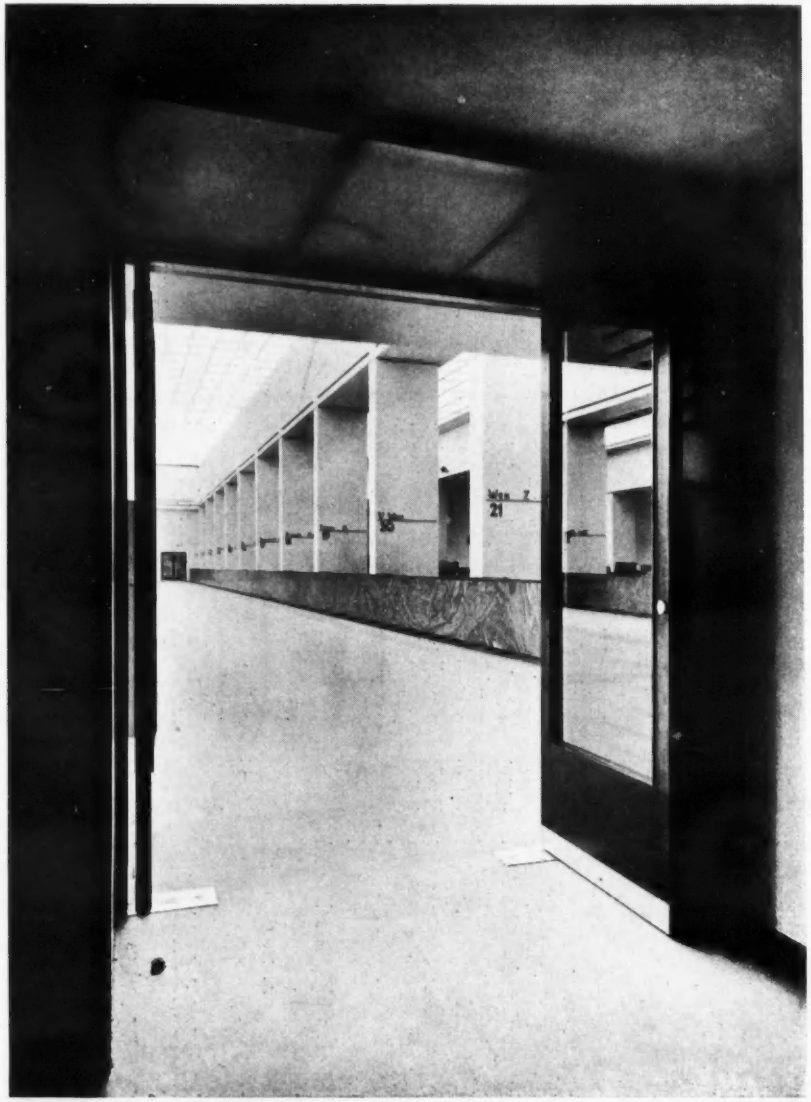
1 : *A view inside the roof of the public hall, showing the system of indirect lighting through the ceiling.*

2 : *A drinking fountain in the public hall.*

3 : *The entrance hall.*

4 : *View of the public hall and the flat skylight from underneath.*

4 : *View of the public hall and the flat skylight from underneath.*



Looking through the main door into the public hall and along one range of counters. The counters are divided into bays by the main stanchions of the building.

A view in the main hall looking down the office side of the counters, with their alphabetically arranged filing cabinets and officials' desks, from the overseer's control table.

D E S I G N E D B Y E R N S T B A L S E R

LETTERS FROM READERS

V. HARDING
A. M. CHITTY
GEOFFREY BIDDULPH
ARCHICONOMIST
PRO BONO PUBLICO
R. BANKS
BETTY JOEL
GEORGE WEEKS

A.A. Exhibition of Students' Work

SIR,—Mr. Anderson deplores that the exhibition at the Architectural Association did not show how "design and construction are intricately woven together in the student's mind, so that each is regarded always in the light of the other."

He blames those who arranged the exhibition, and that may be the explanation. To me, however, in my immaturity, the existence of this intricate interweaving so carefully suppressed, is not a subject of absolute and inviolable certainty.

V. HARDING
London

SIR,—May one be permitted to leave the small points and personalia of the letters of Messrs. Robertson and Anderson and return to the original criticism? The students' work is presumably the result of an educational policy. This policy is at fault in many grave points, but perhaps the most unfortunate is the lack of any instruction on matters æsthetic. The neglect of such a fundamental subject seems to be part of the frivolous outlook adopted by the A.A. towards architecture during the last few years. There are, I think, facts which should be faced, and they are not being faced. For instance, the game played at the A.A. (mentioned in the correspondence) is wholly different from Research, which is a highly disciplined form of intellectual activity. Further, the total absence in this policy of any encouragement towards *impersonal* architectural criticism is significant of that healthy distrust of intellect which lies behind most English education.

A. M. CHITTY
London

Economics and the Architect

SIR,—In reply to Mr. Welford, may I say that disbelief in nostrums and nonsense does not constitute "orthodoxy," and that I am more familiar with Mr. McKenna's views than he seems to be. In 1920 the Midland chairman complained that :—

"Traders sometimes assume that banks have an unlimited power of making advances. They forget that every advance made by a bank comes out of the bank's cash resources. It is true the advances return to the banks in the form of fresh deposits and thus restore the bank's cash resources to their former level, but the result is to leave them finally with additional liabilities to their depositors without any addition to their bank cash." (*Post-War Banking Policy*, pp. 8, 94.)

And to Major Douglas's contention before the Macmillan Committee as to the creation of credit without cost by the banks, Mr. McKenna explained that they were then paying from 2 to 3 per cent. to depositors and remarked : "Possibly you are not familiar with the working of the banking system." (Q. 4423-5.)

The Committee's report concluded its discussion of the question with the definite statement that :—

"If the commercial banks have made loans up to that percentage of their deposits which they have adopted as a working basis, either they must cease to grant new loans except to the extent that existing loans are reduced, or the cash basis must be expanded by the Bank of England." (S. 87.)

And though the Bank of England pays for "cash" by a draft on itself, such expansion is limited by the activities of other central banks and the degree to which the authorities will allow sterling to depreciate. The Bank can easily exercise a restrictive influence on world trade, but it is far more difficult to stimulate a revival from depression if other countries will not co-operate.

GEOFFREY BIDDULPH
London

SIR,—At last someone has donned the gloves. Seconds out of the ring. Round No. 1.—Mr. Biddulph writes : "Money is not merely a 'distributing agent,' it is a circulating means of payment, and it cannot properly be 'distributed' unless the recipients of the goods for which it pays are able to provide the kind of goods required in exchange at approximately the same cost." But though it may appear to do so, money as a whole does not circulate. Money once spent automatically goes out of existence due to the cancellation by the banks of repaid loans ; fresh money comes into existence only as a new loan. To quote McKenna, chairman of the Midland Bank, "Every bank loan creates a deposit and every repayment of a bank loan destroys a deposit."

2. "Far from becoming more of a commodity, money is becoming more of a token." It is ridiculous that money should be used as a commodity at all.

3. "More money can only be created if traders will borrow more." This is begging the question. How can traders borrow more when there is no demand? There is no demand, not because all our needs are satisfied, but because we have no purchasing power.

4. It is neither inflation nor deflation that the world requires ; it is sufficient purchasing power to buy the goods and services which exist or could exist. There cannot be sufficient purchasing power in existence today unless the P.B.C. (the Poor —— Consumer, as Mr. Colbourne terms him) is subsidized by a National Credit institution. (If Mr. Biddulph can refute Major Douglas's A plus B theorem, there is a fortune waiting for him.).

5. "Far from the demand for labour being diminished by technical progress, it is bound to be greatly increased." But it obviously is not. Is there not an unemployment problem? Of course there is no need to stop producing till we all have the standard of living we require. But, I repeat, lack of purchasing power *is* due to the ousting of human labour by scientific production. (*Vide* the A plus B theorem.)

6. "It is nonsense to claim that the problem of production is solved just because certain factory products can be turned out in excess of the demand for them." The problem of production has been solved. There is sufficient potential wealth in the world today to give all men a surprisingly high standard of living, and with ever diminishing human effort. Has Mr. Biddulph studied the figures of Technocracy? Does he know, for instance, that 4,000 men equipped with modern machinery could produce the whole of the U.S.A. wheat crop? Obviously our problem is purely one of distribution.

7. "Disputes between nations are far more often caused by competition for supplies of raw materials than for export markets." Does Mr. Biddulph really mean that war is caused by competition for *imports* of raw materials? Then why tariffs? Why sabotage? Why restriction of production?

Mr. Biddulph, like all orthodox economists, cannot see the wood for

the trees ; he cannot see the " simples " which are so obvious, viz., " The age of scarcity is over because the machine can keep us in abundance ; but in doing so the machine is taking from us our work, hitherto our only moral claim on bread ; we must therefore find another claim on bread ; and we find one in the machine itself because the machine is of our own making, and therefore ours by right, inheritance and merit." (*Economic Nationalism* by Maurice Colbourne.) The machine is part of the cultural heritage of humanity as a whole, and therefore every man has an equal right to the wealth it produces. If this is agreed upon, all that is needed is a workable book-keeping system to carry this out. Major C. H. Douglas has given us one. " Power to the Green Shirts ! " No doubt, given a sane economic system there would be sufficient work to keep all men employed for many years to come, but that does not alter the argument.

I do not think Mr. Biddulph would deny that we are under the insidious tyranny of International Finance, but would probably demur were I to call the Banking Combine the greatest piece of racketeering the world has ever known (or should I say not known). But this seems to me to be the case from the little that can be glimpsed behind the scenes, although the present system is no doubt the outcome of chance. Power lust, backed by our obsolete morality of work, is perhaps the fundamental cause. A book called *Upton Sinclair presents William Fox* throws light on the ramp.

ARCHICONOMIST
London

SIR,—I have read all about this Architeconomy and with a cousin in a bank and a son-in-law who is an architect and builder I feel I ought really to write to you and say it is all nonsense about the banks and Mr. McKenna making money it is all done at the Royal Mint. I do think however that architects ought to design the money of course I dont mean the Kings head but the artistic part round St. George and Brittania on the back. What I always say is if only the people at the Mint would get qualified architects to do the designs we could absolutely trust the people at the bank. And after all architects may be able to draw plans but it doesnt mean that they can keep accounts and after all its other peoples money they have to deal with if you see what I mean. *I* wouldnt trust an architect with my money not because they wouldn't try to be honest but they wouldn't know how to find out if it was my signature or some wicked forgers would they. As my cousin says banking's a mans job and its such a pity so many girls are taking it up. I do hope this is all quite straightforward and easy to understand letters ought to be dont you think.

PRO BONO PUBLICO
London

SIR,—With reference to Mr. Biddulph's letter in your issue for August 16, I should like to make the following points :—

Money—i.e., credit—is destroyed every time a deposit is made at a bank or a loan repaid. (Ref. Mr. McKenna.)

Bankers themselves " create " any fluctuations: that being in sympathy with their current policy.

The point of scientific production is that one person plus machine can produce many times the quantity that he can consume financially, this going on at the same time in every industry. If the rise of the machine, the results of the Industrial Revolution of the last century and the increasing exports are traced, the reason for the lack of employment—occasioned by the advent of the machine—will be realized. (The export markets have become more restricted owing to the fact that other nations have been benefiting by our experience and exported machinery.)

The " world prices " being " restored to a remunerative level " (Mr. Biddulph's last paragraph) can only be accomplished if Major Douglas's " A plus B " theory, and what it implies, is understood and practised.

R. BANKS
London

Wood for Furniture

SIR,—I was interested to see Sir Benjamin Drage's recent statement in a communication to your columns that the employment of steel in place of wood for furniture and interior decoration was a passing phase which is now declining.

There is, however, rather more in the matter than that. Actually there is now being produced a new period in furniture which is likely to be as notable as that of Louis Quinze, Chippendale or Hepplewhite. The last ten years or so have seen the production of an assortment of new and startling styles, all of which had their day and have been forgotten. It would perhaps appear that this age, such an historic one in other respects, has sponsored no distinctive form of furniture but has merely been notable for its chaotic ideas. It now seems, however, that that period was one of preparation ; for, in the past three or four years, the medley has shown signs of resolving itself, and there is now discernible a tendency in the direction of a single purpose. The age of fantastic shapes, of steel and glass furniture, is ending. Steel furniture will always have its market for hotel and restaurant use, but the use of beautiful wood for domestic furniture will always be predominant in the English mind.

This present period will go down to history as an age of simplicity and dignity in line and form stripped of everything curious and ornate. It will thus be a perfect expression of our own time. A most notable aspect of the new school of furniture design, however, is that greater use is being made of timbers from the British Empire, and the discovery that exceedingly beautiful woods are available from the Dominions and Colonies. Some successful examples are Queensland walnut, Queensland silky oak, Indian silver greywood, Canadian birch, Bombay rosewood and many others. White sycamore grown in the British Isles is also deservedly fashionable at the moment.

The very important Exhibition of British Art in Industry, of which the committee is under the presidency of H.R.H. The Prince of Wales, at the Royal Academy next spring, will show that Britain leads the world in furniture design.

BETTY JOEL
London

Sir John Sulman

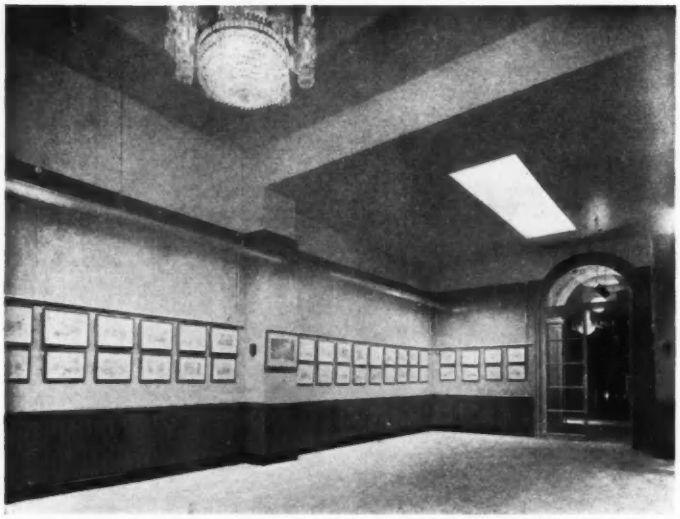
SIR,—You probably received the news which was published in *The Times* recently of the death at Sydney, Australia, of Sir John Sulman, F.R.I.B.A. In *The Times* notice of his death no mention is made of any work he did in England other than that, " he practised in London until 1885."

I have reason to believe that he is the John Sulman, F.R.I.B.A., who was residing in Bromley from 1875 till 1885, and was the architect who designed the Bromley School of Science and Art and the Bromley Congregational Church—the latter being quite a notable building. I should be interested to hear whether anyone can confirm this belief of mine, or can say definitely that I am mistaken. My memory of the man is of one who would be about the age of the man referred to in *The Times* report.

GEORGE WEEKS
Bromley

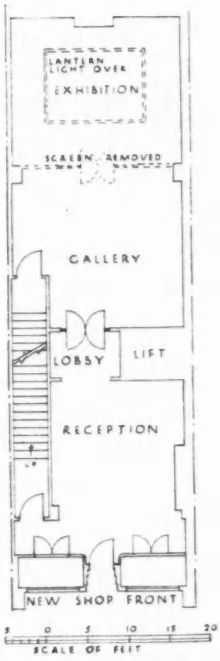
PICTURE GALLERY IN BOND STREET:

HERBERT FELTON



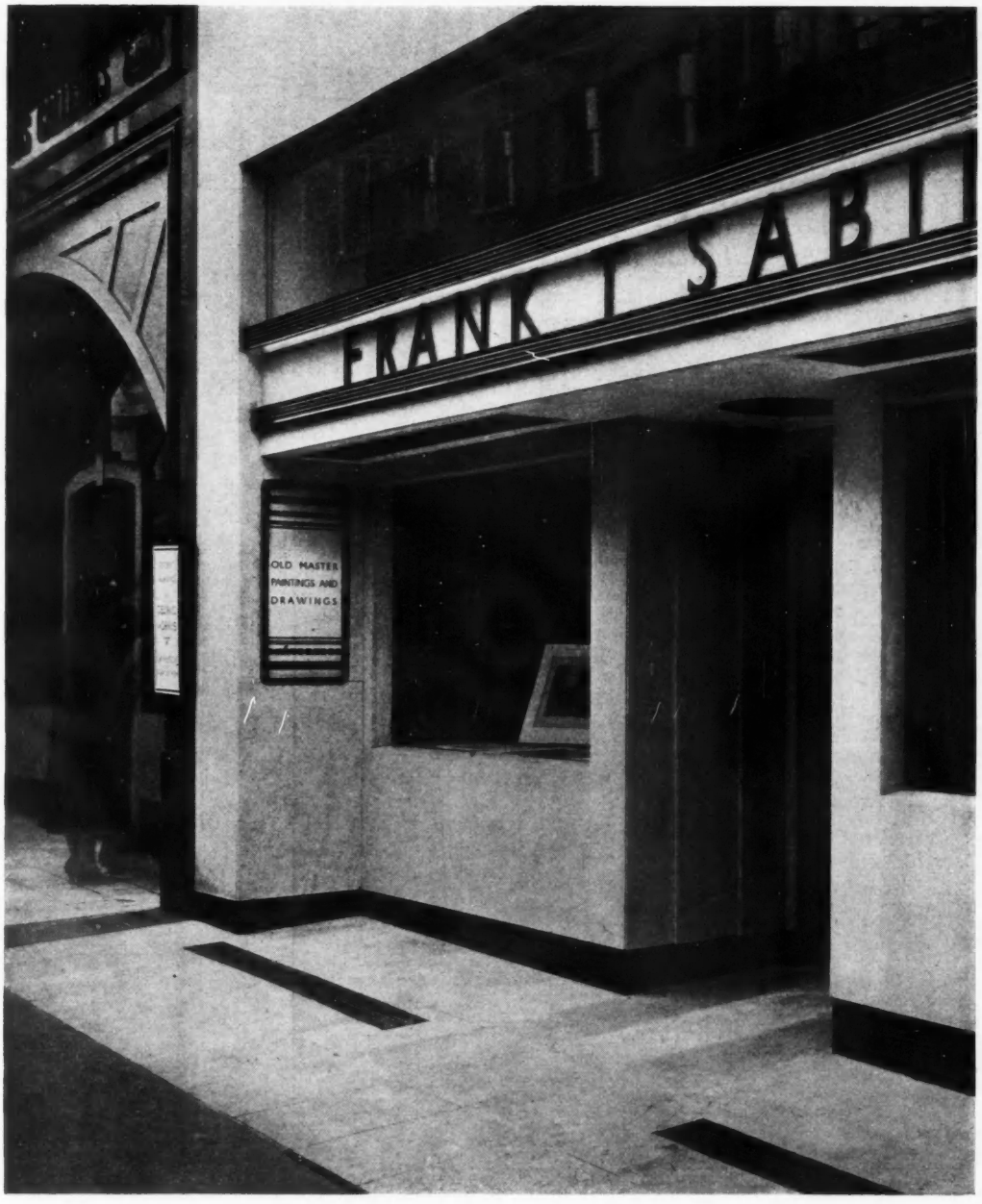
The interior of the general exhibition gallery on the ground floor. On the first floor is another picture gallery for old masters, and on the second floor a print room. Details of picture rail and concealed lighting in the galleries are given on pages 301-302.

Above: The new shop-front photographed at night, showing the effect of the illumination.



GROUND FLOOR PLAN

DESIGNED BY ALAN MARLOW



This is an adaptation of an existing building for the exhibition of paintings, drawings and prints.

In the Exhibition Gallery on the ground floor natural lighting is through a domed skylight. General artificial lighting is by means of a flush ceiling panel and a cut glass pendant fitting. Special illumination to hanging surfaces is by means of strip lights in metal reflectors. These are adjustable for height, but for general purposes it is found that when positioned about 18 ins. above the top limit of the area to be illuminated and 30 ins. away, they give the best results. Heating is by flush skirting panel electric heaters thermostatically controlled.

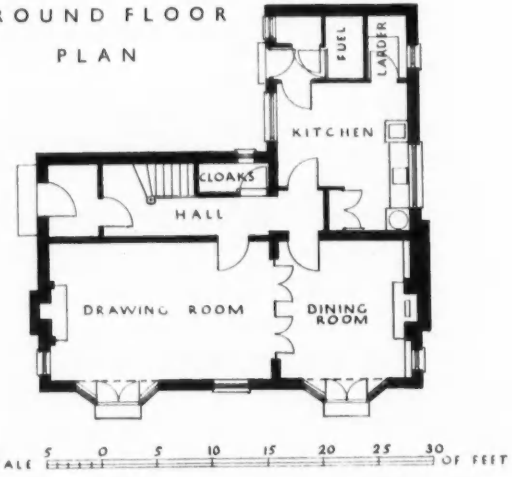
In the Picture Gallery on the first floor, natural lighting is from three large windows. Artificial lighting is from four hanging pendants and two glazed spot lights with universal joints to permit focussing on individual exhibits. The Print Gallery on the second floor has diffused general light, with concealed strip lights in a fibrous plaster cove.

The new shop front, illustrated above, has a Nabrasina marble surround, with Ebony black granite plinth. The large top light is glazed in one piece and allows for light to reach the Reception Room. The bronze name lettering is illuminated by a series of strip lights behind the drawn bronze fascia reflector strip. The recessed portion of the shop front is illuminated by flush light panels in the soffit, glazed with wired Georgian plate, sandblasted. At each side of the showcase there are vertical strips in recessed reflectors to give diffused general illumination. The showcase is constructed of laminated board, veneered in Australian walnut. The grilles in the granite stall-board are for ventilating the showcases, an upward draught being caused by means of tubular heaters placed under the showcase; there are further grilles in the floor of the showcase, allowing free air movement over the glazing to prevent condensation.

THREE HOUSES AT CAMBRIDGE

EVERARD

FIRST FLOOR PLAN

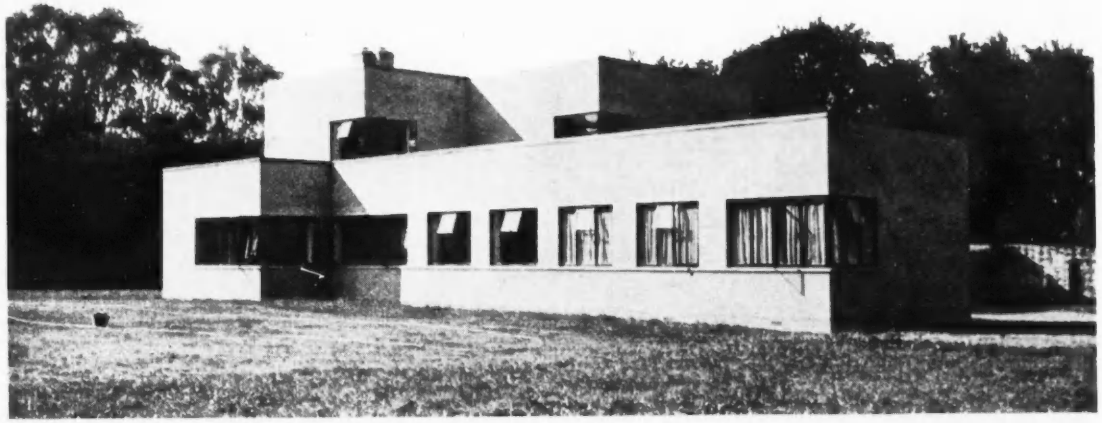


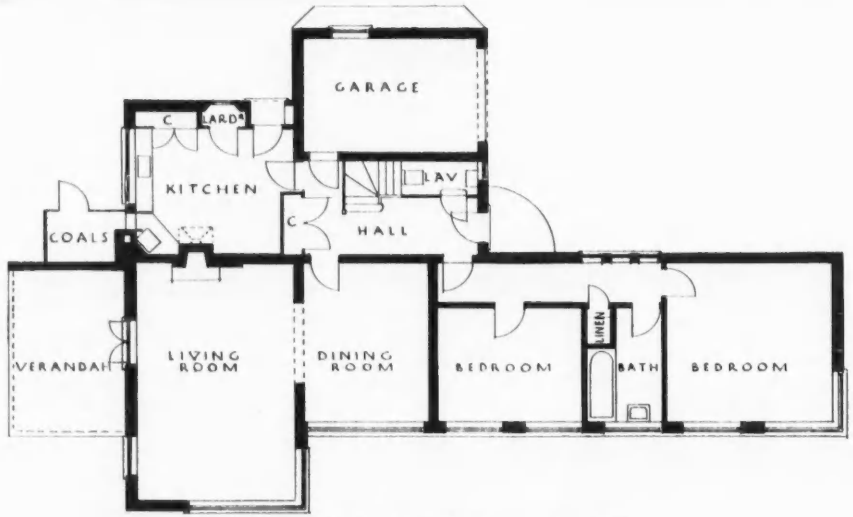
On these two pages and the following one are illustrated three houses recently completed at Cambridge by the same architect. The first one, on this page, is a small house built in the grounds of a large one, in Brooklands Avenue, to accommodate some early Victorian furniture. It is faced with sand-lime bricks, with chimneys and plinth of Stamford grey bricks. The roof is of rough Welsh slates.

The second one, on the facing page, has a reinforced concrete frame and raft with in-filling of brick. In the external rendering hydraulic lime and local sand have been used, with the idea of avoiding crazing. The position of this house is between the two houses in Conduit Head Road built some years ago by George Checkley, and the yellow colour of the rendering is designed to harmonize with both the white colour of one and the cream of the other. The coping is of copper.

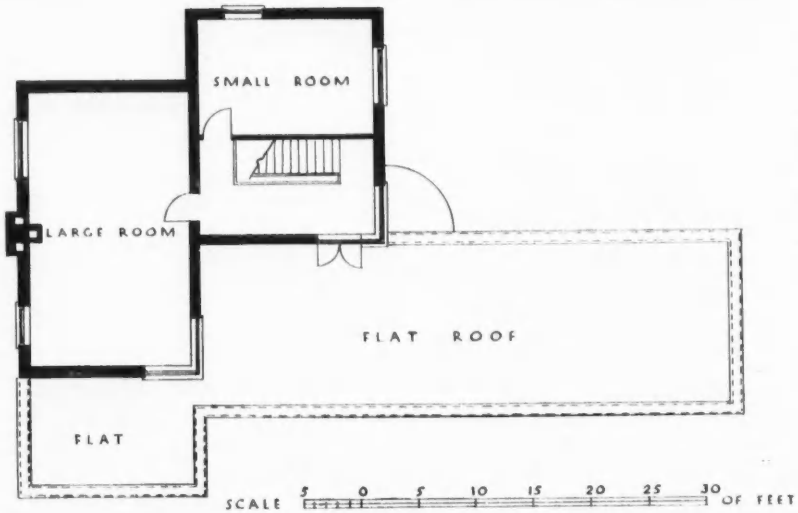
The third house, overleaf, is of three storeys, faced with primrose bricks, with a roof of dark brown pantiles. The sleeping porch on the top floor has columns of artificial stone, and decorative balcony railings of wrought iron. Further decoration is provided by sculpture over the entrance by Dom Aeldrid Whitacre in Ketton stone. Inside, the study has a ceiling of exposed Columbian pine joists, with sound-proof filling above, and the dining-room has its walls covered with Gaboon mahogany, with doors of Canadian red cedar.

The photographs are taken from the garden and from the interior of the second floor sleeping-porch.





GROUND FLOOR PLAN



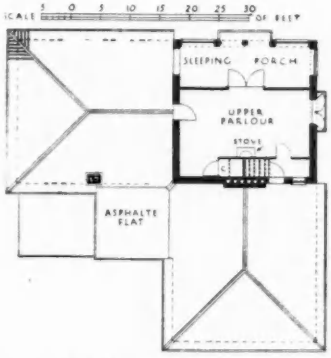
FIRST FLOOR PLAN

DESIGNED BY H. C. HUGHES

HOUSE AT CAMBRIDGE

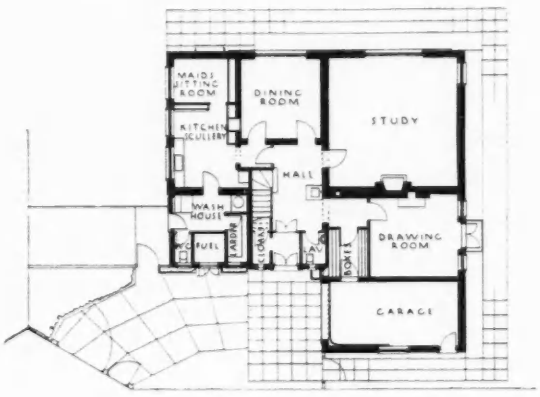
EVERARD

This is the third of the three houses here illustrated, by the same architect. It is in Buckingham Road, Cambridge. *See description on page 298.*



SECOND FLOOR PLAN

FIRST FLOOR PLAN



GROUND FLOOR PLAN

DESIGNED BY H. C. HUGHES

WORKING DETAILS : 109

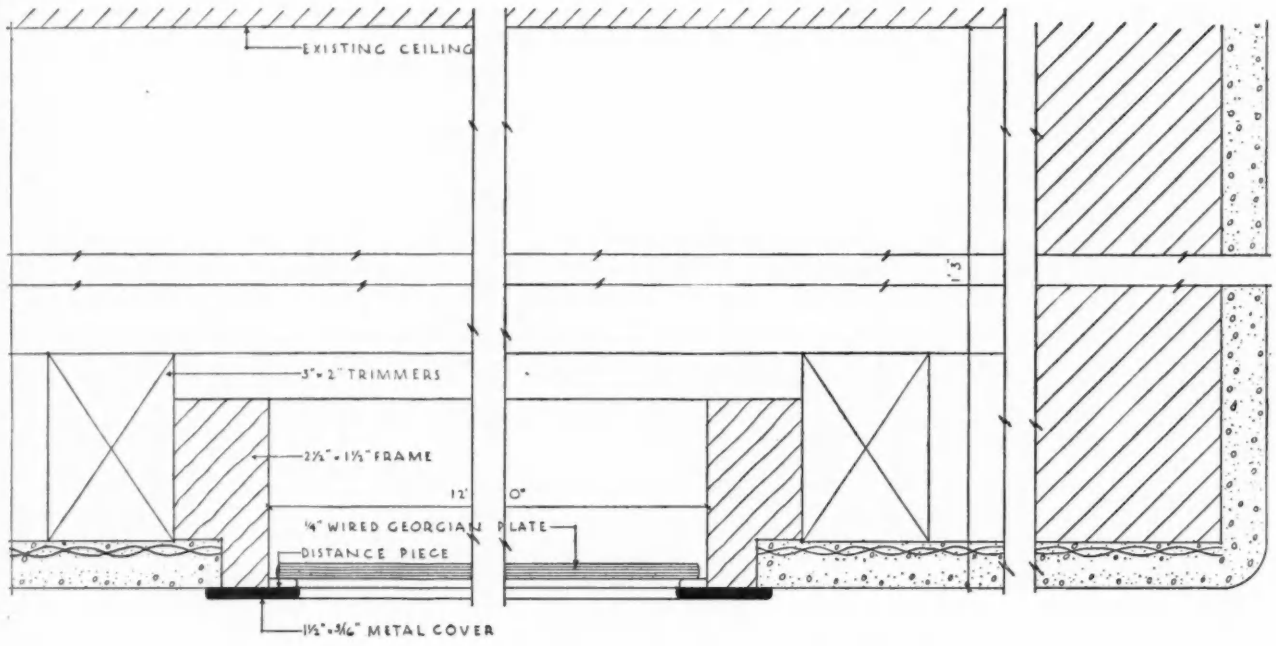
LIGHTING AND HANGING • PICTURE GALLERY IN BOND ST. • ALAN MARLOW

HERBERT FELTON

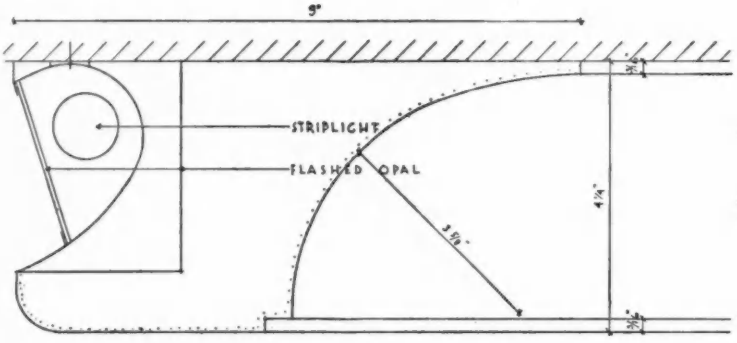
Above is a photograph taken in the reconstructed interior of Messrs. Sabin's Galleries in Bond Street. Overleaf are details of the hanging rail for pictures and of two of the methods used for diffused lighting in the different exhibition rooms, designed to avoid reflection off the glass.

WORKING DETAILS : 110

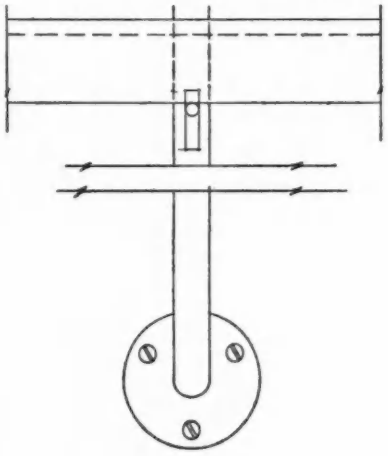
LIGHTING AND HANGING • PICTURE GALLERY IN BOND ST. • ALAN MARLOW



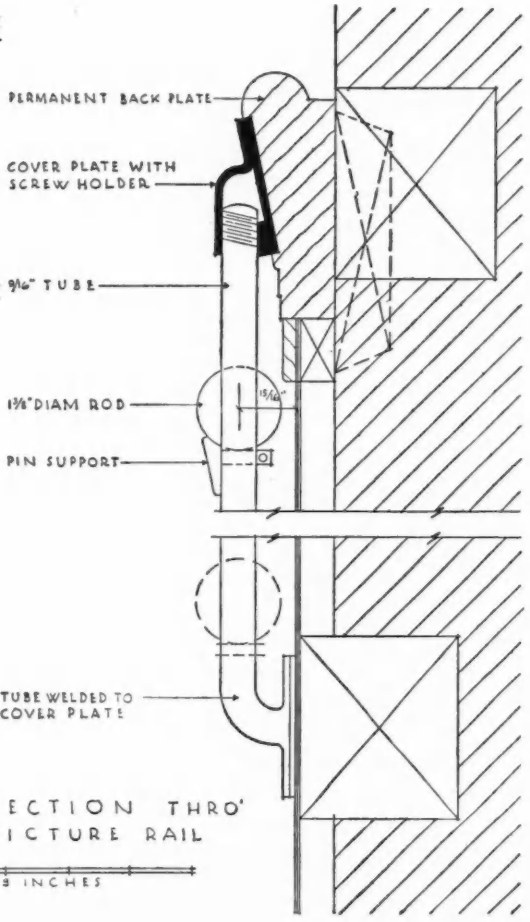
SECTION THRO' CEILING LIGHT PANEL



FIBROUS PLASTER COVE



ELEVATION



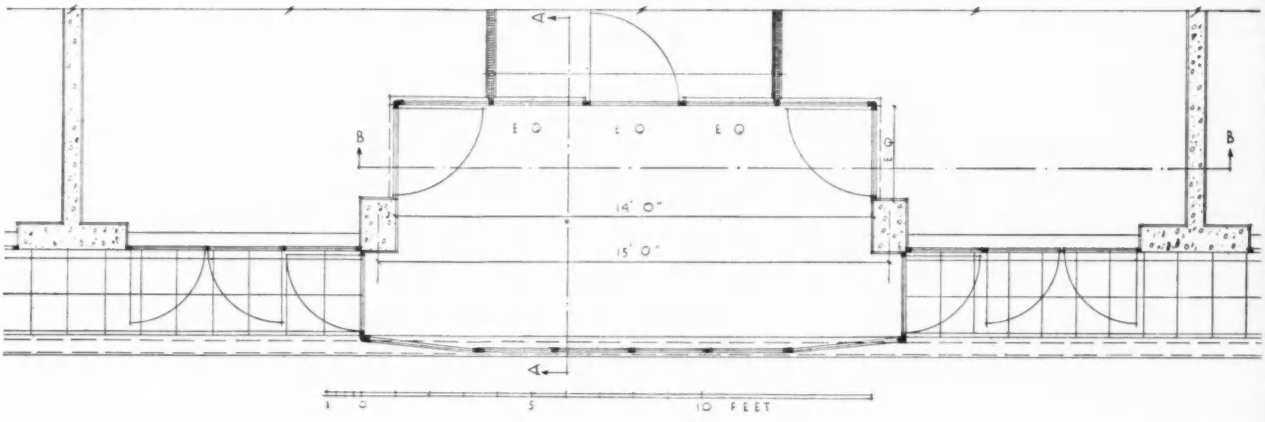
SECTION THRO' PICTURE RAIL

Picture rail and concealed lighting in an exhibition gallery. See photograph overleaf.

WORKING DETAILS : III

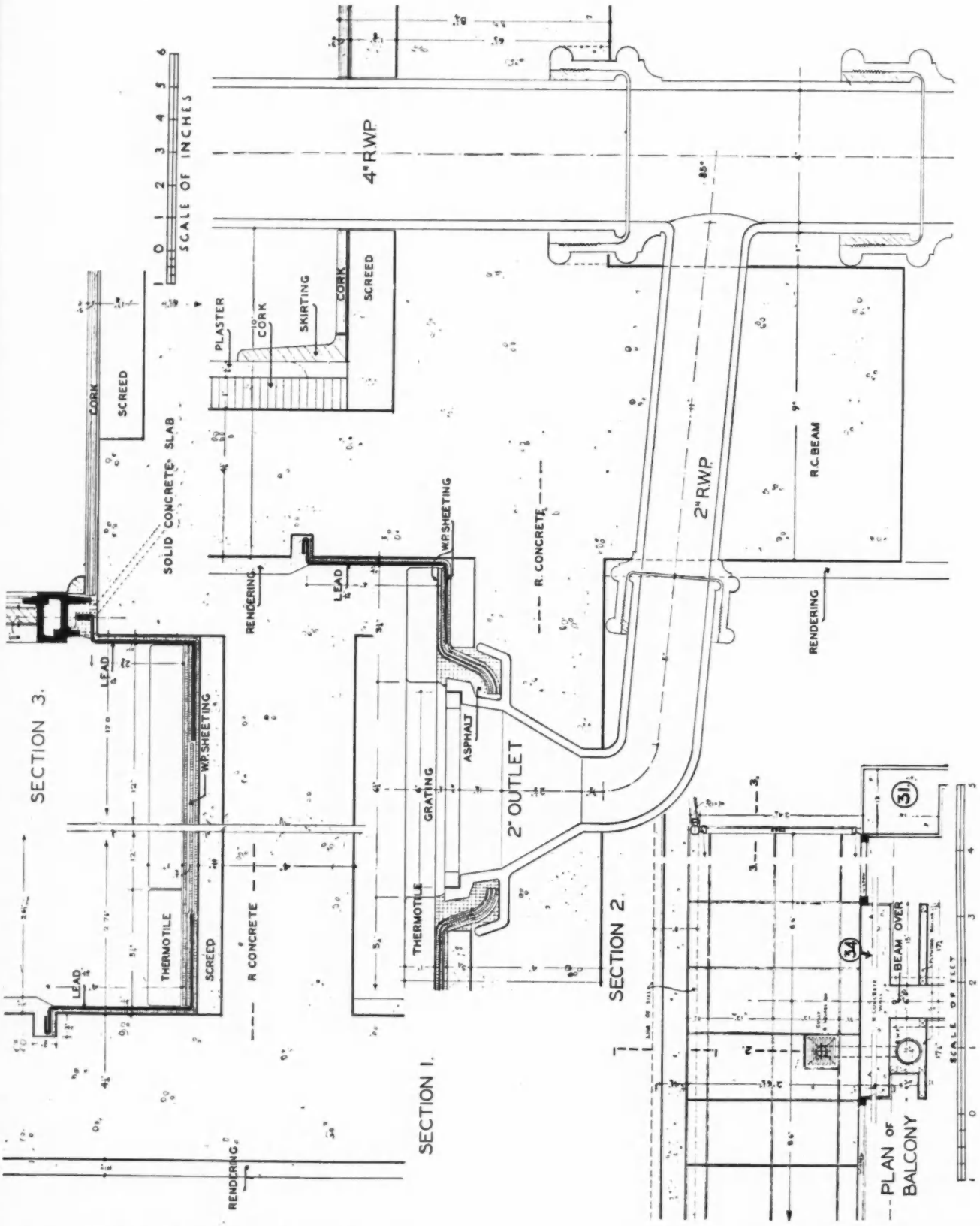
BALCONIES • FLATS AT BRIGHTON • WELLS COATES

The sketch on the right shows the continuous range of balconies along the front elevation of the proposed Embassy Court, Brighton. Open balconies and glass-enclosed sun-rooms are alternated. (See plan below of standard balcony unit.) Last week we gave details of the glazing to the sun-room. This week, overleaf, we give details of the open balcony, showing the floor finishes and the design of the internal down-pipe.



WORKING DETAILS : 112

BALCONIES • FLATS AT BRIGHTON • WELLS COATES



Details of finishes and rain-water outlet to external cantilevered balcony in reinforced concrete.

L I T E R A T U R E

THE GOVERNMENT'S HOUSING POLICY.

[*By Philip H. Massey, B.Sc.(Econ.), F.R.Econ.S.*]

Fifteenth Annual Report of the Ministry of Health 1933-34. *Cmd.* 4664. London. H.M. Stationery Office. Price 6s. net.

THE Housing and Town Planning section of this Report contains a brief summary of the Government's housing policy. The first stage of this policy, it is stated, was based on the principle that slums should no longer be tolerated. The second stage is based on the assumption that overcrowding, too, is not to be tolerated. It is stated that:

"In March, 1934, after it was clear that the campaign against the slums was well under way, the Minister announced the Government's intention of making a direct attack on *the remaining housing evil* of overcrowding, and outlined the provisions of legislation to be introduced later in the year. In making this announcement, the Minister emphasized that there was nothing in the new proposals to *interfere* in any way with the work of slum clearance." (The italics are mine.)

It is apparently not appreciated that the work of rehousing the nation cannot be undertaken in this sectional manner. A true housing campaign surely necessitates some sort of sociological survey. Such matters as population movements within the country (which have been very considerable over the past fifteen years), of changes in the size of the family, of the sizes of family at present corresponding to different income-groups, of the movements of industries and the desirability of further movement, of wage levels corresponding to the various industries with which certain parts of the country are associated, cannot be ignored merely by wiping out the evils existing at a particular moment in time. In short, we must find out the types of houses which the people should have, and do our best to produce these in the right places and in the right numbers. This involves, of course, planning for the future as well as planning in the present It will be necessary, says the Ministry, to provide a standard of overcrowding, and then, by means of local surveys, to ascertain where overcrowding exists and the extent of it.

It is appreciated that overcrowding occurring in city centres must be dealt with largely by the building of flats, and a subsidy, the amount and form of which are under consideration is to be available for authorities proposing to provide such accommodation.

The existence of the Moyne Report and its main recommendations are noted. No hint is given of impending Ministerial action regarding reconditioning or house management. Emphasis is laid, however, on the statutory duty of owners of working-class houses to let to keep their houses in all respects reasonably fit for human habitation, and it is plainly stated that many owners do not recognize this duty and do not carry out repairs until pressure is brought to bear.

It is pointed out that during the year 1932 over a million and a half houses were inspected by local authorities under the Public Health and Housing Acts. Over 26,000 were found totally unfit and over 350,000 not in all respects reasonably fit.

In view of these last two figures and the very large variation in the amount of repair work secured in different areas it would seem desirable for local authorities to increase considerably the number of houses inspected in the course of a year, particularly since the rights of controlled tenants under the Rent Restriction Acts appear to be so little known by the tenants concerned. The Report stresses the need for local authorities to keep proper records relating to such inspections and to systematize the formal work of serving notices requiring repairs.

According to the Report:

"Statistics obtained since the Act [Housing (Financial Provisions) Act, 1933] was passed give reason to believe that the Government's reliance on private enterprise as the main source of the future supply of working-class houses was not misplaced."

Returns for the half-year ended March 31, 1934, show that of the total of 120,781 houses built by private enterprise during that period 44,754 are "C" class, of which only 13,014 are to let. Other sample enquiries have shown proportions of 16 per cent. and 19 per cent. of private enterprise houses to let. "Considerable activity," under the guarantee scheme, boils down to the fact that returns received up to March 31, 1934, show that the number of houses in respect of which guarantees had been given was 1,631, though proposals respecting nearly 20,000 had been submitted by local authorities. It is stated that "as regards the builders, the revival in the demand for small houses for purchase has undoubtedly offered a strong counter-attraction."

The number of houses completed during the year under the Housing Act, 1930, was 9,078.

At March 31, 1934, over 12,150,000 acres of land (nearly a third of England and Wales) was covered by planning resolutions or schemes. Those who have attempted serious study at the British Museum repository at Colindale will be gratified to know of the belated establishment of an Aerodromes Advisory Board. 821 local authorities had prepared or were engaged in preparing schemes, independently or otherwise, 102 having initiated the preparation of schemes for the first time during the year under review.

Considerable statistical information on the development of town and country planning is given in the text and the appendices and the former contains useful "Notes of Some Decisions on Appeals." The most comforting feature is perhaps the large increase in the number of Joint *Executive* Committees.

Loans to local authorities sanctioned during the year are slightly higher than in 1932-33, those to trading undertakings being about £680,000 higher, and those to non-remunerative services £315,000 lower. Main increases are for gas works and water works, and mental hospitals; figures for hospitals and ambulances, baths and washhouses, scavenging purposes and refuse destructors, among other services, show a decrease.

5·5 per cent. of analysed articles of food were found adulterated, as compared with 5.1 per cent. in 1932 and 4.6 per cent. in 1931. Jam and marmalade and fresh milk, together with vinegar, show adulteration percentages of 7 per cent. or above. There seems a need for increased activity in this sphere.

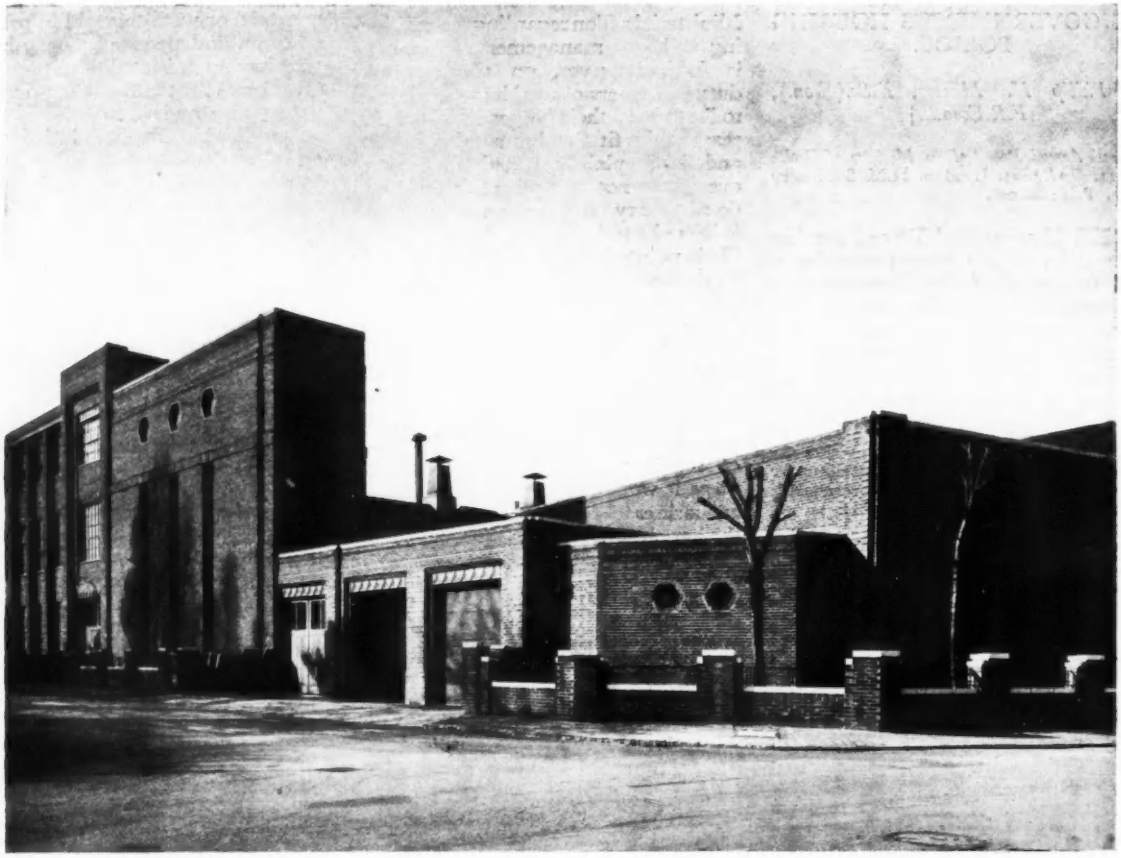
Maternal mortality figures have increased still further. The 1931 figure was 3.94 per thousand live and still births; for 1932 an increase to 4.04 was recorded; in 1933 a further and larger increase to 4.32; the rate is now considerably above the average for the years 1911-30, which was 4.07 per thousand births (live only). The infantile mortality rate has, however, been further reduced, to 64 per thousand and the tuberculosis death rate (all forms) has dropped to 824 per million, the lowest yet recorded; the recent increase in the incidence of deaths arising from cerebro-spinal fever has been reversed, and the declining incidence of small-pox continued in 1933.

The number of persons in receipt of poor relief has increased from 1,263,624 (average for 1932-33) to 1,325,043 (average for 1933-34); the latter figure is equivalent to 33 per 1,000.

One wonders if the Ministry has reflected on the amount of subsidy required in order that persons in receipt of unemployment payments or poor relief shall be enabled to escape the evil of overcrowding.

Books reviewed in these columns may be ordered through The Architectural Press, 9 Queen Anne's Gate, S.W.1

EXTENSIONS TO FACTORY



This is an extension to Messrs. Herbert Terry and Sons' Novelty Works at Redditch. The main block is of three storeys, and comprises a heavy machine shop on the ground floor, the new main works entrance, the surgery, and welfare centre. The first floor is devoted to tool making and drawing offices, and the upper floor is constructed for light machinery and storage.

Adjoining the main block is the new hardening shop with a bridge screen to a proposed future extension.

On the corner of the site are placed the loading docks with top light, and, immediately beyond, the packing room and new warehouse, both of which have balcony stores, with large lantern lights above, and are fitted with run-way tracks.

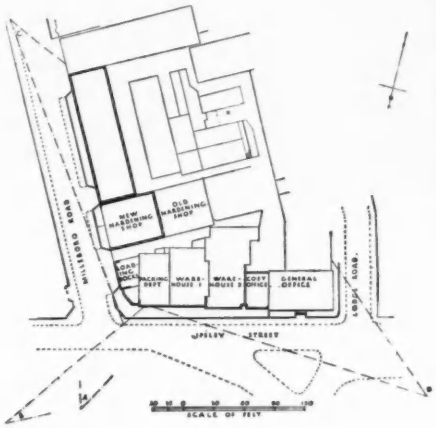
The photograph above shows a general view of the new works, taken from the point marked A on the block plan overleaf. On the left is one of the buildings of the existing factory; the general office, taken from the point D.

AT REDDITCH, WORCESTERSHIRE

DESIGNED

BY

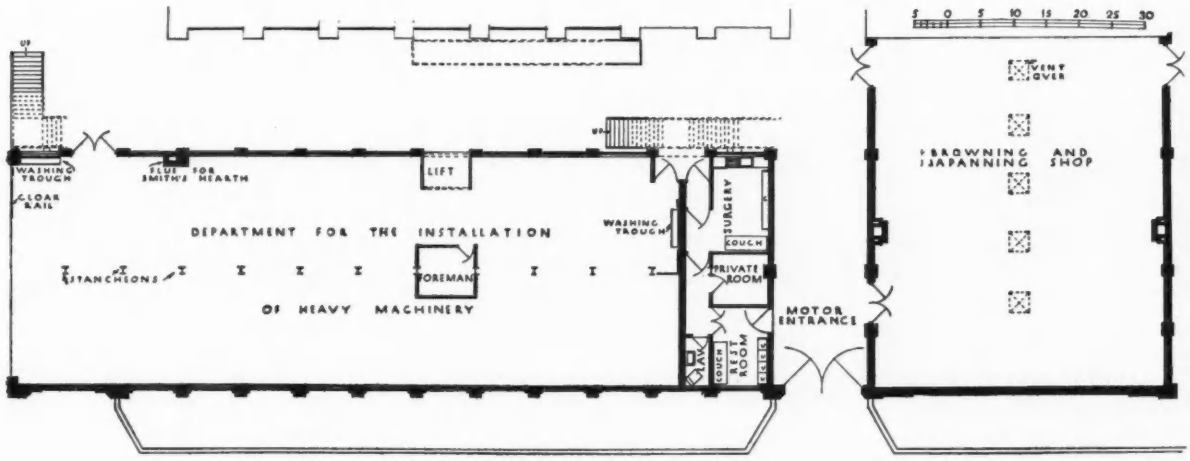
FRANCIS W. B. YORKE



BLOCK PLAN

The buildings are of steel frame construction with reinforced concrete lintols. They are faced with 2¼ in. sand stock facing bricks, and the cornice is covered with half round crest tiles. Windows are of steel and cills and copings of reconstructed stone. The entrance doors are of oak with wrought iron grilles. The stairs are external to the building and are of steel, but there is also a small internal spiral stair for the use of the staff.

The photograph above shows the main block, taken from the point C in the block plan adjoining.



GROUND PLAN OF NEW BUILDINGS

QUESTIONS THAT ARISE

DOWN DRAUGHT

¶ A. B. writes: "*I am having considerable trouble with a fire due to blow-downs. I have tried all different types of cure without success. I wonder if your experts could help me to find a cure? I enclose a sketch giving the details.*"

If the trouble is definitely located as due to down draught from external causes it might be overcome by the following means, used separately or in combination:—

1. Extend the withes of one or both flues in the stack to a height, say, 6 ins. over top of pots and cover in over the chimney top with a solid slab of stone or slate.

2. Cut into the external wall from the north at the base of the vertical portion of the flue and form a check-table as sketch. It will be realized that this table is liable to form a resting place for soot, and it will be advisable to build in a double airtight soot door when making good the opening.

It is assumed that the chimney rises well clear of ridge that the flue itself is not constricted in any part (particularly where it is crippled), and that the actual fireplace is of a satisfactory form; also that air supply to the room is adequate for a steady updraught. Sometimes a feeble draught is due to tightly fitting doors and casements.

WALLPAPER LEAVING PLASTER

¶ F. T. writes: "*Two houses erected and plastered during the winter of 1933-1934 were decorated in March, 1934, and during the interval—March to June, 1934, the wallpaper has left the plaster, with unsightly results.*

"*The houses are brick built with inside walls of local common brick laid in black mortar composed of local sand, hydraulic lime (Buxton) and cinders mill ground on the estate. The walls are plastered with two coat plaster and the setting coat is composed of lime putty, sand and patent hard wall plaster.*

"*The visible indications are a dry white film over the surface of the plaster which can be brushed off. In the two houses in question the film appeared to have formed after the paper had been hung. The paper is fixed with flour paste which has certainly bound the wallpaper and the border together very effectively. There is no indication that the walls are damp. The damp-proof courses are continuous and are not likely to be damaged.*"

There can be little doubt that the "dry white film" on the face of the wall consists of salts which have emerged as efflorescence, either from combination of components in the mixture of lime and the patent hard wall plaster for from black mortar. The periodically published "Questions and Answers" of the Building Research Station frequently contain certain reference to cases where trouble to decorations or sometimes to plaster coatings arises in this way. If the work is now thoroughly dry and set, it is probable that the film having been brushed off will not reappear, but a coat of bitumenous paint before repapering might be a useful safeguard. E. G.

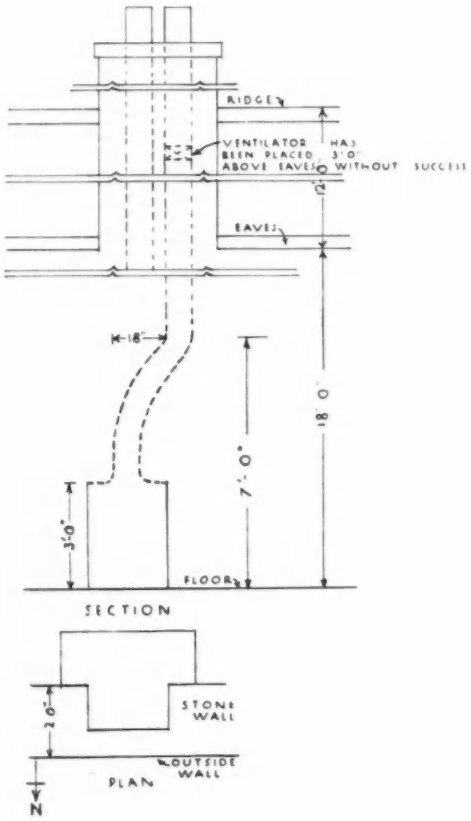


Figure 1 (left): the chimney and fire-place as existing. See query on down draught.

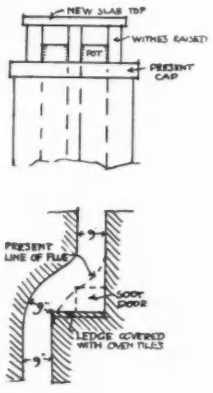


Figure 2.

IN THAT CONTINGENCY

[The following abstracts of inquiries represent a number of those recently submitted to the Building Research Station. The information given in the replies quoted is based on available knowledge. It has to be borne in mind that further scientific investigations may in the course of time indicate directions in which the replies might be supplemented or modified. Moreover, the replies relate to the specific subject of each inquiry, and are not necessarily suitable for application to all similar problems. Crown Copyright Reserved.]

Cracking of Brickwork Due to Thermal Expansion

¶ *ARCHITECTS reported that, during the hot weather in the early part of the summer of 1934, cracking occurred in the brickwork of a large institutional building recently erected. The walls of the building in question were 16 in. hollow walls, with a 9 in. inner wall, a 2 in. cavity and a 4½ in. outer wall, all in 3:1 cement mortar. The cracking had occurred in a long boundary wall and in the building itself. At the point where the boundary wall abutted on the building there was a noticeable twisting of the brickwork in the outer skin. There was no evidence of settlement, and the cracking in the building was confined to the outer skin, principally on the sunny side. Thermal movements were suspected as the cause of the cracking. An inspection of the building was made, and the behaviour of the boundary*

wall, the archway through it and the junction of this wall with the building clearly showed the cause of the trouble. The following reply was furnished.

The length of boundary wall, connecting two buildings is considerably restrained at the ends. Thermal expansion of the wall has resulted in a state of compression which has lifted the brickwork at the centre arch. In addition, the thrust of the boundary wall has exerted a turning influence on the brickwork at the angle of the building at the south end of the wall.

Our opinion, that these effects are due to thermal movements, is corroborated by the observations of the Clerk of Works and the contractors' representatives that on a cold, dull day the cracks close up completely, whereas at the time of our inspection, with brilliant sunshine, they were open to an appreciable extent. It seems that the cracking on either side of the central feature in the south-west elevation is also due to thermal movement of the brick walls abutting on to it.

As a result of the investigation of a considerable number of similar cases, we are inclined to the view that carefully executed work in cement mortar is rather more prone to such troubles than traditional work in lime mortar. With lime mortar a certain amount of expansion can be taken up in every joint, but with a hard cement mortar, and especially in the thin leaves of cavity walls, there is little latitude for movement of any kind.

It seems to us that the twisting of the brickwork at the angles can best be overcome by cutting a chase in order that the thrust from the boundary walls is not transmitted to the front of the building.

We think it probable that the abnormally hot weather is the principal cause of the trouble in this case, but we have on record a considerable number of very similar failures.

Effect of Alum Solution on Concrete Tanks

¶ *CONTRACTORS required to know whether alum solution could be stored in concrete tanks.*

The class of substances known as " alums " are destructive of Portland cement concrete. Aluminous cement is reported to be less affected than Portland cement, but whether the superiority would justify recommending it for this purpose is not known. A lining of bitumen or asphalt is recommended. A bituminous paint would afford protection, but the endurance of the concrete would be dependent on maintenance of the bituminous coating. Periodical inspection should be made in order that the treatment may be renewed when necessary. A lining with asphalt would be a more serviceable alternative. The grade of asphalt should be one specially prepared to resist acid attack, since alum solution has a definitely acid reaction. Asphalt manufacturers would be prepared to advise on a suitable mastic or paint for the purpose.

Mr. F. R. S. Yorke, A.R.I.B.A., is away on holiday. His Trade Notes will be resumed on his return at the end of the month.

LAW REPORT

IMPORTANT POINT UNDER THE HOUSING ACTS, 1925 AND 1930

In re the Jarrow North Ward Clearance Order No. 1.—King's Bench Division. Before Mr. Justice Swift.

IN this case Alice Errington and Elizabeth Steel, of Jarrow, and Catherine Anne Maxwell, of Kinton Road, Gosforth, as the executors of the will of the late Mr. Robert Smith, asked that an order of the Minister of Health should be quashed.

Mr. G. Blanco White, for the applicants, said that the dispute concerned some houses standing on about 1¾ acres, being a number of blocks which had become subject to the clearance order. It had been declared to be an unhealthy area, and the owners then, as the place was under suspicion, had not perhaps done as many repairs as they could or might have done, and in 1933 no doubt many of the houses required attention. On the other hand the streets were wide and the rooms high, so that the houses were not so bad as they were made out to be. In 1933 the Medical Officer of Health represented to the Town Council that a number of the houses, by reason of disrepair and sanitary defects, were unfit for human habitation, while others were dangerous and injurious to the health of the occupants and the inhabitants generally. He suggested that the best way of dealing with the matter was by demolition. In February, 1933, the Council made an order, and notice was served on the owners in April, 1933. They at once put in an objection and a public inquiry was subsequently held. There was no doubt a serious question whether the order should be confirmed. Two witnesses were called for the Council, one of whom was a Dr. Dormer. His evidence came to this, that although he would like the area demolished, it would be possible, except as to certain houses which were congested, to make the others sound by repair and improvements. In the end the Minister confirmed the clearance order covering the buildings contained in the schedule, and being in Shakespeare, Spenser, Chaytor and Milton Streets. The applicants now asked that the order should be quashed. They contended that the Minister did not act in a proper manner in that he permitted a deputation to come before him for the Town Council, and held other communications with the Council behind the backs of the applicants to which they had no opportunity of replying. They further submitted that the requirements of the Housing Act, 1930, had not been complied with, and with the result that the applicants had been substantially prejudiced. After further inquiry there was a meeting in September, 1933, and the Inspector appointed by the Minister suggested that the property owners should agree about the repairs and improvements required in some of the houses. The Council laid stress that the order should prevail. Finally, certain improvements were approved by the medical officer, except as to certain cross blocks, which were condemned on the ground of congestion. On November 17, 1933, the mind of the Minister was that the order would not be confirmed, with the exception of the houses, the owners of which would not do the necessary repairs called for. But after that communications took place between the Council and the Minister of Health, which changed the latter's mind to confirm the order. The Council apparently pressed for demolition, and it was after that, that what counsel characterized as a grave impropriety took place, for somebody representing the Minister wrote informally to the Town Council, and that was replied to informally through the Town Clerk, and arrangements were made for a meeting, with the result that the officers of the Minister went to Jarrow and some houses were inspected without any notice being given to the owners. There were negotiations going on behind the backs of the owners and without giving them the opportunity of cross-examination. On March 27, 1934, the order was confirmed, and in the circumstances counsel submitted that it should be quashed, inasmuch as the Minister, in accordance with the provisions of the Act, had not fairly and properly considered the matter in a judicial manner.

The Solicitor-General, Sir D. B. Somervell, K.C., on behalf of the Minister of Health, said as he understood it the gravamen or charge made was that between the inquiry and the making of the order, the Minister, by his representatives, met the Jarrow Council and discussed matters. It should not be forgotten that the Minister was not bound by the inquiry. The question of expense was one which had to do with the matter and one which the Minister must consider.

In reply to his Lordship, Sir Donald said the Inspector holding the inquiry could not hear evidence in private on behalf of any side. His duty was to report to the Minister on evidence given in public. The Minister had to consider the report of the Inspector, but assuming he acted honestly, he could not reject it. There was nothing to prevent him going to Jarrow to view the houses and he need not tell the parties he was going. The question was, had the Minister acted fairly? Counsel submitted that he had, and that he was entitled to discuss the matter with the local authority.

His lordship: Do you contend that he could call in an independent surveyor?

Sir Donald: In my submission he could; as long as the Minister acted fairly and honestly there was nothing to prevent him getting any information he thought necessary. It is inevitable and necessary for the Minister to consult with other persons in many matters connected with these orders and it would really make it almost impossible for the Minister otherwise to carry on properly his duties in these matters.

Mr. Blanco White replied on behalf of the applicants.

His lordship, in giving judgment for the Minister and dismissing the application, held that the Minister, in making the order, had done so in full compliance with his duties under the statute. It was said against him that he had been unfair inasmuch as he had acted contrary to natural justice by listening privately to the stressing by the Council of their opinion that demolition was the only cure for the evil. As an administrator the Minister's duty was to inform his mind in any way he liked, provided he did so honestly. It could not possibly be said here that he had not acted honestly. His lordship thought the case went to the root of the Minister's authority, and in the circumstances he would do all

he could to assist the parties to take the case to the Court of Appeal, if they were so advised.

The application of the executors was accordingly dismissed, with costs.

The Welsh School of Architecture

The new term at the Welsh School of Architecture opens on October 1.

The School, which for the last seven years has been granted the status of Final Recognition by the R.I.B.A., is accommodated in the new wing at the Technical College, Cathays Park, Cardiff. At this College, ten scholarships covering tuition fees and maintenance grants of £40 per annum for three years, are offered for competition annually. Candidates for entry to the Welsh School of Architecture are eligible to compete for these scholarships. The scholarship examination is a competitive one and is of about the same standard as matriculation.

The Welsh School of Architecture has now been at work for rather more than fourteen years under the charge of Mr. W. S. Purchon, M.A., A.R.I.B.A., the Lecturer in Architecture being Mr. Lewis John, M.A., B.ARCH., A.R.I.B.A., the Assistant Lecturer, Mr. A. MacLean, B.A., A.R.I.B.A., and the Junior Instructor, Mr. Trevor Hill.

Prominent local architects assist in the work of the advanced course as honorary Lecturers. Students in the Department also attend courses of instruction in the Departments of Engineering, Technical Chemistry, Mathematics, Physics and the School of Art.

The three years' full-time Day Course leads to the award of the Certificate, to the holders of which the R.I.B.A. grants exemption from its Intermediate Examination, while those students who successfully pass through the Diploma Course are exempted from the R.I.B.A. Final Examination, a special course of lectures on Professional Practice and a special examination in this subject being held in the School. Success in the Diploma Examination also forms a complete qualification for Registration under the Architects' Registration Act of 1931. This Diploma Course follows the Certificate Course and consists of two sessions, the former of these being of six months' duration only, the intervening six months being spent in Architects' offices. There is also an evening atelier for architects' assistants who cannot attend the day courses.

The Department is in close touch with the South Wales Institute of Architects, representatives of this body being on the Advisory Committee of the School, and students of the School are eligible for the prizes awarded by the Institute. In addition to these awards, there are a number of School Prizes presented in the main by local architects.

Candidates for the entrance and scholarships examinations should obtain application forms which must be completed and submitted by September 15.

Manufacturers' Items

Messrs. W. T. Henley's Telegraph Works Co., Ltd., of Holborn Viaduct, E.C.1, have sent us a copy of booklet entitled *Quality in Rubber Cables*. The booklet, which is a reprint of a paper read by Dr. P. Dunsheath at the London Branch of the Association of Mining Electrical Engineers on April 10 last, indicates the methods by which modern rubber insulated cable is produced. Copies are obtainable on application to the firm at the address given above.

*

Sixty years of industrial progress—the growth of a manufacturing organization from a one-man concern to a firm employing nearly 2,000 workpeople—was celebrated by the firm of G. A. Harvey & Co. (London), Ltd., on Saturday, July 7.

Sixty years ago Mr. G. A. Harvey started in business for himself by acquiring an old forge in Lewisham. This he converted into a workshop, and, with the assistance of one boy, carried on the business of a zinc worker, to which trade he had been apprenticed. This nucleus of a works occupied less than half an acre of ground, and the production consisted mainly of materials in zinc—cistern linings, gutterings, etc.—for the requirements of local builders. To-day, Harvey's works extend over 28 acres, where they manufacture for a great variety of trades. Here one may see such diverse processes as fine wire cloth being woven on machines that might be met with in a textile mill, the resultant cloth, of the thinnest possible gauge of copper, bronze, or brass wire, being in consistency not much unlike a textile product; wire of a thicker gauge being woven on equally ingenious machines into lattice work for radiator covers, grilles, etc.; all kinds of metals being perforated with every conceivable kind and size of perforation for innumerable industrial and other purposes; the manufacture of patent ventilators and the making of ordinary domestic dustbins; the construction of steel furniture and garage equipment; and the building of heavy industrial plant of a specialized character such as pressure vessels, distillation and impregnating plants, fractionating towers, reaction vessels, solvent recovery plants, etc.

Mr. G. A. Harvey has recently relinquished direct control of the firm to his son, Mr. Sydney Harvey.

Above we reproduce illustrations of the interior unit installed in one of the interior rooms of No. 154, New Bond Street, W.1, and the reflector used in the laylight on the ground floor. This building is fully illustrated elsewhere in this issue.

The interior lighting unit block is claimed to be a new design of scientific construction, ensuring the maximum reflection of light and at the same time giving wide distribution. This fitting has also been adopted for the whole of Messrs. Bourne and Hollingsworth's premises. The reflector is made from optical glass and it is stated that nothing but pure silver is used. The manufacturers of the lighting unit and reflectors are Messrs. Zeiss Ikon Ltd., of 37-41, Mortimer Street, W.1.

*

In the caption beneath the photograph of the Conference Room at the Research Laboratory, Stocksbridge, on page 235 of our issue for August 16, we omitted to mention that the furniture in this room was designed by Messrs. Gordon Russell, Ltd.

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

Following are the names of the general contractors and some of the sub-contractors for the buildings illustrated in this issue :—

House in Conduit Head Road, Cambridge (page 299). General contractors, Coulson and Sons. Sub-contractors: Expanded Metal Co., reinforced concrete raft, pillars, beams and lintols; Cambridge Brick Co., bricks; East Anglian Cement Co., hydrolized hydraulic lime; Braby & Co., copper coping; Henry Hope and Sons, Ltd., steel windows; Dent and Hellyer, Ltd., sanitary fittings; Anderson and Son, Ltd., Thermotile for main roof, Macasfelt for upper roof; Joseph Freeman, Sons & Co., Ltd., external rendering; R. W. Steele & Co., heating.

House in Brooklands Avenue, Cambridge (page 298). General contractors: Coulson and Sons. Sub-contractors: Grovebury Brick Co., Stamford grey brick plinth and chimneys; Roberts, rough Welsh slate roof.

House in Buckingham Road, Cambridge (page 300). General contractors, C. Kerridge, who were also responsible for all joinery and flush doors. Dom Aeldrid Whitacre, sculpture over door in Ketton stone. Sub-contractors: Collier & Co., primrose facing bricks; Colthurst, Symons & Co., "Renardo" dark brown tiles and glass tiles for porch roof; Howard Bros., Gurjun study floor; Cambridge Artificial Stone Co., precast stairs; Cullamix faced tiles for hall and stairs; Dent, wrought iron work; R. W. Steele, hot water and heating; Cambridge Electric Wiring and Repair Co., electrical work; Anderson and Son, Ltd., Thermotile floor to upper balcony.

Picture Gallery at 154 New Bond Street, W.1 (pages 296-297 and 301-302). General contractors, J. Kidd and Son. Sub-contractors: Troughton and Young, Ltd., electrical work and light fittings; Merchant Adventurers, Best and Lloyd and White & Co., light fittings; Zeiss Ikon, Ltd., reflectors in laylights and light fittings on upper floor; Marryat and Scott, Ltd., lifts; Starkie-Gardner, Ltd., metal work; Venesta, Ltd., veneers; Anselm Odling, Ltd., stone work.

Factory at Redditch (pages 306-307). General contractors, H. B. Tarleton, Three-storey block and hardening shop in Millsboro' Road; J. and A. Millward, Ltd., Warehouses and loading docks at the corner and along Ipsley Street. Sub-contractors: Gibbs Bros., bricks; Anderson's Macasfelt asphalte roofs; Bell's Asbestos Corrugated Sheeting roof to Hardening Shop; Empire Stone Co., reconstructed stone; Rubery Owen, structural steel; James Gibbons and Henry Hope and Sons, windows; Wadsworth's, lift; Herbert Morris, runways; Edward White, ventilators; James Ward, Ltd., heating; Starkie Gardner, and Rose, wrought iron railings, balusters, etc.; Haywards, steel staircases and landings; Pilkington Brothers, vita glass; Venetian Flooring Co., terrazzo and jambless floors; Haywards, rolling shutters; Celotex wall board, Thomas Parsons and Sons, paint.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

CROYDON. *Works.* Mr. L. H. Bucknell, architect, has prepared plans for the erection of cabinet works at Purley Oaks, for Messrs. Webber and Harrison.

DARTFORD. *Swimming Baths.* The Corporation has instructed the borough engineer to prepare for consideration a scheme for the erection of covered swimming baths.

DARTFORD. *Streets, Houses, etc.* Plans passed by the Corporation: New streets and 50 houses, off Brent Lane, and tea-room and four houses, Brent Lane, for Messrs. W. J. Draper and Son; four houses and shops, Dartford Road, for Mr. F. F. Marsh; 16 houses, Priory Close, and six houses, Lawrence Hill Road, for Mr. W. J. Brise; 12 houses, Princes Road North and Dartford Road, for Mr. W. G. Cooper.

GOLDERS GREEN. *Flats.* A contract has been placed with Messrs. J. L. Kier, of 36 Victoria Street, S.W.1, for the erection of a block of flats at Highfield Corner, Golders Green. The architect is Mr. A. V. Pilichowski, A.R.I.B.A.

SOUTH-WESTERN COUNTIES

PAIGNTON. *Houses.* Plans passed by the U.D.C.: Two bungalows, Colley End Road, for Messrs. Maunder and Sons; four houses, Southfield Avenue, for Mr. R. M. Ely; two houses, Dunstone Park Road, for Mr. J. R. Stubbs; four bungalows, Pines Road, for Messrs. F. and A. C. Drew: two houses, Footlands Road, for Mr. F. Norman; two houses, Brixham Road, for Messrs. Willcocks and Barnes; 12 houses, Occombe Valley Road, for Mr. D. Peeke. Plans submitted: Lay-out of 324 building sites, Marldon Road, King's Ash Road, Windmill Road, etc., for Mr. J. P. Furse.

TRURO. *Housing Site.* The Corporation is continuing negotiations for the acquisition of land at Tregolls for a housing site.

EASTERN COUNTIES

YARMOUTH. *Building Sites.* The Corporation has leased two building sites to Mr. W. G. Wright and six to Mr. J. R. Chase in Beatty Road.

YARMOUTH. *Houses.* Plans passed by the Corporation: Ten houses, Beatty Road, for Mr. J. R. Chase; two houses, Perebrown Avenue, for Mr. J. G. Chase; two houses, Beccles Road, for Mr. H. A. Lansdell; two houses, Lawn Avenue, for Mr. G. Holmes.

MIDLAND COUNTIES

HARPF[illegible]LDS. *Estate Development.* Mrs. Pearson is to develop an estate in the vicinity of Albany Road.

STOKE-ON-TRENT. *Mental Colony.* The Corporation has appointed Messrs. Martin and Ward, of Birmingham, to undertake the work in connection with the proposed mental colony at Stallington Hall.

NORTHERN COUNTIES

BRANDESBURTON. *Pavilions.* The East Riding and York Joint Board is to erect new pavilions at the mental institution at a cost of £19,759 to plans prepared by the East Riding county architect.

HULL. *Schools.* The Education Committee has obtained sites in Priory Road and Wymersley Road for the erection of two elementary schools.

HYDE. *Roads, Houses and Shops.* Plans passed by the Corporation: Continuation of Grosvenor and Gower Roads, for Messrs. G. and S. Ridgeway; shops and billiards hall, Borough Arcade, for Mr. W. Stansfield; three houses, Tom Shepley Street, for Mr. J. Sidebotham: 23 houses, Knott Lane, and three houses, Mona Street, for Messrs. Dean and Whipp; two houses, Sheffield Road, for Mr. B. Armitage.

HYDE. *Houses.* At the Housing Committee of the Corporation it was reported that the Ministry of Health had approved an exchange of land at Ashton Road between Messrs. Jacobsen Welch & Co., Ltd., and the Corporation, and tenders were being invited for the erection of 30 houses at the Garden Street site. The borough engineer was to prepare the necessary plans and specifications and obtain tenders for the erection of the houses.

OTLEY. *Housing.* The U.D.C. is to purchase the Wellcroft Estate for housing purposes.

SCARBOROUGH. *Houses.* Mr. H. Foster is to erect houses at Osgodby.

SCARBOROUGH. *School.* The North Riding Education Committee is to erect a girls' high school at Sandybed.

SHEFFIELD. *Streets.* The Corporation has approved the following plans for new streets: Two at Thorpe House estate, for Messrs. W. and J. Laver; three off Hurlfield Avenue, for Mr. C. Swift; one off Marsh Lane, for Messrs. T. V. and W. L. Simpson: one, Totley Rise, for Mr. C. A. Thompson; two off Tinker Lane, for Mr. C. E. Spooner.

SHEFFIELD. *Factory, Houses, Shops, etc.* Plans passed by the Corporation: Three houses, Shirecliffe Lane, for Messrs. Appleyard and Taylor; two houses, Foxhill Road, for Mr. H. Haywood; two houses, Bentley Road, for Mr. Marshall; two shops and houses, Mansfield Road, for Messrs. J. N. Naylor and Son; 14 houses, off Longley Lane, for Messrs. G. Barlow and Sons; six houses, Edgedale Road, for Messrs. G. and R. Bradbury; two houses, Broad Elms Lane, for Mr. W. Green; two houses, Causeway Head Road, for Dore Estates Ltd.; two houses, Muskoka Drive, for Mr. G. M. Taylor; two houses, Shirecliffe Lane, for Messrs. Winton Hayes, Ltd.; two houses, Manchester Road, for Mr. E. Green: six houses, Old Park Road, for Mr. W. Redmile; four houses, Warminster Road, for Mr. D. Richerby; eight houses, Tinker Lane, for Messrs. Watson Lewis & Co.; two houses, Silverdale Crescent, for Mr. J. B. Brown; eight houses, Springfield Road, for Messrs. J. Copley and Sons; 28 houses, Oliver Road, for Messrs. F. Vidal and Son; two houses, Dobcroft Road, for Mr. J. C. Bailey; 12 houses, Chesterfield Road, for Mr. W. A. Wright; three houses, Bellhagg Road, for Mr. J. Jubb; two shops, Townhead Road, for Messrs. R. T. Hinchliffe and Sons; four houses, School Lane, for Messrs. M. J. Gleeson, Ltd.; two houses, Martin Street, for Mr. L. Toy; factory, Woodhouse Road, Intake, for Mr. E. Allen; 16 flats, Hangingwater Road, for Miss Fisher; 59 flats and seven shops, Duke Street, for Mr. A. Kraus.

STRETFORD. *Library.* The Corporation is seeking sanction to borrow £17,600 for the erection of a library in King Street.

WAKEFIELD. *Shops, Houses and Street.* Plans passed by the Corporation: Four houses, Cliff Street, for Mr. C. Armitage, on behalf of Messrs. W. Jowitt; street plan, Cliff Street, for Mr. C. Armitage, on behalf of Messrs. Kirks (Normanton), Ltd.; two houses, Leeds Road, for Mr. J. R. Lister; shops, Springs, for Messrs. Simpson and Moxon, on behalf of Messrs. Freeman, Hardy and Willis; four houses, Holmfield Avenue, for Messrs. Kay and Lunan; two houses, Eden Avenue, for Mr. W. H. Ogden.

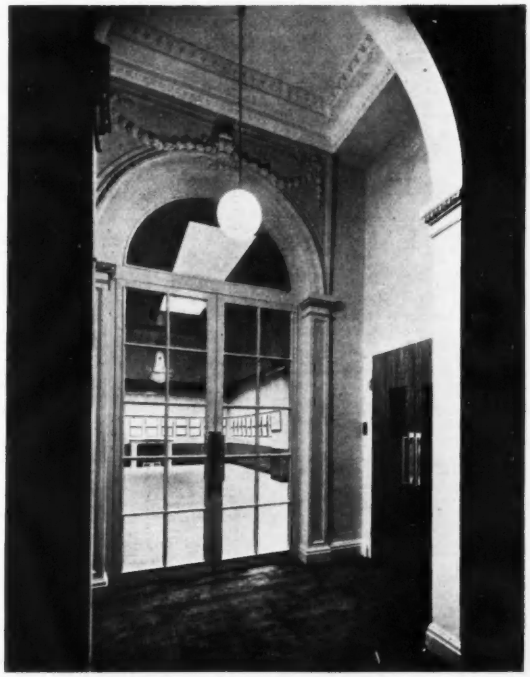
WAKEFIELD. *Houses.* The Housing Committee of the Corporation has instructed the architect to prepare plans and obtain tenders for the erection of 100 A3 type houses, and 36 aged persons' houses, at sites at Horbury Road, Lupset, Eastmoor, Oakenshaw Street, and Thornes Road, and to submit tenders for the erection of such houses by direct labour.

WALLSEND. *Houses.* Plans passed by the Corporation: Eight houses, Kitchener Terrace, for Messrs. Clarke Bros.; six houses, Archer Street, for Mr. W. Sabourn. A lay-out plan is to be prepared of land in the vicinity of the Coast Road for the erection of houses. The Corporation has approved plans for the erection of single storey houses for the aged.

WALLSEND. *Library.* The Corporation has purchased a site in Churchill Street for the erection of a branch library.

SCOTLAND

GLASGOW. *Factory, Streets, Houses.* Plans passed by the Corporation: Eight houses, Bardowie Street, for Housing Committee; streets and bungalows, Crookston Road, for Messrs. Maclean and Robb: factory, Craigton Road, for Messrs. Melville, Dundas and Whitson; housing scheme, Hillington Park, for Housing Committee. Plans submitted: housing scheme, Possil Road, for Housing Committee.



The entrance hall of the picture gallery in New Bond Street, reconstructed by Alan Marlow. (*See pages 296-297 and 301-302 of this issue.*)

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a spearate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A	Aberdeen ..	Scotland	1 6	1 1½
A_1	Abergavenny ..	S. Wales & M.	1 5	1 0½
A_2	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A_2	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B_3	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_3	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_3	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham ..	Mid Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton	N.W. Counties	1 5½	1 1½
A_3	Boston	Mid. Counties	1 4	1 0
A	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A	Brighton ..	S. Counties	1 4	1 0
A	Bristol	S.W. Counties	1 5½	1 1½
B_2	Brixham ..	S.W. Counties	1 2½	11
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B_3	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley	N.W. Counties	1 5½	1 1½
	Burslem ..	Mid. Counties	1 5½	1 1½
	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury	N.W. Counties	1 5½	1 1½
A	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE ..	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff	S. Wales & M.	1 5½	1 1½
A	Carlisle	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A_3	Chelmsford ..	E. Counties	1 4	1 0
A_2	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A_2	Colchester ..	E. Counties	1 4	1 0
A	Colne	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett	N.E. Coast	1 5	1 0½
A_2	Conway	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_3	Denbigh	N.W. Counties	1 4	1 0
A	Derby	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorchester ..	S.W. Counties	1 2½	11
A	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley	Mid. Counties	1 5½	1 1½
A_2	Dumfries ..	Scotland	1 5	1 0½
A	Dundee	Scotland	1 5½	1 1½
A	Durham	N.E. Coast	1 5½	1 1½
A_3	FASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter	S.W. Counties	*1 4½	1 0½
B	Exmouth	S.W. Counties	1 3½	11½
A_3	FELIXSTOWE	E. Counties	1 4	1 0
A_3	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S. W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A	Glasgow ..	Scotland	1 6	1 1½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	Gosport ..	S. Counties	1 4½	1 0½
A_3	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal	N.W. Counties	1 3½	11½
B	Keswick	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B_2	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12–15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A_3	Luton	E. Counties	1 4	1 0
A	Lytham	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_3	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middlesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth ..	S. Wales & M.	1 2½	11
	& S. and E. Glamorganshire			
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid Counties	1 5½	1 1½
A_3	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham	N.W. Counties	1 5½	1 1½
A_3	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth	Scotland	*1 5½	1 1½
A_2	Peterborough	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A_2	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A_3	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	SALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	Slough	S. Counties	1 4½	1 0½
A_1	Solihull ..	Mid. Counties	1 5	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stirling ..	Scotland	1 6	1 1½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A_3	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist. ..	N.E. Counties	1 5½	1 1½
A_3	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby	Yorkshire	1 4½	1 0½
A	Widnes	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_3	Worksop	Yorkshire	1 4	1 0
A_1	Wrexham	N.W. Counties	1 5	1 0½
A_3	Wycombe ..	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . per hour	1 7
Carpenter . . . . ,,	1 7
Joiner . . . . ,,	1 7
Machinist . . . . ,,	1 8
Mason (Banker) . . . ,,	1 7
,, (Fixer) . . . ,,	1 8
Plumber . . . . ,,	1 7
Painter . . . . ,,	1 6
Paperhanger . . . ,,	1 6
Glazier . . . . ,,	1 7
Slater . . . . ,,	1 7
Scaffolder . . . ,,	1 3
Timberman . . . ,,	1 3
Navvy . . . . ,,	1 2½
General Labourer . . ,,	1 2½
Lorryman . . . ,,	1 5
Crane Driver . . . ,,	1 6
Watchman . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . per ton	2 2 0
Blue Lias Lime . . . . ,,	1 16 6
Hydrated Lime . . . . ,,	3 0 9
Portland Cement, in 4-ton lots (d/d site, including Paper Bags) . ,,	1 18 0
Rapid Hardening Cement, in 4-ton lots (d/d site, including Paper Bags) . ,,	2 5 6
White Portland Cement, in 1-ton lots ,,	8 15 0
Thames Ballast . . . . per Y.C.	6 3
¾" Crushed Ballast . . . ,,	6 9
Building Sand . . . . ,,	7 3
Washed Sand . . . . ,,	8 3
2" Broken Brick . . . ,,	8 0
¾" ,, ,, . . . ,,	10 3
Pan Breeze . . . . ,,	6 6
Coke Breeze . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . . per F.R.	0 9	1 1
Bends . . . each	1 9	2 6
Taper Bends . . ,,	3 6	5 3
Rest Bends . . ,,	4 3	6 3
Single junctions . . ,,	3 6	5 3
Double . . . ,,	4 9	6 6
Straight channels . . per F.R.	1 6	2 6
¾" Channel bends . each	2 9	4 0
Channel junctions . ,,	4 6	6 6
Channel tapers . ,,	2 9	4 0
Yard gullies . ,,	6 9	8 9
Interceptors . ,,	16 0	19 6
IRON DRAINS:		
Iron drain pipe . per F.R.	1 6	2 6
Bends . . . each	5 0	10 6
Inspection bends . ,,	9 0	15 0
Single junctions . ,,	8 9	18 0
Double junctions . ,,	13 6	30 0
Lead wool . . lb.	6	—
Gaskin . . . ,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . Per M.	2 18 0
Grooved do. . . . ,,	3 0 0
Phorpres bricks . . ,,	2 17 3
,, Cellular bricks . ,,	2 17 3
Stocks, 1st quality . ,,	4 11 0
,, 2nd ,, . ,,	4 2 6
Blue Bricks, Pressed . ,,	8 17 6
,, Wirecuts . ,,	7 17 6
,, Brindles . ,,	7 0 0
,, Bullnose . ,,	9 0 0
Red Sand-faced Facings . ,,	6 18 6
Red Rubbers for Arches . ,,	12 0 0
Multicoloured Facings . ,,	7 10 0
Luton Facings . . ,,	7 10 0
Phorpres White Facings . ,,	3 17 3
,, Rustic Facings . ,,	3 12 3
Midhurst White Facings . ,,	5 0 0
Glazed Bricks, Ivory, White or Sale glazed, 1st quality:	
Stretchers . . . ,,	21 0 0
Headers . . . . ,,	20 10 0
Bullnose . . . . ,,	27 10 0
Double Stretchers . . ,,	29 10 0
Double Headers . . ,,	26 10 0
Glazed Second Quality, *Less* . ,,	1 0 0
,, Buffs and Creams, *Add* . ,,	2 0 0
,, Other Colours . . ,,	5 10 0
2' Breeze Partition Blocks . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 10
3" ,, ,, ,, . . ,,	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

	s. d.
The following d/d F.O.R. at Nine Elms:	
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . ,,	2 11
York stone . . . . ,,	6 6
,, ,, Sawn templates . . ,,	7 6
,, ,, Paving, 2" . . F.S.	1 8
,, ,, ,, 3" . . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . per M.	28 17 6
22" × 12" Marchionesses . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . ,,	15 10 0
18" × 9" Ladies . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, ,, green ,, ,,	24 7 4
Best machine roofing tiles . ,,	4 10 0
Best hand-made do. . . ,,	5 0 0
Hips and valleys . . . each	9½
,, hand-made . . . ,,	10
Nails, compo . . . lb.	1 4
,, copper . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . as 1" F.S.	9
Deal, Joiner's . . ,, ,,	5
,, ,, 2nds . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . ,, ,,	1 3
,, Plain Japanese . ,, ,,	1 2
,, Figured ,, . ,, ,,	1 5
,, Austrian wainscot . ,, ,,	1 6
,, English . . ,, ,,	1 11
Pine, Yellow . . ,, ,,	1 0
,, Oregon . . ,, ,,	4
,, British Columbian . ,, ,,	4
Teak, Moulmein . . ,, ,,	1 3
,, Burma . . ,, ,,	1 2
Walnut, American . . ,, ,,	2 3
,, French . . ,, ,,	2 3
Whitewood, American . ,, ,,	1 1
Deal floorings, ¾" . . Sq.	18 6
,, 1" . . ,,	1 1 6
,, 1¼" . . ,,	1 2 0
,, 1½" . . ,,	1 5 0
,, 2" . . ,,	1 10 0
Deal matchings ¾" . . ,,	14 0
,, 1" . . ,,	15 6
,, 1¼" . . ,,	1 4 0
Rough boarding ¾" . . ,,	16 0
,, 1" . . ,,	18 0
,, 1½" . . ,,	1 6 0

Plywood, per ft. sup.

—Thickness	¼"	⅜"	½"	¾"	1"
Qualities	AA.A.B.	AA.A.B.	AA.A.B.	AA.A.B.	AA.A.B.
	d. d. d.	d. d. d.	d. d. d.	d. d. d.	d. d. d.
Birch	4 3 2	5 4 3	7½ 6 4½	8½ 7 6	
Alder	3½ 3 2	5 4 3	6½ 5½ 4½	8 7 6	
Gaboon Mahogany	4 3 3	6½ 5½ 4½	9½ 7½ –	1/0½ 10 –	
Figured Oak 1 side	8½ 7 –	10 8 –	11½ – –	1/6 – –	
Plain Oak 1 side	6½ 6 –	7½ 7 –	9½ – –	1/– – –	
Oregon P.ne	5 4 –	5½ 5 –	6 – –	– – –	

	d.
Scotch glue . . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:
(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	¼"	½"	1"	1¼"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
,, 3"-11½" long ,,	7	9	1/3	1/8	3/–
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3
,, 3"M-½" long ,,	8	10	1/5	1/11	3/6
Bends . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . ,,	1/–	1/3	1/10	2/6	5/1
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/–	2/–
Flanges . . . ,,	9	1/–	1/4	1/9	2/9
Caps . . . ,,	3½	5	8	1/–	2/–
Backnuts . . . ,,	2	3	5	6	1/1
Iron main cocks . ,,	1/6	2/3	4/2	5/4	11/6
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–

Discounts:

TUBES.	Per cent.		Per cent.
Gas	65	Galvanized gas	52½
Water	61½	,, water	47½
Steam	57½	,, steam	42½
FITTINGS.			
Gas	57½	Galvanized gas	47½
Water	52½	,, water	42½
Steam	47½	,, steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ⅜" . . ,,	8 6
,, ,, ½" . . ,,	8 3
,, ,, ⅝" . . ,,	8 0
,, ,, ¾" . . ,,	7 6
,, ,, ⅞" . . ,,	7 6
,, ,, 1" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1½" . . ,,	7 6

	3" s. d.	4" s. d.
Cast-iron rain-water pipes of ordinary thickness metal . F.R.	8	10
Shoes . . . . each	2 0	3 0
Anti-splash shoes . . ,,	4 6	8 0
Boots . . . . ,,	3 0	4 0
Bends . . . . ,,	2 7	3 9
,, with access door . ,,	—	6 3
Heads . . . . ,,	4 0	5 0
Swan-necks up to 9" offsets . ,,	3 9	6 0
Plinth bends, 4½" to 6" ,,	3 9	5 3
Half-round rain-water gutters of ordinary thickness metal . F.R.	5	6
Stop ends . . . . each	6	6
Angles . . . . ,,	1 7	1 11
Obtuse angles . . ,,	2 0	2 6
Outlets . . . . ,,	1 9	2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	18 6
,, drawn pipes . . . ,,	17 0
,, soil pipe . . . ,,	18 6
,, scrap . . . ,,	10 6
Solder, plumbers' . . . lb.	9½
,, fine do. . . . ,,	1 0
Copper, sheet . . . ,,	8½
,, tubes . . . ,,	11

L.C.C. soil and waste pipes:	3"	4"	6"
Plain cast . . F.R.	1 0	1 2	2 6
Coated . . ,,	1 1	1 3	2 8
Galvanized . ,,	2 0	2 6	4 6
Holderbats . each	3 10	4 0	4 9
Bends . . ,,	3 9	5 3	10 3
Shoes . . ,,	2 10	4 4	9 6
Heads . . ,,	4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . per ton	2 5 0
Plaster, coarse . . . ,,	2 10 0
,, fine . . . ,,	4 15 0
Hydrated lime . . . ,,	3 0 9
Sirapite . . . ,,	3 6 0
Keene's cement . . . ,,	5 0 0
Sand, washed . . . Y.C.	11 6
Hair . . . . lb.	6
Laths, sawn . . . bundle	2 4
,, rent . . . ,,	3 9
Lath nails . . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft.	s. F.S.	2½
,, ,, 26 oz. ,, ,,	,,	3
Flemish, Arctic, Figured (white)*	,,	7
Blazoned glasses . . .	,,	2 6
Reeded; Cross Reeded	,,	11
Cathedrals: eleven varieties (white)*	,,	6½
Crown sheet glass (n/e 12 in. x 10 in.)	,,	2 0
Flashed opals (white and coloured)	,, 1 0 and	2 0
¼" rough cast; rolled plate .	,,	7
¼" wired cast; wired rolled .	,,	10
¼" Georgian wired cast. . .	,,	11
¼" Polished plate, n/e 1 ft. .	,, † 10 to	‡1 1
,, ,, 2 .	,, †1 2 ,,	‡1 4
,, ,, 4 .	,, †2 3 ,,	‡2 6
,, ,, 8 .	,, †2 9 ,,	‡3 2
,, ,, 20 .	,, †3 7 ,,	‡4 2
,, ,, 45 .	,, †3 11 ,,	‡4 7
,, ,, 100 .	,, †5 0 ,,	‡5 7
Vita glass, sheet, n/e 2 ft. .	,,	1 3
,, ,, ,, over 2 .	,,	1 9
,, ,, plate, n/e 2 ft. .	,,	3 0
,, ,, ,, 7 .	,,	5 0
,, ,, ,, 15 .	,,	6 0
,, ,, ,, over 15 .	,,	7 6
"Calorex" sheet 21 oz., and 32 oz.	,, 2 6 and	3 6
,, rough cast ¼" and ¼"	,, 8¾ ,,	1 0
Putty, linseed oil . .	lb.	3

* *Colours, 1d. F.S. extra.*
†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s. d.
White lead in 1 cwt. casks . . cwt.	2 6 0
Linseed oil . . . gall.	2 2½
Boiled oil . . . ,,	2 4½
Turpentine . . . ,,	4 1½
Patent knotting . . . ,,	14 0
Distemper, washable . . cwt.	2 6 0
,, ordinary . . ,,	2 0 0
Whitening . . . ,,	4 0
Size, double . . . firkin	3 0
Copal varnish . . . gall.	13 0
Flat varnish . . . ,,	14 0
Outside varnish . . ,,	16 0
White enamel . . . ,,	1 15 0
Ready mixed paint . . ,,	13 6
Brunswick black . . ,,	7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR

		£	s.	d.
Digging over surface n/e 12" deep and cart away	Y.S.		2	9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.		8	6
" to form basement n/e 5' 0" deep and cart away	"		9	0
" " 10' 0" deep and cart away	"		9	6
" " 15' 0" deep and cart away	"		10	0
If in stiff clay	add			6
If in underpinning	"		4	0
Planking and strutting to sides of excavation	F.S.		1	0
" " to pier holes	"			5
" " to trenches	"			5
" " extra, only if left in	"			3
Hardcore, filled in and rammed	Y.C.		10	0
Portland cement concrete in foundations (6-1)	"	1	6	0
" " (4-2-1)	"	1	12	6
" " underpinning	"	1	16	0
Finishing surface of concrete, spade face	Y.S.			7

DRAINLAYER

		4" s.	d.	6" s.	d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1	6	2	3
Extra, only for bends	Each	2	8	3	9
" junctions	"	3	9	4	6
Gullies and gratings	"	16	6	18	0
Cast iron drains, and laying and jointing	F.R.	4	9	6	9
Extra, only for bends	Each	10	0	15	6

BRICKLAYER

		£	s.	d.
Brickwork, Flettons in lime mortar	Per Rod	27	10	0
" in cement	"	28	15	0
" Stocks in cement	"	35	0	0
" Blues in cement	"	52	0	0
Extra only for circular on plan	"	2	0	0
" backing to masonry	"	1	10	0
" raising on old walls	"	2	0	0
" underpinning	"	5	10	0½
Fair Face and pointing internally	F.S.			1½
Extra over fletton brickwork for picked stock facings and pointing	"			8
" " " red brick facings and pointing	"			11
" " " blue brick facing and pointing	"		1	4
" " " glazed brick facings and pointing	"		3	6
Tuck pointing	"			7½
Weather pointing in cement	"			3
Slate dampcourse	"			10
Vertical dampcourse	"		1	1

ASPHALTER

		s.	d.
½" Horizontal dampcourse	Y.S.	4	6
½" Vertical dampcourse	"	6	9
½" paving or flat	"	4	0
1" paving or flat	"	5	6
1"×6" skirting	F.R.	1	0
Angle fillet	"		2
Rounded angle	"		2
Cesspools	Each	5	0

MASON

		s.	d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17	9
Bath stone and do., all as last	"	13	6
Artificial stone and do.	"	13	0
York stone templates, fixed complete	"	10	6
" thresholds	"	13	6
" sills	"	1	0 6

SLATER AND TILER

		£	s.	d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20"×10"	Sqr.	3	10	0
Do., 18"×9"	"	3	7	0
Do., 24"×12"	"	3	17	0
Westmorland slating, laid with diminished courses	"	6	0	0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3	0	0
Do., all as last, but of machine-made tiles	"	2	16	0
20"×10" medium Old Delabole slating, laid to a 3" lap (grey)	"	4	6	0
" " " " " " (green)	"	4	15	0

CARPENTER AND JOINER

		£	s.	d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2	5	0
Shuttering to sides and soffits of beams	F.S.			8
" to stanchions	"			8
" to staircases	"		1	8
Fir and fixing in wall plates, lintols, etc.	F.C.		3	9
Fir framed in floors	"		4	6
" " roofs	"		6	6
" " trusses	"		7	6
" " partitions	"		8	6
¾" deal sawn boarding and fixing to joists	Sqr.	1	14	6
1" " " " "	"	1	17	6
1¼" " " " "	"	2	3	0
3"×2" fir battening for Countess slating	"		9	6
Do. for 4" gauge tiling	"		12	0
Stout feather-edged tilting fillet	F.R.			4½
Patent inodorous felt, 1 ply	Y.S.		2	3
" " " 2 "	"		2	9
" " " 3 "	"		3	3
Stout herringbone strutting to 9" joists	F.R.			10½
1" deal gutter boards and bearers	F.S.		1	2
1¼" " " " "	"		1	6
2" deal wrought rounded roll	F.R.			8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2	1	0
1¼" do.	"	2	10	0
1½" do.	"	2	17	0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S.		1	6
1¼" do.	"		1	9

CARPENTER AND JOINER—*continued*

		s.	d.
1½" deal moulded sashes of average size	F.S.	1	9½
2" " " " "	"	1	11½
1½" deal cased frames double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ⅝" parting beads, and with brass faced axle pulleys, etc., fixed complete	"	3	7
2" " " " "	"	3	10
Extra only for moulded horns	Each		6
1½" deal four-panel square, both sides, door	F.S.	2	0
2" " " " "	"	2	8
1½" " but moulded both sides	"	2	4
2" " " " "	"	3	0
4" × 3" deal, rebated and moulded frames	F.R.	1	0
4½" × 3½" " "	"	1	4
1¼" deal tongued and moulded window board, on and including deal bearers	F.S.	1	9
1¼" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2	6
1½" deal moulded wall strings	"	2	1
1½" " outer strings	"	2	4
Ends of treads and risers housed to string	Each	1	9
3" × 2" deal moulded handrail	F.R.	1	3
1" × 1" deal balusters and housing each end	Each	2	0
1½" × 1½" " "	"	2	9
3" × 3" deal wrought framed newels	F.R.	1	3
Extra only for newel caps	Each	6	0
Do., pendants	"	6	0

SMITH AND FOUNDER

		£	s.	d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.		15	6
Riveted plate or compound girders, and hoisting and fixing in position	"		19	6
Do. stanchions with riveted caps and bases and do.	"		19	0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	"		17	6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.			11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1	10	0

PLUMBER

		£	s.	d.
Milled lead and labour in flats	cwt.	1	12	0
Do. in flashings	"	1	15	6
Do. in covering to turrets	"	2	3	0
Do. in soakers	"	1	7	6
Labour to welted edge	F.R.			3½
Open copper nailing	"			3
Close " "	"			4

Lead service pipe and fixing with pipe hooks	F.R.	½" s.	d.	¾" s.	d.	1" s.	d.	1½" s.	d.	2" s.	d.	4" s.	d.
		10		1 0		1 3		2 0		2 10		—	
Do. soil pipe and fixing with cast lead tacks	"	—		—		—		—		—		5	6
Extra, only to bends	Each	—		—		—		—		2 0		6	9
Do. to stop ends	"	6½		8		9		11		1 0		—	
Boiler screws and unions	"	3 3		3 9		5 0		8 0		—		—	
Lead traps	"	—		—		—		6 3		8 9		—	
Screw down bib valves	"	6 9		9 6		11 0		—		—		—	
Do. stop cocks	"	7 0		9 6		12 6		—		—		—	

		s.	d.
4" cast-iron ½-rd. gutter and fixing	F.R.	1	0
Extra, only stop ends	Each	1	0
Do. angles	"	1	6
Do. outlets	"	2	9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.	1	2
Extra, only for shoes	Each	1	3
Do. for plain heads	"	5	6

PLASTERER AND TILING

		s.	d.
Expanded metal lathing, small mesh	Y.S.	2	0
Do. in n/w to beams, stanchions, etc.	"	2	9
Lathing with sawn laths to ceilings	"	1	3
¼" screeding in Portland cement and sand for tiling, wood block floor, etc.	"	1	5
Do. vertical	"	1	7
Rough render on walls	"	1	2½
Render, float and set in lime and hair	"	1	9
Render and set in Sirapite	"	1	11
Render, backing in cement and sand, and set in Keene's cement	"	2	9
Extra, only if on lathing	"		4
Keene's cement, angle and arris	F.R.		6
Arris	"		1½
Rounded angle, small	"		3
Plain cornices in plaster, including dubbing out, per 1" girth	"		1½
1" granolithic pavings	Y.S.	3	6
1½" " "	"	4	6
6" × 6" white glazed wall tiling and fixing on prepared screed	"	17	6
9" × 3" " " " "	"	1	2 6
Extra, only for small quadrant angle	F.R.		8

GLAZIER

		s.	d.
21 oz. sheet glass and glazing with putty	F.S.		7½
26 oz. do and do.	"		8½
Flemish, Arctic Figured (white) and glazing with putty	"	1	1
Cathedral glass and do.	"	1	2
Glazing only, British polished plate	"		7
Extra, only if in beads	"		2
Washleather	F.R.		4

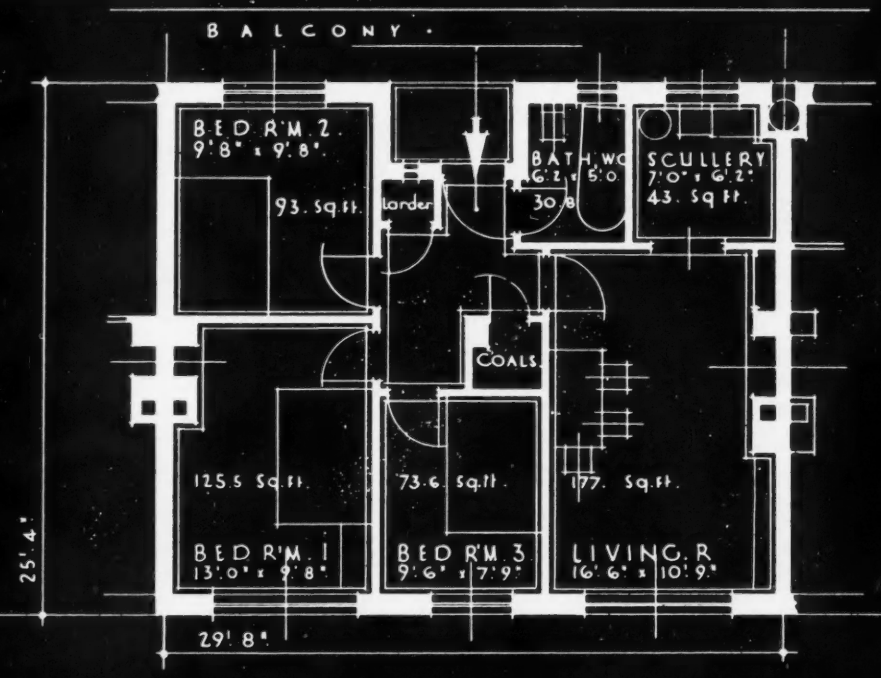
PAINTER

		s.	d.
Clearcolle and whiten ceilings	Y.S.		6
Do. and distemper walls	"		9
Do. with washable distemper	"	1	1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	"	3	3
Do. on woodwork	"	3	6
Do. on steelwork	"	3	0
Do. and brush grain and twice varnish	"	5	6
Stain and twice varnish woodwork	"	1	11
Stain and wax-polish woodwork	"	4	6
French polishing	F.S.	1	2
Stripping off old paper	Piece	2	0
Hanging ordinary paper	from "	2	9

THE ARCHITECTS JOURNAL LIBRARY OF PLANNED INFORMATION.

TYPES OF FLAT UNIT : LIVERPOOL.

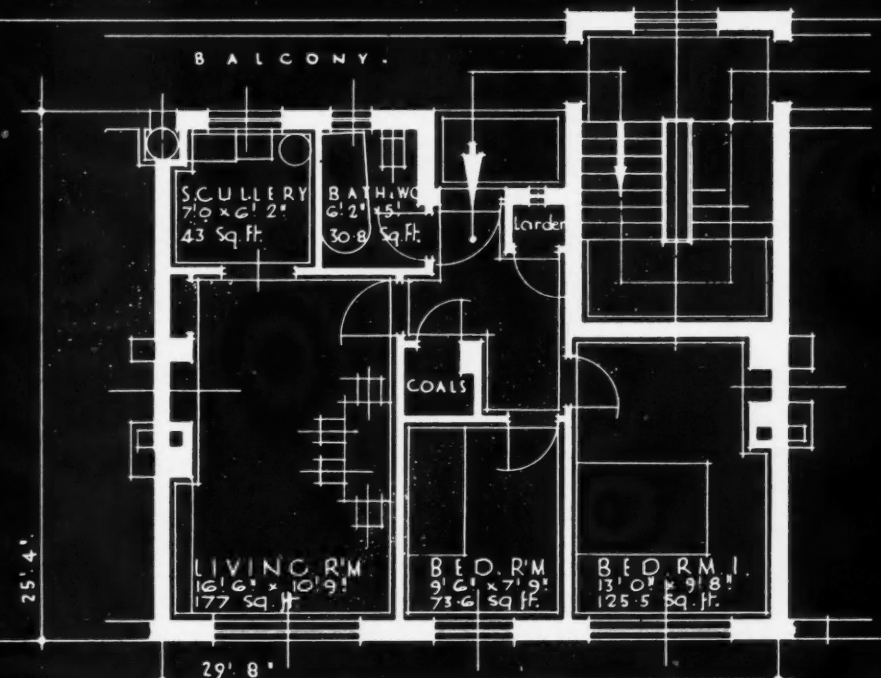
ACCESS: Balcony.
TYPES : 4 - room, bathroom & Scullery
3 - room, " "



Total area of unit : 751 Sq.ft.

Service area : 178 Sq.ft.

Habitable area : 469 Sq ft.



Total areas given include the external walls half the division walls between flats. half the area of the stair.

Access balconies are not included.

Total area of unit : 715 Sq.ft.

Service area : 230.8 Sq.ft.

Habitable area : 375.5 Sq Ft.

INFORMATION SHEET : INDUSTRIAL HOUSING.10.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS. ONE MONTAGUE PLACE BEDFORD SQUARE LONDON. WC1.

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 139 •

INDUSTRIAL HOUSING—X

(LIVERPOOL)

THE typical tenement plans here shown comprise three and four-room types in 2 to 5 storey blocks where increased density of population is required. Both units belong to one wing of the block and have common access balconies and stair.

The staircase proper is internally planned and merely replaces the third bedroom in alternate flat units. Each dwelling has its own small entrance lobby centrally placed and provision is made for rubbish disposal by the shoot provided between each flat, with access from the balcony.

Living rooms in both types are exceptionally spacious and for economy in planning run across the width of the wing. Open fireplaces are used in both this room and the main bedroom, and all the habitable rooms have access from the central entrance hall. Coals and larder space also are served from the hall, while the bathroom in each unit serves as a cloak space if desired.

It should be noticed that the scullery and living room in both cases intercommunicate, the latter room being intended for dining purposes in addition.

The service area includes all that space which is not used as living accommodation for the occupants, i.e., service area includes kitchenette, wardrobe, shower, w.c. and lobby. Where bathrooms occur they are also included.

Previous Sheets dealing with Housing (Nos. 124, 128, 132, 133, 134, 135, 136, 137 and 138) were presented with our issues for July 5, July 19, August 2, August 9, August 16 and August 23.

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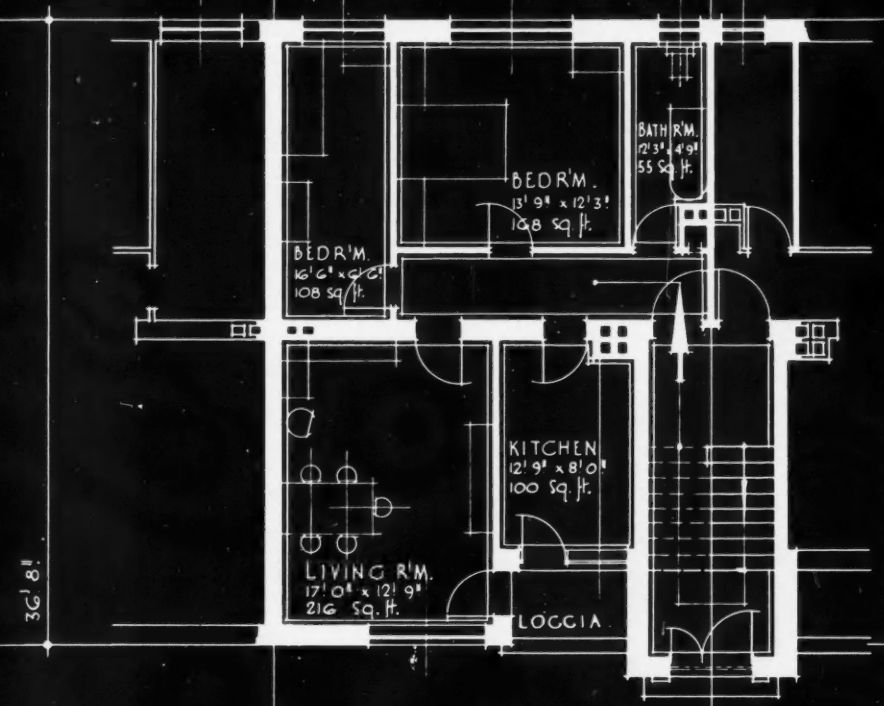
TYPES OF FLAT UNIT : BERLIN.

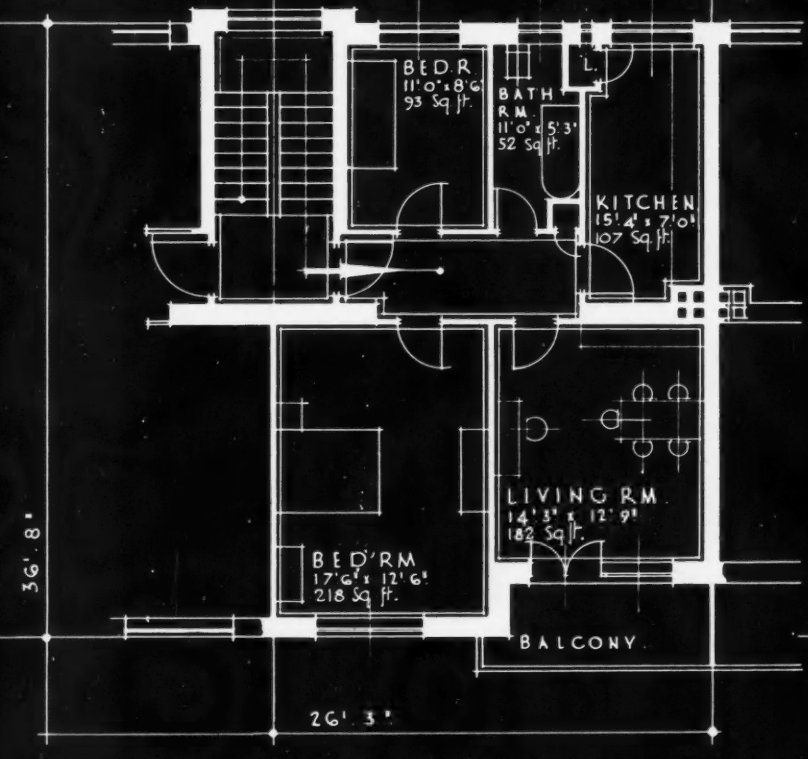
ACCESS : Internal staircase
TYPE : 3-room, kitchen & bathroom.



Total area of unit : 973 Sq. ft.

Service area : 304 Sq. ft.

Habitable area : 520 Sq. ft.



Total areas given include: the external walls, half the division walls between flats, half the area of the stair. Balcony is not included.

Total area of unit : 934 Sq. ft.

Service area : 285 Sq. ft.

Habitable area : 558 Sq. ft.

INFORMATION SHEET : INDUSTRIAL HOUSING. II.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1

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INFORMATION SHEET

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INDUSTRIAL HOUSING—XI

(BERLIN)

THE pair of flats illustrated are typical examples from a large three-storey re-housing scheme in Berlin by Jean Kramer. Both contain three rooms, bathroom and kitchen and the access is by internal staircase.

It should be noted that the overall dimensions of each unit are the same, although as built the flats are taken from different wings (with varying aspects) of the general scheme. From the analysis of the areas given it will be seen that the accommodation is almost identical.

The upper scheme shows a small loggia adjoining both the kitchen and the substantial living room with access from both these rooms. In the lower plan the staircase has been transferred and the re-shaping of rooms results in the somewhat larger balcony with a pair of double doors from the living room, which in this instance is rather smaller. Increased space, however, is obtained in the main bedroom.

In each flat a small linen cupboard is planned in the central corridor while in the lower example a larder is placed on the kitchen wall adjoining the bathroom.

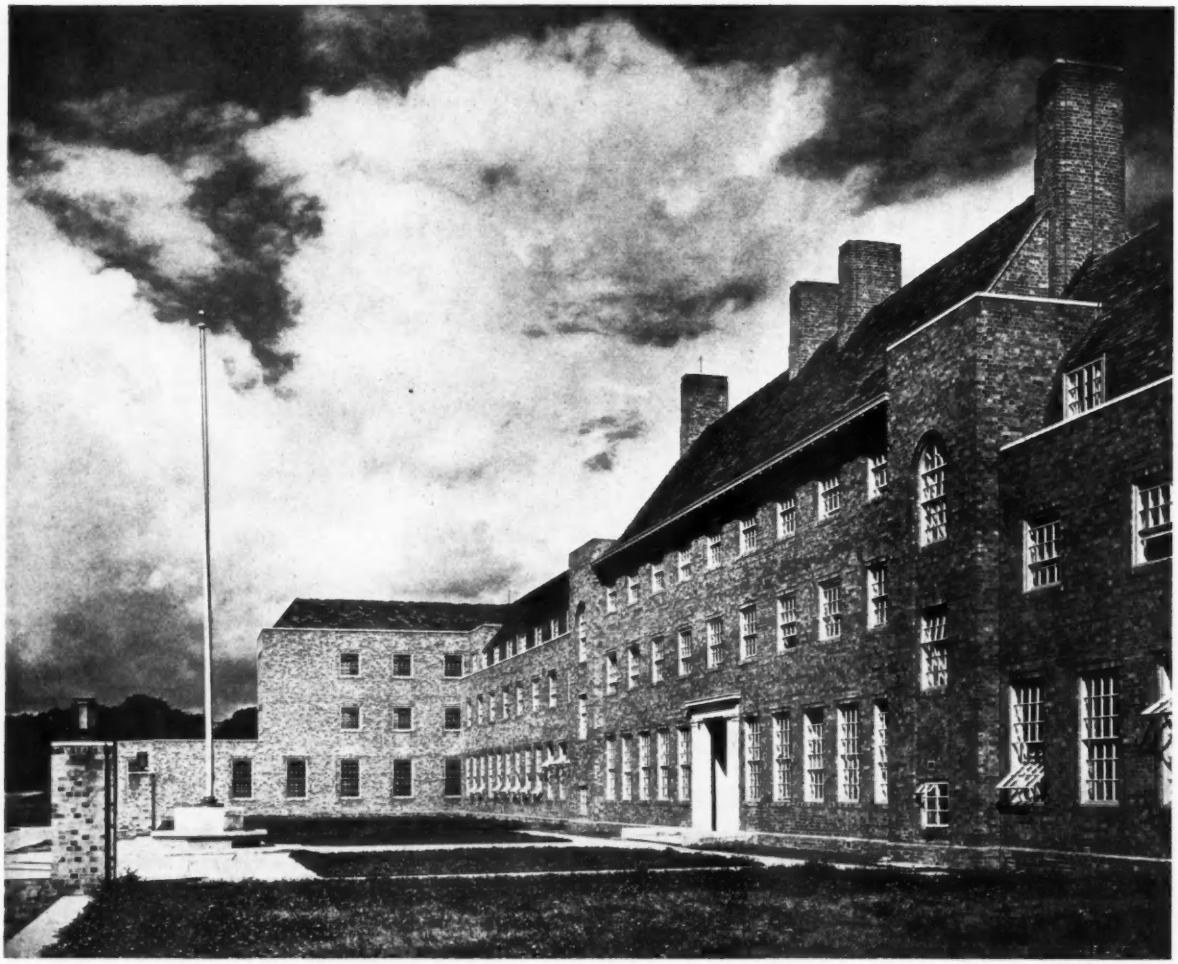
The service area includes all that space which is not used as living accommodation for the occupants, i.e., service area includes kitchenette, wardrobe, shower, w.c. and lobby. Where bathrooms occur they are also included. The habitable area includes the loggia and the balcony in the upper and lower plans respectively.

Previous Sheets dealing with Housing (Nos. 124, 128, 132, 133, 134, 135, 136, 137 and 138) were presented with our issues for July 5, July 19, August 2, August 9, August 16 and August 23.

A CENTURY OF PROGRESS

CHICAGO WORLD FAIR : 1934

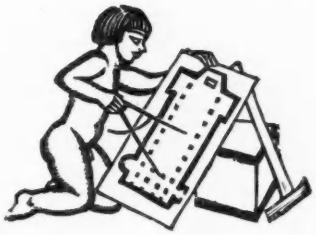
THE Old English Village is one of the features that have been added this year to the "Century of Progress" Exhibition at Chicago, now in its second season. The village contains a reproduction of the Old Curiosity Shop in Lincoln's Inn that is associated (erroneously) with Dickens's novel and of the "Cheshire Cheese" inn, several mediæval shops, a Punch and Judy Show and a number of Beefeaters. There is folk-dancing and a Shakespearean Theatre, where shortened versions of the plays are presented.



STEWART BALE

NEW LIVERPOOL ORPHANAGE

The new Liverpool Orphanage at Woolton, Lancashire, has just been completed, and the photograph above shows the raised terrace on the south side with the main entrance to the administrative department. The orphanage accommodates two hundred children and a staff of about thirty, and cost £47,000. The architects are Messrs. Barnish, Silcock and Thearle, of Liverpool. The building will be fully illustrated in our next issue.



THE BUILDING EXHIBITION

ONE of the most characteristic features of the present century has been the extraordinary rapidity of technical development. This process, interrupted by the war, has now gathered such momentum that it is almost impossible for those who employ technical methods on their products to keep pace.

An accompaniment of this whirling progress is a series of exhibitions, the purpose of which is to demonstrate the further advances made in any particular field for the benefit of those who wish to make use of them. Of course, the attempt to arouse interest in new industrial products is not prompted by altruistic motives, but by the necessity of selling goods to the widest and most profitable market. Such exhibitions provide what pamphlets, brochures and written descriptions can never give : a concrete demonstration of the objects themselves. These objects, commodities, and products are exhibited so that they may be handled and studied closely.

As these exhibitions are to supplement written descriptions, their organization needs to be worked out as carefully as that of a catalogue, divided into sections, indexed, and so on. Just as it is difficult to find a well-written, organized informative catalogue, so it is difficult to find a well-presented, clear and well-organized industrial or trade exhibition.

It is two years since the last Building Exhibition was held at Olympia. Another, therefore, will be opened in a week. There seems very little hope that the present one will be any more useful than those that are past ; for the usefulness of this exhibition does not depend entirely on the excellence of the products exhibited; it is equally dependent upon the manner in which they are displayed.

The field covered by the exhibition is vast and, moreover, it has to give information to people who require to be kept informed of progress in almost every aspect of this vast field. A building contractor goes to Olympia not to see the latest product of one particular firm, but to see how he can improve his work in all directions. Therefore he should be able to see where he is going and know what he is looking at ; in other words the exhibition should be organized. The last one was a lamentable failure in this direction, the circulation was chaotic, the stands varied in size and arrangement, and there was no uniformity about anything. Lettering varied as firm strove with firm for the largest or most noticeable lettering. The exhibits were not grouped so that comparisons could be made of materials and products used for the same purpose. It can, of course, be argued that all these points are not essential, the essential factor being the presence of the products themselves. But it is useless displaying the best material in the world if by the time a potential buyer reaches it, he is too tired and confused to take any interest in it.

It is precisely for this reason that the architect—who is trained to organize numerous complicated units—can be of immense value in such an exhibition. The problem of circulation, the necessity of producing flowing traffic, instead of a struggling, pushing crowd ; that is a problem the architect is continually being called upon to solve. To divide an area in the most logical and rational way so that it may coincide with certain definite requirements ; that is one of the bases of the architect's work. Past exhibitions have failed to realize their possibilities simply because no attention has been paid to these factors. The present exhibition does not give any indication that it will be much different in this respect. One exhibiting firm has had the good sense to have a competition, open to young architects, for the design of its stand, and the winning scheme in this competition gives an indication of the possibilities and advantages of such a procedure. The difficulty is, that however good individual stands may be, and there are always one or two firms who have the sense to employ architects, however well they may display the products of this or that particular firm, they are lost and swallowed up in the vast disorganized mass of mediocrity. It is hoped that the body of manufacturers represented at Olympia will learn that all the money and effort spent on their stands is largely wasted because the whole is unorganized.

When this is realized, and when it is seen how great are the advantages of employing an expert to solve this problem, then exhibitors will insist upon its being done. We believe that the organizer, Mr. Greville Montgomery, is alive to the fact that the Building Exhibition would be a more valuable thing if it were laid out according to the architect's ideas of order and planning. It is, we understand, the attitude of the exhibitors themselves which prevents this much-needed re-organization. We ourselves are exhibitors in a humble way, and we do not hesitate to say that we would welcome a planned exhibition, even if it meant that our exhibit was placed in what we might consider a more unfavourable position. What do the other exhibitors think about it ? We would be glad to know.

The Architects' Journal
Westminster, S.W.1
Telephones: Victoria
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NOTES & TOPICS

BIRD'S-EYE VIEW

THERE is a proposal to make an aerial survey of 16,000,000 acres of England and Wales at an estimated cost of £200,000. Although there are several difficulties in the way, it seems likely that some such scheme will be put into operation.

*

An air survey, based on air photography, does reveal congestion and unplanning with more devastating clarity than any other method. No colours and symbols on maps can disclose with quite such vivid and accusing and ruthless accuracy the grim shadows on the face of the land.

*

If air photographs of England could be exhibited in the localities they covered, realization of the need for planning might be extended. A bird's-eye view of their responsibilities might destroy the complacency of many local authorities.

TELFORD

It is still a conscious pleasure to travel along one of Telford's roads, though he died over a hundred years ago, and did his great work in the early years of the last century when the pot was beginning to boil over into the industrial revolution. So much was he the giant of his period that it is hard to imagine that he was a precursor of a new breed of engineers, with a century of unbelievable construction before them.

*

His roads, and viaducts, were mainly of the earth, in stone and earthly materials that have become the landscape of the country ; but in some of his bridges, and notably in this great suspension bridge that completed the length of the Holyhead Road across the Menai Strait, he anticipated the common materials of today.

*

His achievement was of the most memorable and spectacular, and one is reminded by *The Times* that if his ideas had been accepted we should have had a 600 foot single iron span across the Thames where Rennie's fine arched stone structure now stands. He would probably build one in reinforced concrete if he were alive today.

ERIC GILL, CRAFTSMAN AND CRITIC

A new book by Eric Gill is reviewed on another page. It is a book dedicated to the task of debunking art and what is usually called " informed criticism " about art. Mr. Gill is a seasoned debunker, and his sentences have the same beauty and precision as the lettering he cuts in stone.

*

This latest essay of his has made me wonder why an artist, who is certainly the happiest man I have ever had the good fortune to meet, cannot give to his writings the infectious tang of happiness that makes his sculpture so cheerfully robust and his company so delightful. For over twenty-five years Mr. Gill has been doing wholly congenial creative work ; he has sampled many sides of life, and he understands people, and has the superb gift of magnifying the best that is in them and ignoring the inconvenient residue.

*

But for all that, Mr. Gill writes as a slightly disgruntled critic of contemporary civilization, and at times his pen is almost peevish.

*

I remember discussing Aldous Huxley's *Brave New World* with him on one occasion. I had taken that depressing book seriously ; Mr. Gill had regarded it as another piece of evidence of the sort of abomination our civilization might lead to, and was quite cheerful because it confirmed his own views about the logical conclusion of industrialism and consumptionism.

*

I suspect that we owe Mr. Gill a lot. There are few debunkers of " art " who are so honest or so able. His own philosophy of life gives him an intellectual detachment, but his warm understanding of men keeps his work human and alive, except when he wields the pen ; and then, unaccountably, his blithe touch deserts him.

ARCHITECTS AND DECORATORS

Before the war the professional interior decorator was rather contemptuous about architects. I was talking to one of those pre-war decorators last week, and he admitted that the modern architect's sense of responsibility about the rooms of the houses he designed was something new.

*

" No architects in my time took the trouble to know anything about period styles," he said ; " they treated woodwork like stone, and didn't know the difference between an early Georgian moulding and a Regency one."

*

He talked of the immense scholarship of men like Sir Charles Allom and Walter Thornton-Smith, and he spoke, too, of that great designer of interior decoration, the late Frank Stewart Murray, one time the head of Waring's.

*

I remember " Pa " Murray, as he used to be called. He was a wonderful old man whose erudition was colossal, and whose imagination made the dry bones of the dead periods live and move with fresh colours. He conceived schemes of decoration in a spirit of pageantry.

*

He had only one eye. He was one of the early inhabitants of the Hampstead Garden Suburb, and he was an

One of Gilbert Ledward's designs for tombstones. (See Astragal's note on this page). This one is executed in Hornton stone, measures 3 ft. 6 ins. by 1 ft. 8 ins., is entitled "Pieta" and costs £57 10s.

ardent pacifist, and was encouraged in that faith by several pre-war conversations with the ex-Kaiser, for whom he executed a series of decorative panels aboard the Imperial yacht.

*

"Pa" Murray was a remarkable character. A gifted man who might have been a great original designer if his life had not been devoted to the study and resurrection of tradition. But while we laugh at the "period styles" today, we forget that they really had a glorious resurrection before the war.

*

Allom and Thornton-Smith and Andrew Russell educated the taste of the generation that had been brought up amid crimson velvet, thick mahogany, and "the furnishing colours." Without that refinement of taste brought about by reviving the beauty of traditional styles, the modern movement in design would now be fighting a complete insensitivity to beauty in form and colour.

RETAINING THE STATELY HOME

The Observer devoted the leading article last Sunday to the question of preserving the fine country houses of England which are doomed by death duties. The constructive suggestion was made that some adequate remission of death duties was desirable, similar to that allowed on heirloom pictures, on houses of historic and architectural interest.

*

Taxation has destroyed the landowner's old English habit of thinking for posterity. Who plants trees or makes great gardens or builds ambitiously today? Already we have lost something in civilization; we have lost our belief in the permanence of things.

*

Taxation is not wholly to blame. The military gentlemen and the politicians they have browbeaten have contributed to the restless uncertainty of modern life. It is the day of bigger and better air fleets, of arming to preserve peace.

*

Even if the stately homes of England enjoy a partial remission of death duties, they may escape the housebreaker only to succumb to the bombs of an air-raider.

NEW LIGHT IN THE GRAVEYARD

The movement to oust the in every way foreign marble tombstone from British burial grounds has at last found practical expression in the formation of a business organization to purvey well designed memorials in suitable materials.

*

This body, with headquarters in Regent Street, a strong and influential backing, and Mr. Gilbert Ledward, A.R.A., as its technical adviser, has opened its campaign with a booklet containing a variety of memorials by sculptors and architects of repute *with prices appended.*

*

It is, in fact, going about it in the right way; selling good work instead of talking about the need for it. The church, one remembers, is still very much an autocrat, and it paved the way for this good work in no uncertain manner.

MR. EMBERTON'S SWITCHBACK

Mr. Joseph Emberton is working on designs for a new switchback for the Blackpool amusement park. He has addressed himself with great seriousness to the problem of designing a modern pleasure beach for an English resort, and this switchback is the latest addition to his work at Blackpool.

*

A few years ago some wit, imitating Bentley's *Biography for Beginners*, perpetrated the following lines:

Emberton (Joe),
Registers woe,
Whenever he observes,
Curves.

*

That was in the days when Mr. Emberton was inclined to rather austere angularity; but now he is designing switchbacks, I think it is clear he has passed out of that phase. Not that he has ever been hampered by any particular fashion of design. He is one of the clearest thinkers I know, as well as one of the hardest workers and one of the ablest organizers.

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

It is useless displaying the best material in the world if by the time a potential buyer reaches it, he is too tired or confused to take any interest in it 317

The method of stereoscopic mirror projection for cinemas, installed for the first time in this country 324

"*It is not so very long ago that the R.I.B.A. house would have been described as a box with holes in it.*" 330

Three-way door, to economize space in a small house 337

TOUR TO HOLLAND

The nineteenth tour of the Garden Cities and Town Planning Association will be to Holland. It will take place from September 27 to October 3, and the Association will visit The Hague, Amsterdam, Hilversum and Utrecht. Representatives of each city will conduct the party on their tours of inspection, which will include visits to co-operative and municipal housing schemes and to the slums in the fishing quarter that have been scheduled for clearance by the municipality in The Hague, to garden suburbs and to the "Asterdorp" group of dwellings for undesirable tenants in Amsterdam and to the lime and sand works at Vreeswyjk.

THE LONDON PAVILION

The London Pavilion in Piccadilly Circus, after being closed for some months, is to be re-opened on September 5. Except for enlargement of the entrance the outside remains as it was when built in 1885, but the interior has been greatly altered. The proscenium has been widened from 23 ft. to 35 ft., the boxes and side promenades have been removed and the rake of the floor increased. The new theatre will hold over 2,000 people in place of the 1,080 that filled the old.

LABOUR CONFERENCE ON HOUSING

Mr. A. Conley, president of the Trades Union Congress, spoke on housing at the annual conference of the National Labour Housing Association at Weymouth on Saturday. He criticized present-day rural housing conditions, and said, according to *The Times* report, that the people demanded that the public authorities, both national and local, should shoulder the responsibility of building proper houses for the people of town and country. The Government, he said, was fuddling and muddling with the problem. The demand for a national housing commission was one which Labour must support by all the means in their power.

Emphasizing his call for the provision of shelters in the towns against bombing and gas attacks Mr. Conley said that when a deputation from the T.U.C. General Council waited on the Government some time ago Sir John Simon told them that they had confidential information in the possession of the Government showing that at least one Continental Power was in a position, so far as its armament was concerned, to put over London within a period of 12 hours sufficient aircraft of various descriptions practically to put London out of action.

THE ARCHITECTS' DIARY

Thursday, September 6

R.I.B.A. *Architects' Unemployment Committee. At 7 Bedford Square, W.C.1. Exhibition of work done under the Architects' Emergency Scheme. Open until further notice.*

Saturday, September 8

ROYAL PHOTOGRAPHIC SOCIETY. *At 35 Russell Square, W.C.1. Annual International Exhibition. Until October 6. Opening day.*

Wednesday, September 12

BUILDING EXHIBITION. *At Olympia. Until September 26. Opening day.*

HOTEL FOR BLACKPOOL

A new luxury hotel is proposed for Blackpool, of which the architect will be Mr. Robert Atkinson. It will be situated on the cliffs at Bispham, and will contain 320 double bedrooms (each with a bathroom), a ballroom, an open-air swimming pool a news cinema and tennis and squash-racquets courts. The building will be of twelve storeys, 150 ft. high.

GLASGOW RE-HOUSING

In an interview given at the end of last week to *The Glasgow Weekly Herald*, Councillor Jean Mann, convener of the Housing Committee of the Glasgow Corporation, gave her views on the possible use of skyscraper flats in the solution of Glasgow's re-housing problems.

"It has been suggested" she said, "that an over-populated area like Gorbals could be entirely destroyed and new skyscraper flats erected in its place. I do not think that is practicable. Gorbals is such an extreme case of crowding that even very high flats would not have much free space for parks around them.

"But what I should like to see is experimental flats built as the centre for any new housing schemes which may be erected on the fringes of the city, and in certain dock areas where men stop work in the middle of the night and would have difficulty in reaching an outlying scheme.

"These flats would be built on the Continental balconied pattern, housing hundreds of families, and the space thus saved could be used for open parks and swimming pools. The thing is economically possible, for the buildings are inexpensive to erect, and plans of the sort have gone far beyond the experimental stage in Vienna and Berlin, to quote only two examples. As an experiment, the Continental tenement plan can do no harm, and its possibilities are endless.

"I myself am in favour of giving it a trial, but I can speak for no one else. We are all simply waiting for the Government Bill to go through. Until then nothing can be done, for we may find ourselves limited to certain designs, as was the case with most of the present housing schemes. But at least we have the knowledge that something definite is going to be done at last."

NEW PORCH FOR WELLS

It is announced by the *Friends of Wells Cathedral* that Sir Charles Nicholson is designing a new porch that is to be erected at the western end of the south aisle of the nave.

CHELSEA BRIDGE

The Morning Post reports that a £311,000 contract for the reconstruction and widening of the Chelsea Suspension Bridge is likely to be signed at an early date on behalf of the L.C.C.

The Ministry of Transport, says *The Morning Post*, has already agreed that a bridge on the site of the present structure, accommodating four lines of traffic, would provide adequate facilities at this point for a long term of years, and is prepared to contribute 60 per cent. of the cost from the Road Fund.

The agreed design for the new structure, which has been approved by the Royal Fine Art Commission, provides for a suspension bridge of steel, with river piers and abutments of granite.

The bridge will be 700 ft. from bank to bank, with a central span of 332 ft., and two side spans of 163 ft. each. The roadway will be 40 ft. wide, with sidewalks 12 ft. wide on either side.

The present Chelsea bridge has seen 70 years' service. It was originally intended to replace it by one carrying six lines of traffic at a cost of £659,250, but this proposal was postponed, and finally withdrawn, as a result of the financial crisis of 1932.

CONFERENCE OF PUBLIC UTILITY SOCIETIES

It is announced that the above conference is to be held on September 21, at Olympia, London, W. Particulars are obtainable from the Garden Cities and Town Planning Association.

FIVE DESIGNS FOR LIVING

A Contemporary Industrial Design Exhibition is to be held at Dorland Hall, Lower Regent Street, from October 18 to November 3.

There will be all types of modern room: five living rooms, five bedrooms, five

kitchens, five bathrooms, and five offices, together with the various types of furnishings. There will be five shops and there will be displays of things that can be bought in them, covering everything from dress to sport.

The whole of the ground floor will be occupied by an idealized contemporary house, actual size, designed to show the best of contemporary taste in furniture, decoration, lighting and house equipment.

An all-electric mechanized house will occupy the first floor, and a group of interiors in motion will also be included: the bed-sitting cabin aboard ship, the dining-room lounge on a yacht, the 1935 saloon car interior, the sleeping berth on an air-liner and the cabin of an air-taxi.

SCULPTURAL DECORATION OF MOSCOW

The Moscow architectural planning department has drawn up a provisional plan for ornamenting Moscow with sculpture. The plan will be presented to the presidium of the Moscow Soviet shortly. A number of large statues in honour of foremost revolutionaries and outstanding scientists, artists and cultural workers are to be set up. Small forms of sculpture will also be given a prominent place. Fountains, small arches and groups will be erected.

OBITUARY

Mr. George L. Brown, architect and surveyor, whose death took place in Leicester recently was 66 years of age.

He was born in Leicester, and articled to a local firm, but after qualifying, spent his first few years of practice at Leamington. Returning to Leicester, he founded the firm of Messrs. G. Lawton Brown and Percy C. Jones, of which he was senior partner.

He was known chiefly for his work in designing or reconstructing churches.

COMPETITION

NEWS

THE RESULT OF THE WHITEABBEY (BELFAST) COMPETITION

As we go to press we learn that Mr. R. S. Wilshere, F.R.I.B.A., the assessor, has made the following award in the competition for extensions to the Whiteabbey Tuberculosis Sanatorium, Belfast:

First place, premium 500 guineas: Design No. 2 (R. H. Gibson and John M'Geagh, 23 Ocean Buildings, Belfast).

Second place, premium 200 guineas: Design No. 13 (E. G. Samways, 17 Ardgreenan Drive, Belfast).

Third place, premium 100 guineas: Design No. 5 (Messrs. Blackwood and Jury, 41 Donegall Place, Belfast).

The competition was limited to architects practising in Northern Ireland, and schemes were submitted by thirteen competitors.

Competitions Open

September 22.—Sending-in Day. Civic Centre, Tunbridge Wells, for the Corporation of Tunbridge Wells. Assessor: E. Berry Webber, F.R.I.B.A. Premiums of £300, £200, £100 and £75. Conditions are now obtainable (deposit £1 1s.) from Mr. J. Whitehead, Town Clerk, Tunbridge Wells. The last day for submission of designs is September 22.

October 1.—Sending-in Day. Proposed Municipal Assembly Halls, Wolverhampton, for the Wolverhampton Corporation. Assessor: C. Cowles Voysey, F.R.I.B.A. Premiums: £350, £250 and £150. Conditions from the Town Clerk, Town Hall, Wolverhampton. Last day for questions was May 21. (Deposit £1 1s.)

Competitions Pending

Lay-out of, and scheme for building on the prison grounds, York, for the York Corporation. Premiums: £250, £150 and £100.

New college for technical, commercial and art studies, Birmingham, for the Birmingham Education Committee.

Central offices, Hertford, for the Herts C.C. Premiums: £350, £250 and £150.

Technical college, Bolton, for the Bolton Education Committee. Premiums: £500, £250 and £100.

Civic building in connection with the proposed scheme for a civic centre, Enfield, for the Enfield U.D.C.

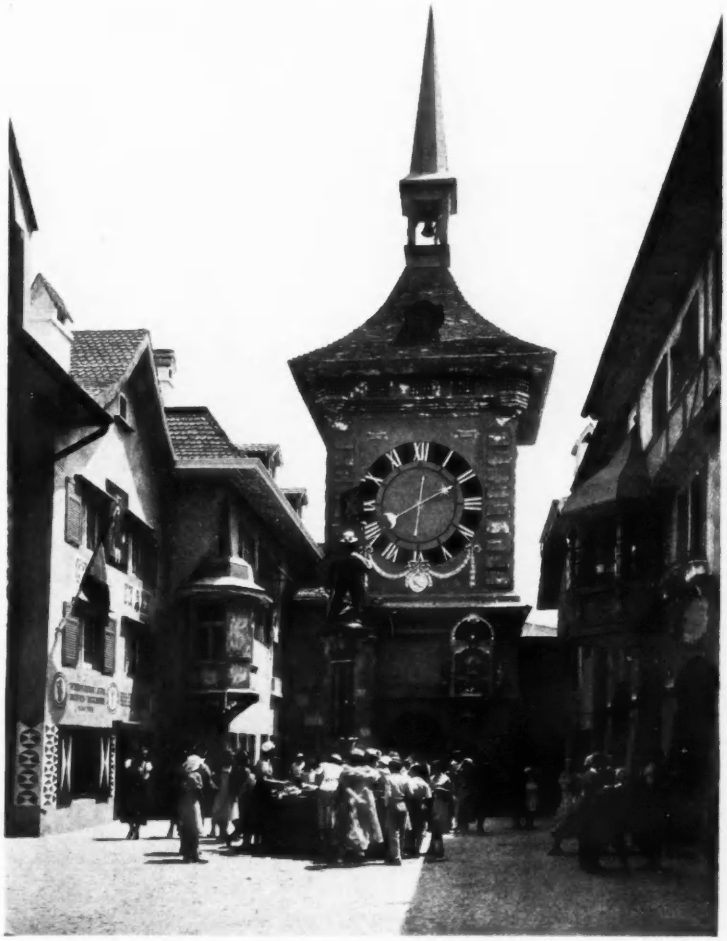
Development of the Tuns Gate site, Guildford, for the Guildford T.C. (limited competition).

Rebuilding of Bishopsgate Police Station and Police Hospital, for the City of London Corporation. Premiums: £250, £100 and £50.

Town hall, for the Southall-Norwood U.D.C.

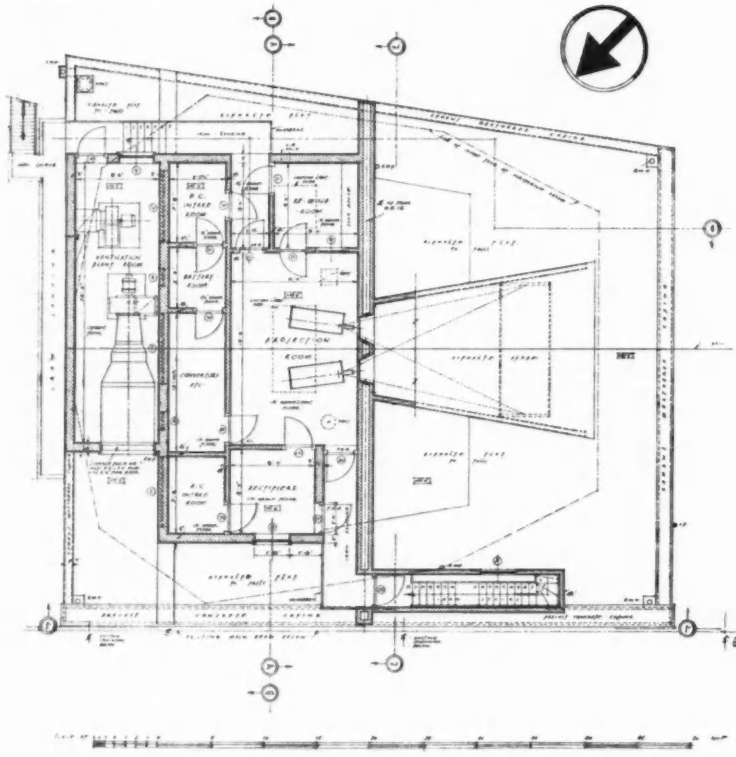
Municipal centre, Romford, for the Romford U.D.C.. Premiums: £250, £100 and £50.

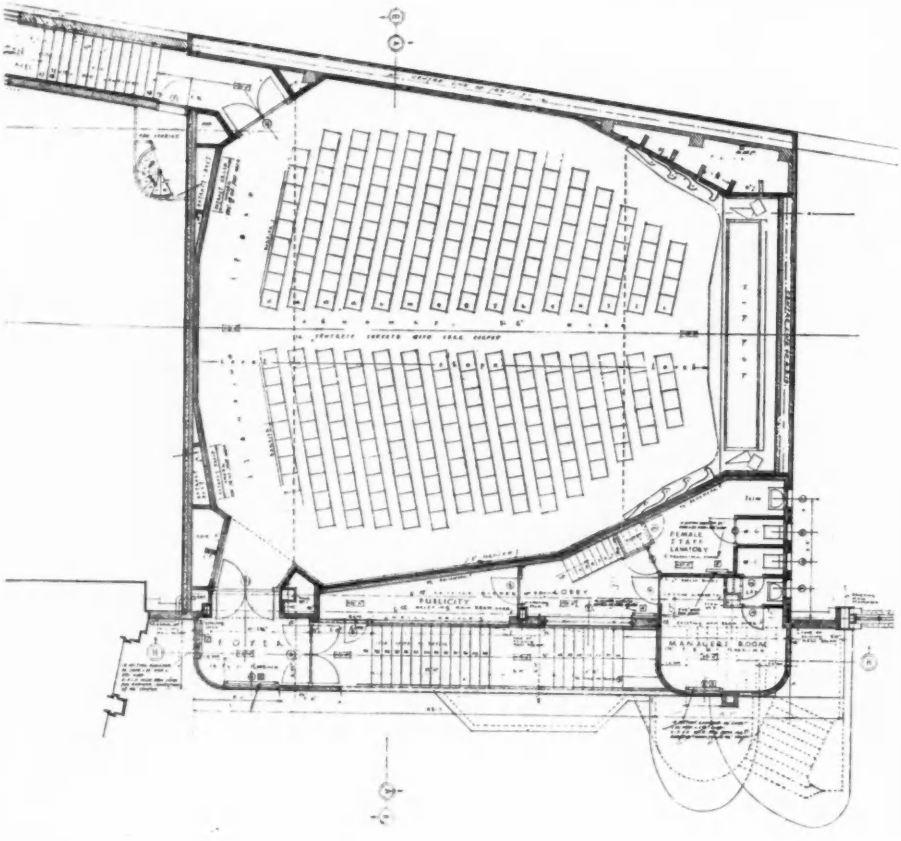
Town hall, Bury, for the Bury T.C. Assessor: J. Hubert Worthington, F.R.I.B.A.



A reproduction of the clock tower of Berne in the Swiss Village at the Chicago World Fair. Several such villages have been erected as this year's additions to the Exhibition. *See also page 315.*

NEWS THEATRE AT





Following the construction a year or so ago of a News Theatre inside the existing roof of Victoria Station, designed by Alister MacDonald, another similar theatre has been erected in Waterloo Station by the same architect. It was opened last week, and is illustrated on this and the following pages.

The theatre, as in the case of the Victoria one, is to present short programmes consisting of news and "interest" films, cartoons, etc., drawing its public from those waiting for trains as well as from ordinary sources. For this reason a small subsidiary screen is provided in the auditorium beside the main one, which serves as an indicator board to give warning of the arrival and departure of trains. This screen is directly connected with the signal cabin.

The total seating capacity of the theatre is 250. This large number for the small floor area available has been made possible by a system of stereoscopic mirror projection, which is the most remarkable feature of the building. It enables seats to be placed within a few feet of the screen (or, rather, of the mirror that takes its place) without discomfort or distortion. This system is here used for the first time in this country. It is shown in the longitudinal section and described on page 324.

On this page are the two plans of the theatre: above, at projection room level, showing the ventilating plant, the electric apparatus room and the "tunnel" through which projection takes place (see section overleaf); below, at auditorium level. On the facing page are a general view of the exterior from the concourse of Waterloo Station, and, below it, a similar view showing the appearance of that part of the station before the theatre was constructed.

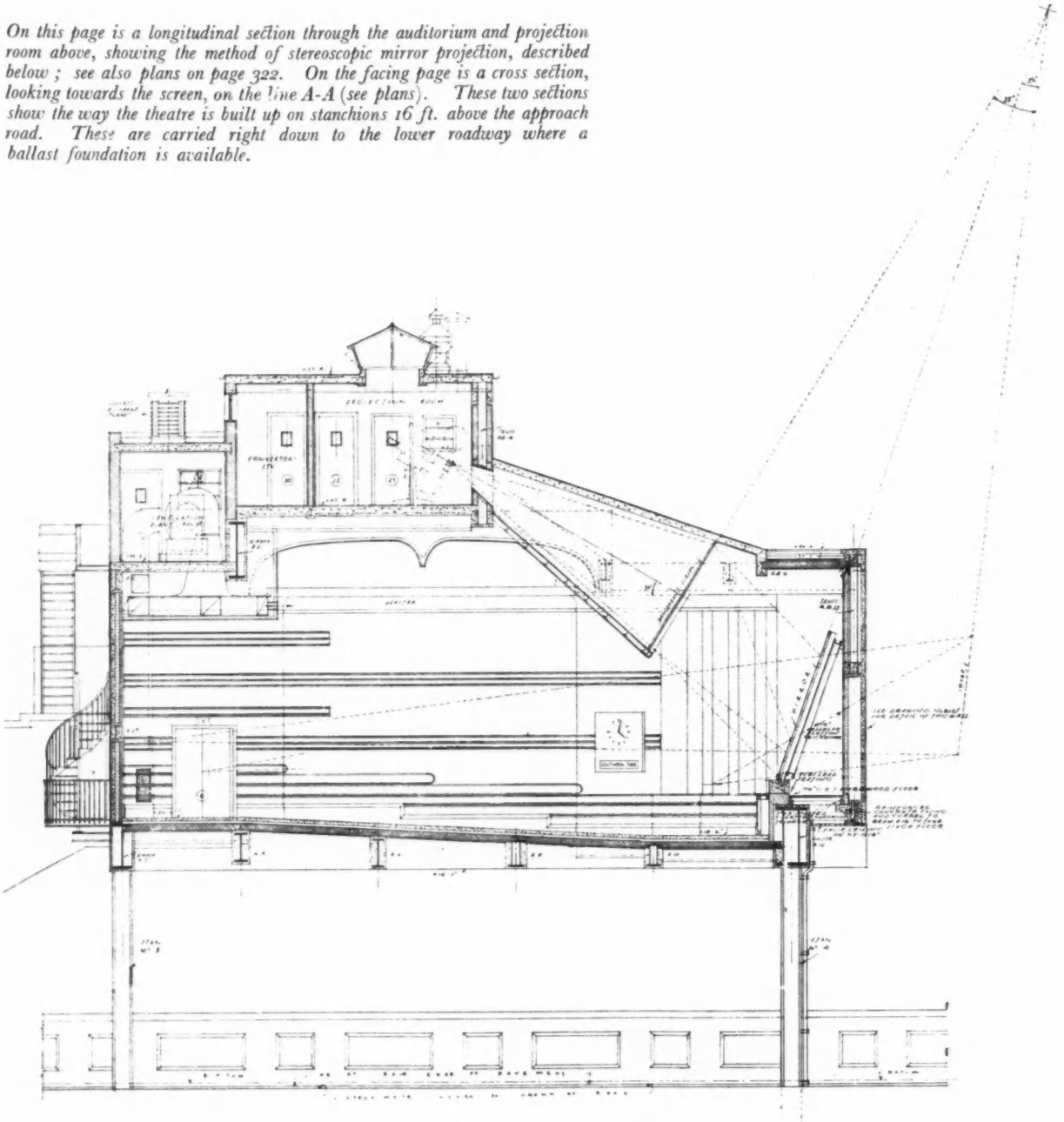
WATERLOO STATION

S. W. NEWBERY

DESIGNED BY ALISTER G. MACDONALD.

NEWS THEATRE AT

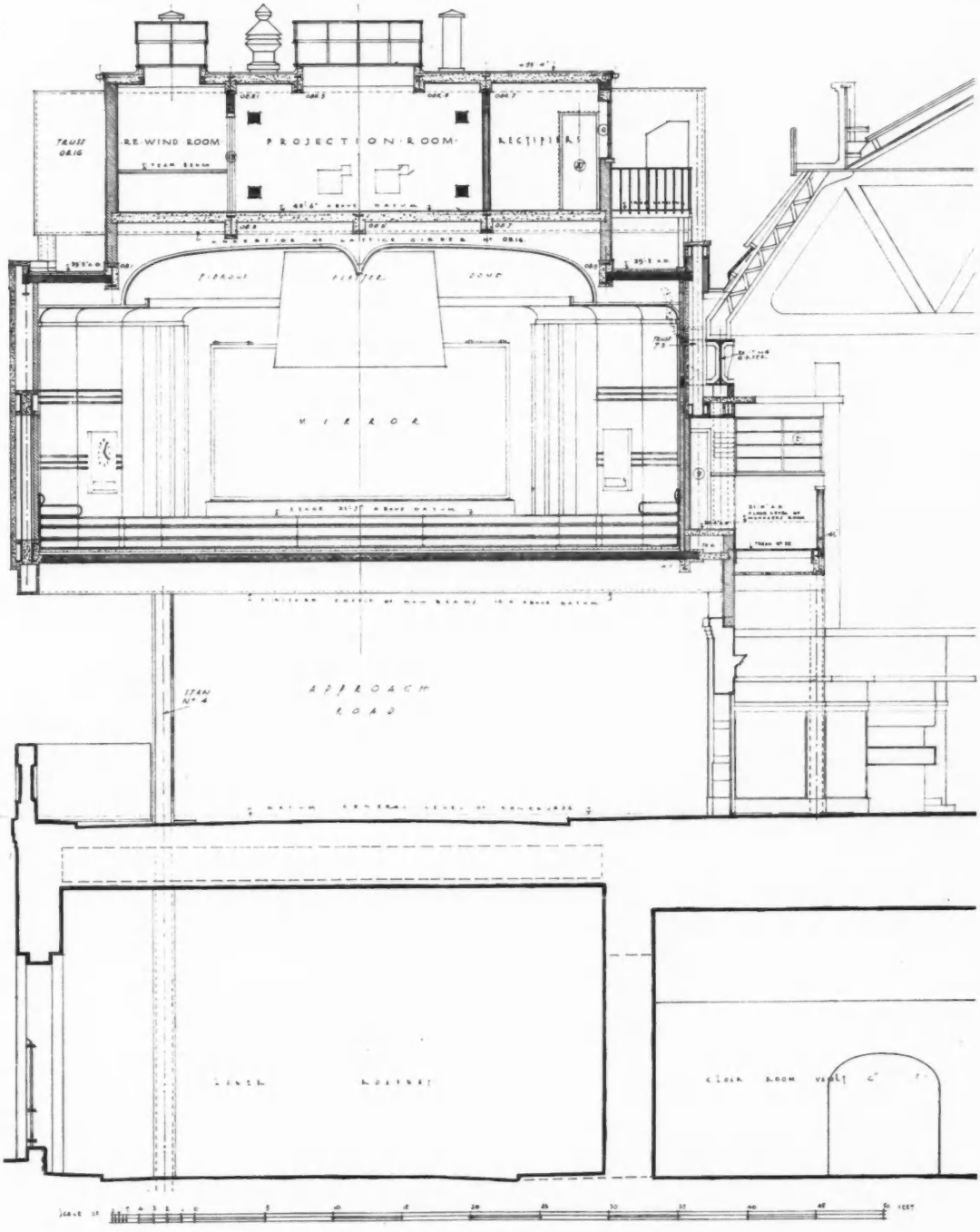
On this page is a longitudinal section through the auditorium and projection room above, showing the method of stereoscopic mirror projection, described below ; see also plans on page 322. On the facing page is a cross section, looking towards the screen, on the line A-A (see plans). These two sections show the way the theatre is built up on stanchions 16 ft. above the approach road. These are carried right down to the lower roadway where a ballast foundation is available.



LONGITUDINAL SECTION

The system of stereoscopic mirror projection here used for the first time in this country was invented by Dr. R. T. A. Innes, formerly Astronomer Royal to the Dominion of South Africa. It consists in the application of reflection (by the use of mirrors) to film projection, and has the advantages of enabling seats to be placed within three feet of the picture without distortion, of eliminating distortion from side views and of providing a greater degree of stereoscopic illusion. The rays are projected (see section above) through a tunnel in the ceiling of the theatre on to a transparent screen that closes the mouth of the tunnel. They are reflected from this screen by a large sloping mirror that occupies the position usually taken by a screen, and into which the audience looks. On the section the angles of reflection are shown by dotted lines, and the virtual image as it appears to all members of the audience. This is, of course, a true image of the picture as projected on to the first screen ; sideways distortion or "keystoning" from any part of the house being thus avoided. The stereoscopic effect is provided by the slight double image produced, the main one from the silvered back of the mirror and a secondary one from its surface.

W A T E R L O O S T A T I O N

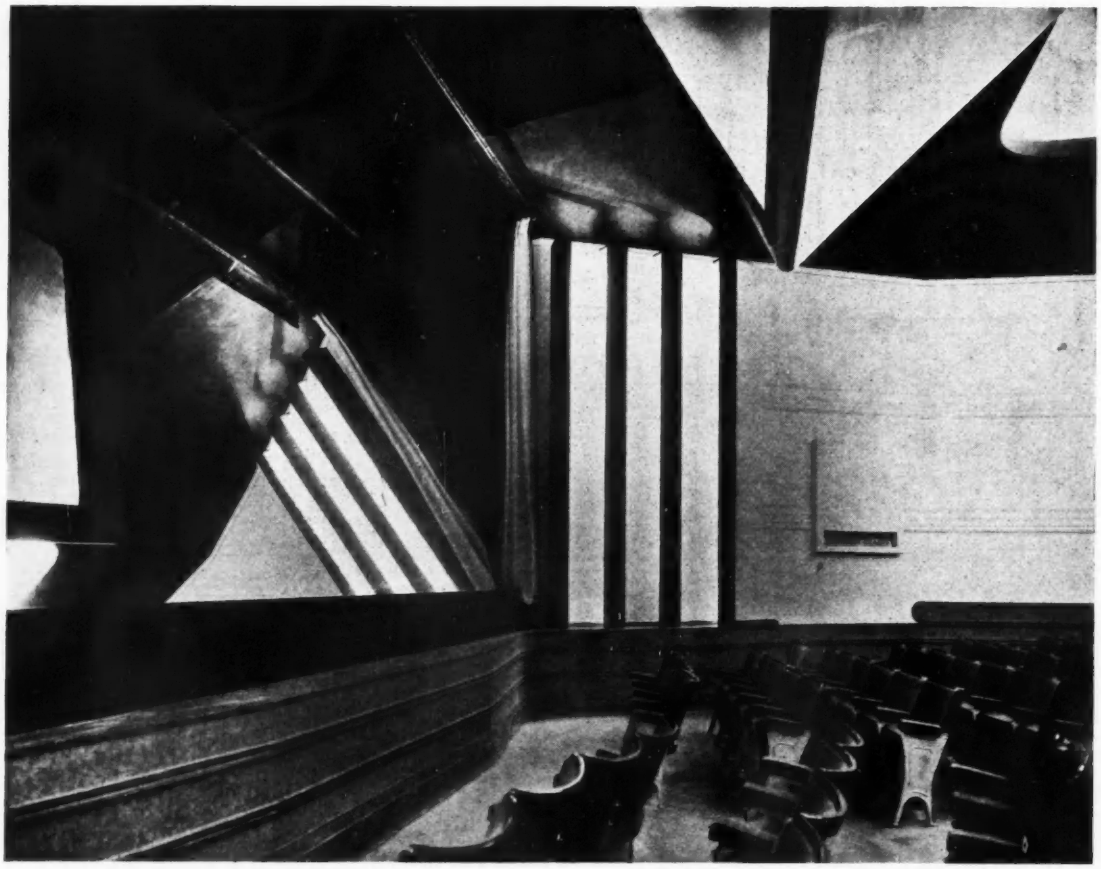


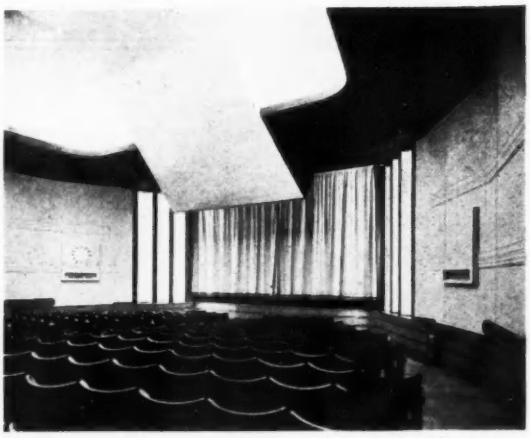
CROSS SECTION

The exterior walls are constructed of 4 in. reinforced concrete. The permanent shuttering on the inside is of synthetic boarding, and there is an inner wall of 4½ in. cellular brickwork. The exterior is rendered with ⅝ in. cement. The floor is of pre-cast concrete beams. Insulation was a serious problem, as the theatre had to be specially protected against noise and vibration of trains and other station noises. For this purpose, thatch-board 2 ins. thick has been laid on the floor beams, covered with 2½ ins. of cement concrete and the whole covered with a cork carpet. The side walls contain air spaces filled with asbestos. Internally, the walls are finished in plaster, distempered, with vertical fibrous plaster lighting fins at the proscenium end.

BY ALISTER G. MACDONALD

NEWS THEATRE AT





On this page are three views of the auditorium. The top one was taken with the curtain drawn back under special lighting conditions to show a reflection of the interior in the sloping mirror. In actual practice, of course, nothing would be seen in the mirror but the reflection of the picture from the screen. The projection tunnel is in the top right-hand corner of this view, and is also shown in the view below with the curtains drawn. That on the left shows the other end of the auditorium with the ventilating grilles.

WATERLOO STATION

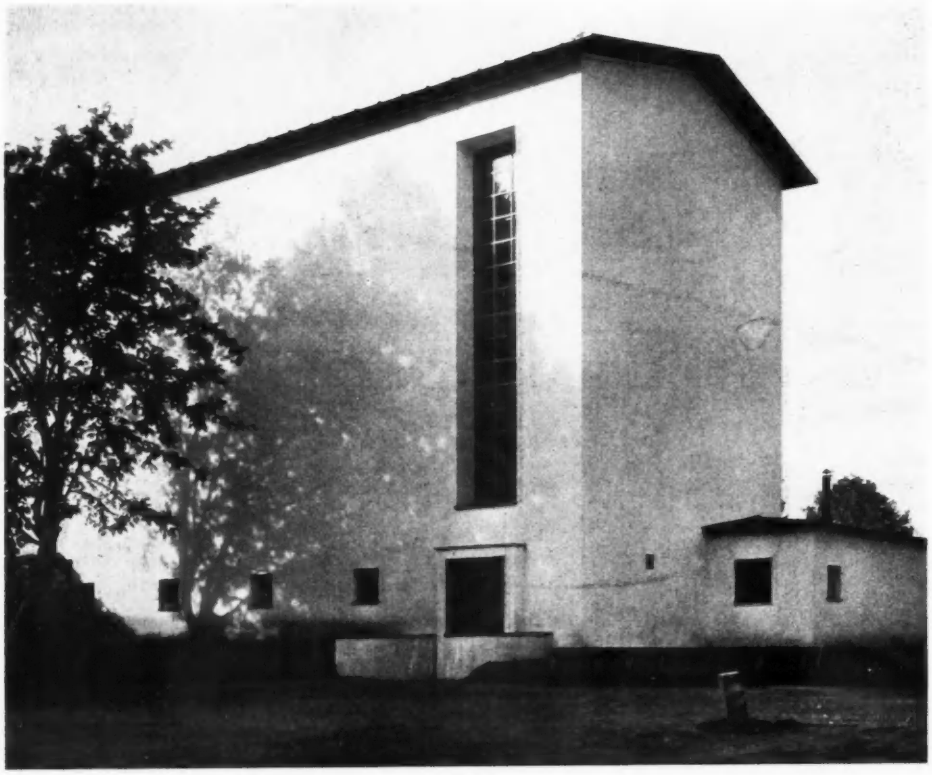
On the right is a view taken from the top of the external staircase, showing the windows of the manager's office and the interior of the railway station in the background. The railing seen on the left is only a temporary one. At the bottom of the page is a night view, to show the effect of the neon lighting.

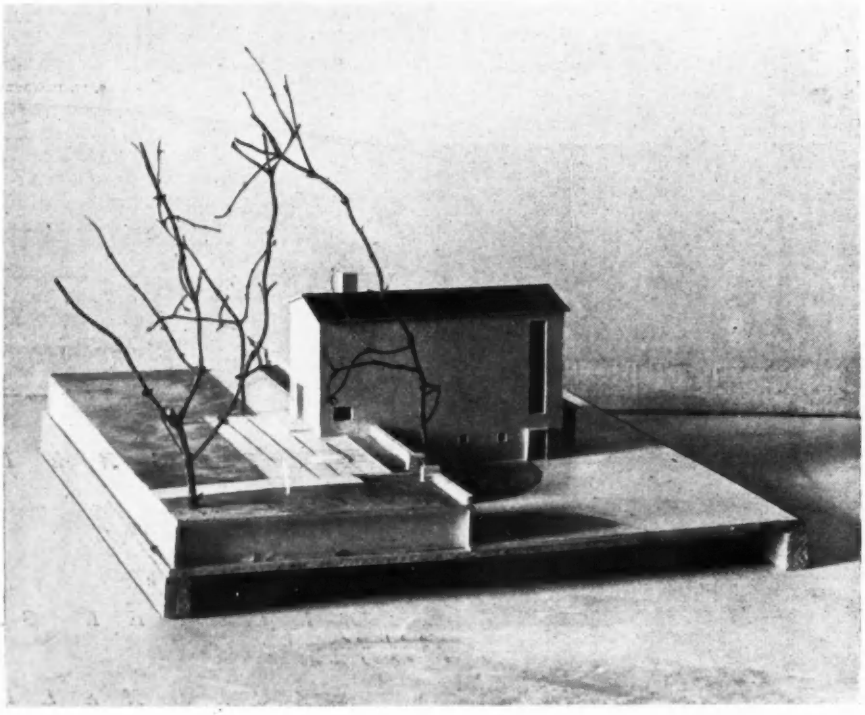
S. W. NEWBERY

The auditorium has distempered walls, with a dado of white mahogany, stained and wax polished. The rows of seats are arranged in alternate colours, grey and emerald green. Diffused lighting on either side of the proscenium is provided from vertical fins in fibrous plaster. The colouring externally is dark cream, picked out with red, a light green being used for the entrance and pay-box. The neon lighting is in blue.

DESIGNED BY ALISTER G. MACDONALD

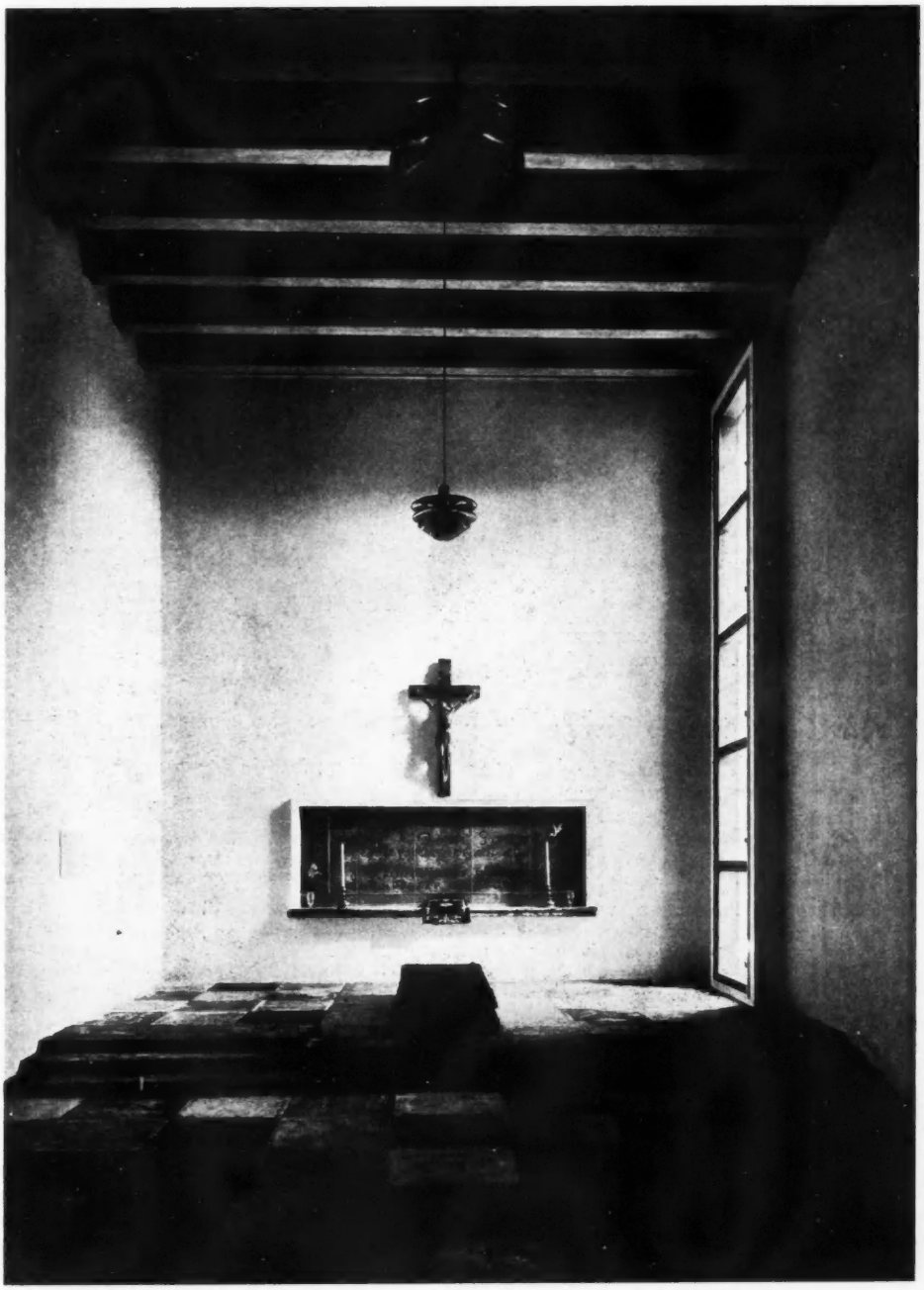
MORTUARY CHAPEL AT PARGAS,

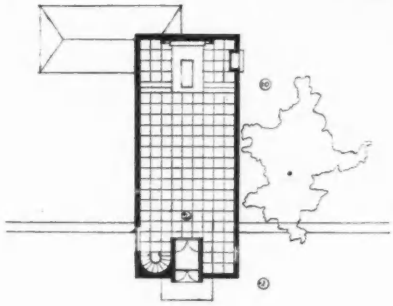




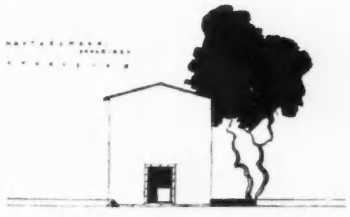
This small chapel has been built on a site adjoining an old cemetery. It is constructed in reinforced concrete, rendered externally and whitewashed. The roof is of wood. The photographs on this page show the exterior from the south-east and a model of the building indicating its setting. That on the facing page shows the simple whitewashed interior, lighted by one tall window and paved with limestone flags.

FINLAND: BY ERIK BRYGGMAN





On the left is the plan of the chapel showing the extreme simplicity of its arrangement, the large scale of the various toned limestone paving flags, and the position of the tall window giving light direction to the altar. On the right is a drawing of the western or entrance elevation, supported on either side by the old cemetery wall.



LETTERS FROM READERS

HOWARD ROBERTSON, F.R.I.B.A., S.A.D.G. (Director of Education at the A.A. School of Architecture.)

GRACE COPE (Honorary Member of the I.A.A.S.)

OVOLO

R. J. THOMSON, F.R.I.B.A.

A.A. Exhibition of Students' Work

SIR,—I am just off for a short, but I hope well deserved holiday, so I shall not be able to take any further part in this fascinating discussion which has been a real godsend during the silly season, and has helped to get us through August.

It has also been very pleasant to see former schoolfellows coming into contact through your columns and discussing so frankly, sometimes even a little chidingly, their old school.

Finally, I am so glad to see that the famous old sports car, Chitty-Bang-Bang, is still running.

HOWARD ROBERTSON
London

Miss Cope's Visit to Turkey

SIR,—I have just been handed your article of August 30: "THIS ARSHETECTURE." I am *en route* to Turkey, and my Association joins me in regretting the lowering of the prestige of their only woman Honorary Member by such a publication, which is *absolutely imaginative* and most *gravely inaccurate*, and *defamatory to my professional status* both in England and Turkey. Many Press people 'phoned for news. I had kept this quiet since June because I will not have such derogatory articles published. I strictly forbade any paper publishing any article about this until, and if, I gave permission. My Press agent forwarded the *Express* article and I immediately took lawyer's advice. He demanded a letter published explaining and apologizing.

Last spring the Minister of the Interior asked if I would give a course of practical lectures and act in an advisory capacity in their new capital. (Sir Frank Baines died, and I am to be the guest of the Turkish Government at Ankara Palace.) The Turkish Ambassador has provided me with a Diplomatic Visa, enabling me to see all prohibited zones and has secured every facility for my comfort as has our Foreign Office and consuls in Istanbul and Ankara. This simply unprecedented honour for an Englishwoman is simply making English history and is a most responsible Diplomatic undertaking. The Ambassador firmly believes that I shall do more to strengthen the friendship between our nations than any league of Nations. He has seen so much of my practical architecture, and is determined to have it in Turkey if I will only consent to go.

Venizelos was staying with my lifelong friends at Highgate, and naturally heard of my practical work. He immediately wrote the President at Athens to endeavour to get my advice for Greece, and the two in combination have made a hard try to secure my advice. I have not yet decided *re* Athens. I cannot leave London professionally for long, and I am quite sufficiently conceited to believe that I am needed specially in London. I am taking my working plans to Turkey and they specially need all my technical detail and instruction. I could not leave without writing, though my Association will see this righted, for it reflects discredit on the Association and they will keep me in touch until I arrive in town approximately early November. I simply will not allow such ridiculous statements to be published any longer, and my Association upholds that. In greatest haste for train. The position is serious, as I represent England and her Government.

GRACE COPE
London

[*We sincerely regret having given publicity to the passage from the "Daily Express." We naturally assumed that Miss Cope had authorized the publication of the report and had, of course, no idea that she desired her professional activities to be kept private.*—ED., A.J.]

The New R.I.B.A. Building and the Egyptian Hall

SIR,—The comparison of the old Egyptian Hall and the new R.I.B.A. building is amusing. Astragal does not say which he likes best; but I should say it is long odds that 90 per cent. of the public will like the Egyptian Hall best—it is not so very long ago that the R.I.B.A. house would have been described as a box with holes in it—other times, other manners.

My old friend Mr. Lanchester was presented most deservedly with the Gold Medal the other day and paid tribute to his late partner Rickards. Rickards was hailed as a genius and the architectural papers clamoured for his drawings, yet he was very much more in the manner of the Lord Mayor's Coach than the air-flow Chrysler.

I venture to think that this being up to date is a game which architects should play rather slowly. There will certainly come a very sharp revulsion of feeling against this box-like architecture, as there has been in the past against Arts and Crafts arrangements of the 1890's, *art nouveau* and all that.

I am not a very old man, but when I was a youngster in the city of London, Winchester House was being built. Neo Greek it was called and hailed as a triumph. There is a very large building in London, much admired not long ago, designed by an eminent firm of architects, which is much more like the Egyptian Hall than the other thing.

Don't be in such a hurry, Mr. Astragal. Young men brought up to think the box-trick is all sufficient will find themselves in the cart one of these days, when the return to what was known as architecture occurs, as it certainly will.

OVOLO
Sidmouth

Sir John Sulman

SIR,—Referring to the letter by Mr. George Weeks in your last issue, the late Sir John Sulman, F.R.I.B.A., who recently died in Sydney, N.S.W., was the John Sulman, F.R.I.B.A., who resided at Mason's Hill, Bromley, from 1875 till 1885.

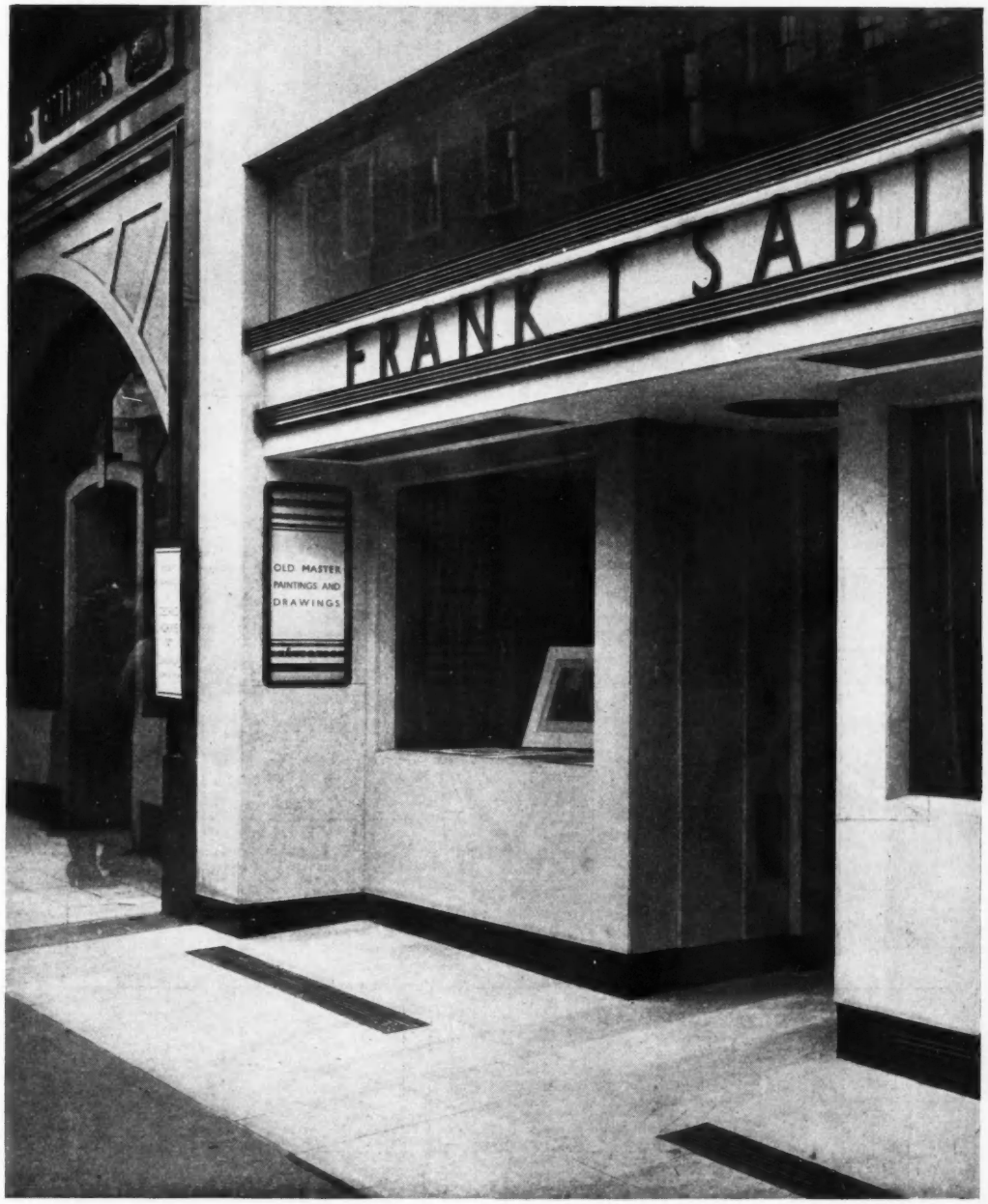
He practised at No. 1 Furnivals Inn, Holborn, E.C., with a branch office at Market Square, Bromley, Kent, in the course of which he carried out a considerable number of Nonconformist churches throughout the country.

I served my articles under him during the years 1881-1884, and subsequently as one of his assistants until he went to Sydney in 1885. It was during that period that the Congregational Church and School of Science and Art at Bromley were carried out, and among the many churches he designed I can recall others at Addiscombe, Croydon, Stoke Newington, Highbury, Caterham, Teignmouth (South Devon), Winslow and Newport Pagnell (Bucks.), Market Weighton (Yorks.), Pontypridd (S. Wales) and Johnstown (N. Wales).

R. J. THOMSON
Wimbledon

WORKING DETAILS : 113

SHOP-FRONT • PICTURE GALLERY • ALAN MARLOW

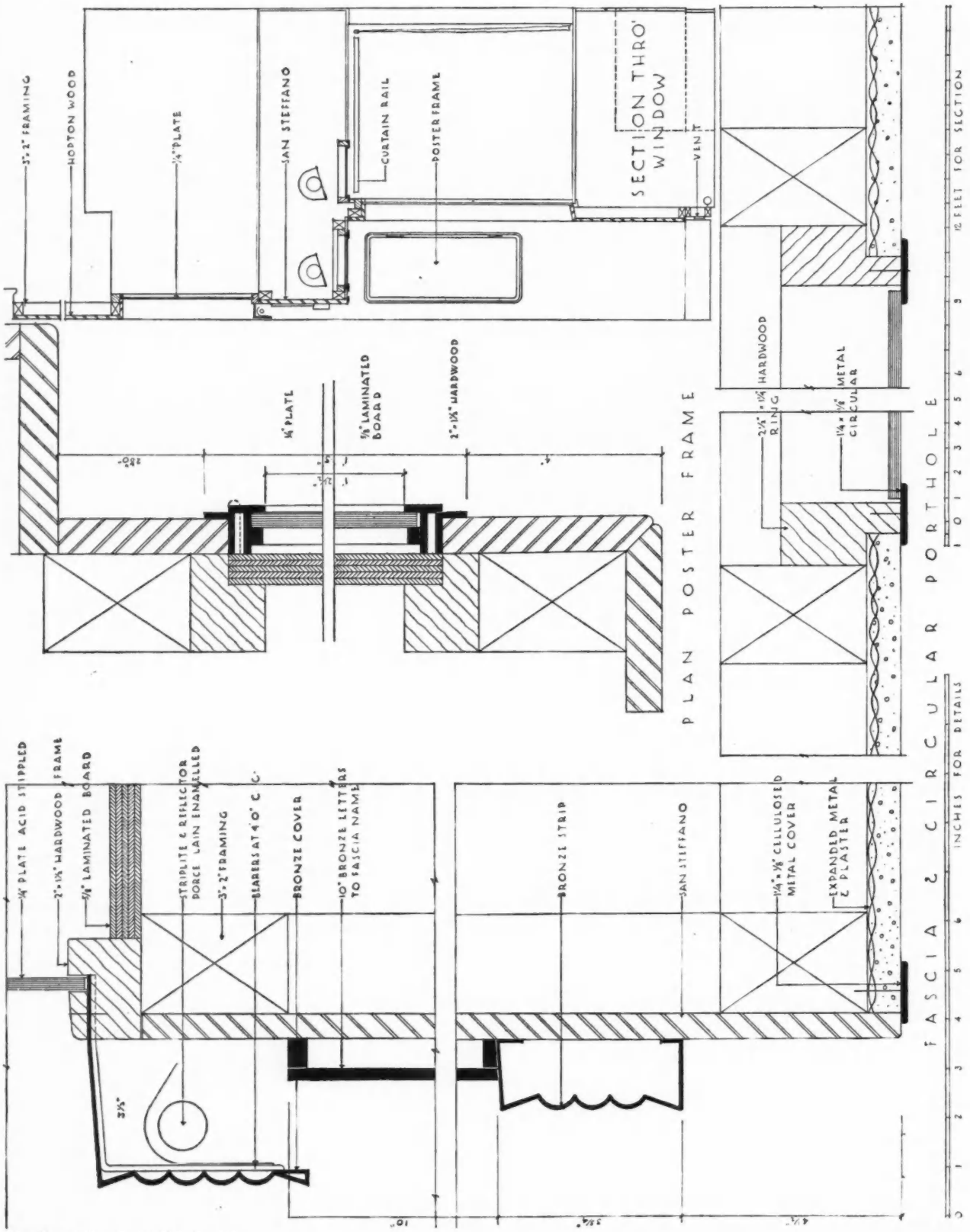


HERBERT FELTON

This new shop-front is part of the reconstruction of a picture gallery in Bond Street. It is faced with Nabrasina marble, with a black granite plinth. The bronze lettering is illuminated by a series of strip lights behind the drawn and fluted bronze fascia strip. Details are given overleaf of this fascia and of the poster frame.

WORKING DETAILS : 114

SHOP-FRONT • PICTURE GALLERY • ALAN MARLOW



Details of illuminated fascia and poster frame in the shop-front illustrated overleaf.

WORKING DETAILS : 115

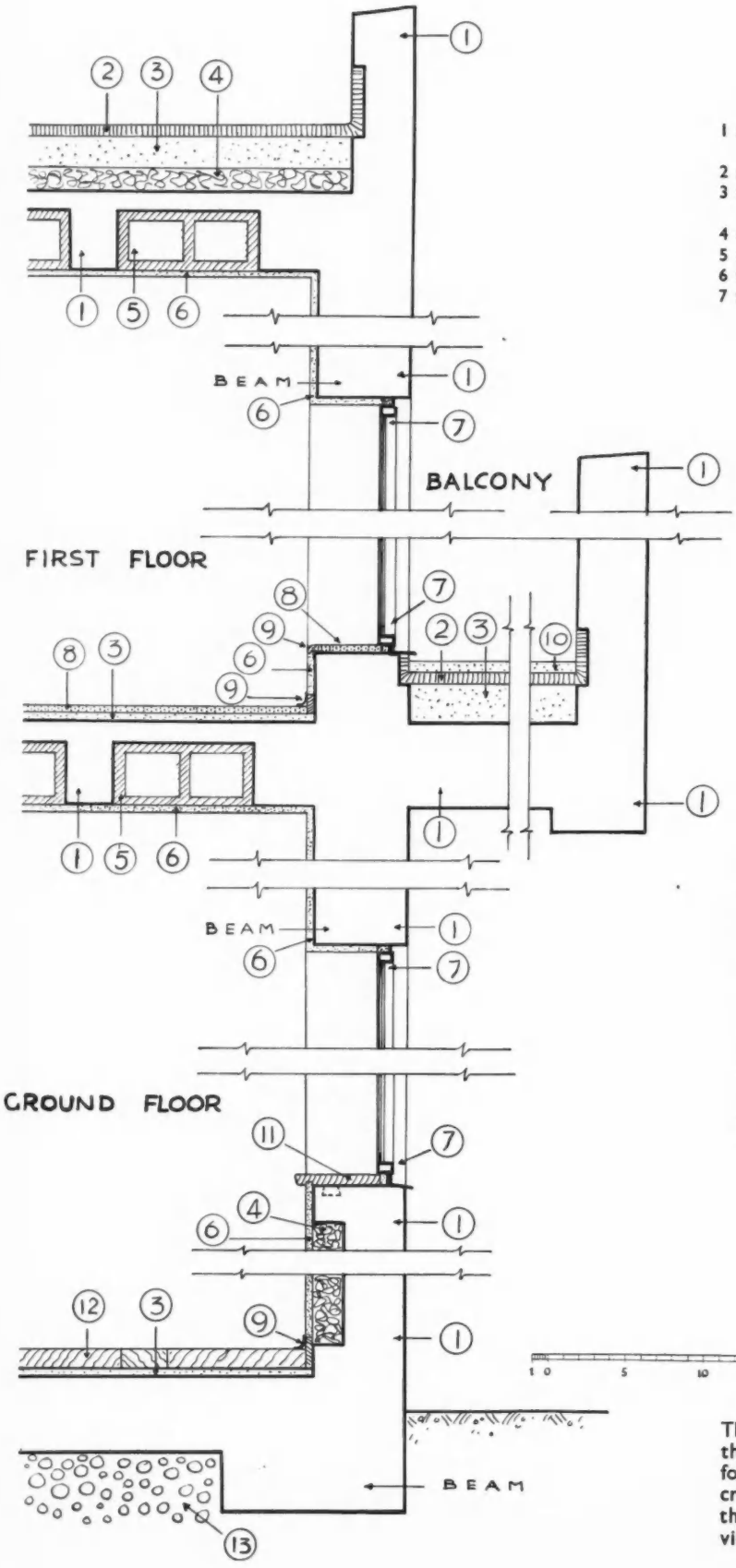
WALL AND FLOOR CONSTRUCTION • HOUSE AT GIDEA PARK • F. SKINNER AND TECTON

S. W. NEWBERY

This is the four-bedroomed house that won the first prize in Class E at the recent Modern Homes Competition at Gidea Park. It is constructed in reinforced concrete, and details of the wall and floor construction are given overleaf; also a detail of the ventilation holes in the larder. The view above is from the south.

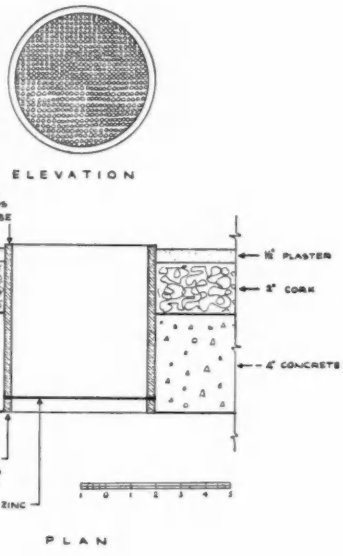
WORKING DETAILS : 116

WALL AND FLOOR CONSTRUCTION • HOUSE AT GIDEA PARK • F. SKINNER AND TECTON



KEY TO MATERIALS

1 : REINFORCED CONCRETE.
2 : ASPHALTE.
3 : CEMENT SCREEDING.
4 : CORK INSULATION.
5 : HOLLOW TILES.
6 : PLASTER.
7 : STANDARD WINDOWS.
8 : JOINTLESS COMPOSITION FLOORING.
9 : METAL TRIM.
10 : CEMENT PAVING (divided in squares).
11 : DEAL CILL.
12 : WOOD BLOCK FLOOR.
13 : HARD CORE.

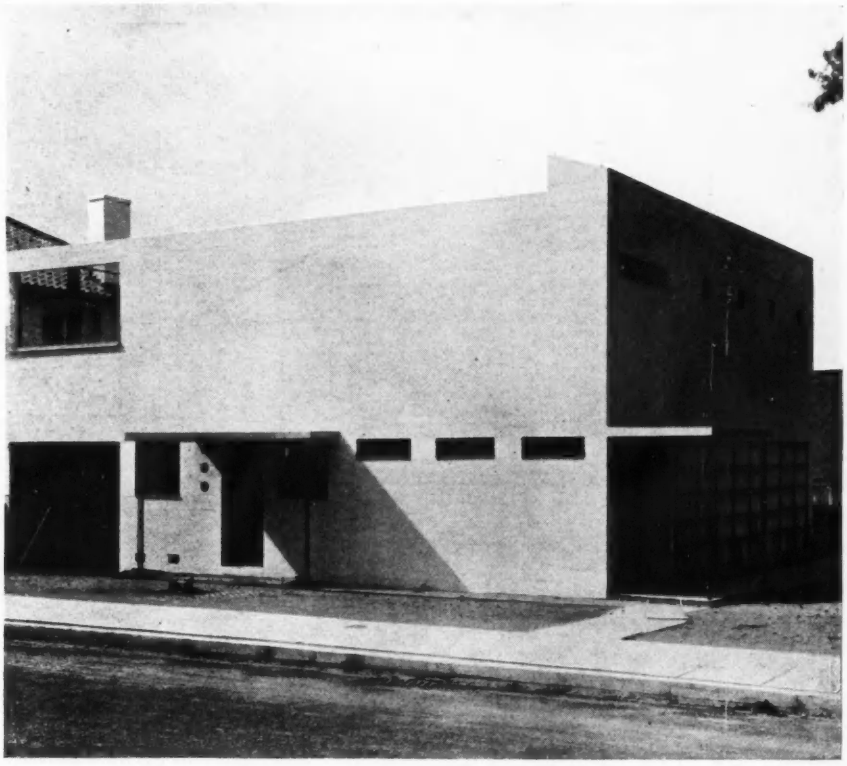


The drawing on the left is a section through the exterior wall, between stanchions, of a four-bedroomed house in reinforced concrete; also (above) are plan and elevation of the ventilating holes to the larder. An exterior view is given overleaf.

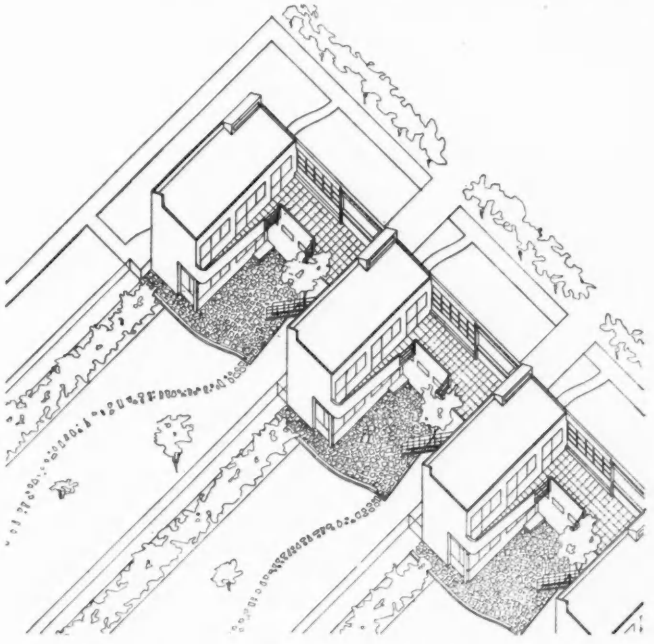
HOUSE AT GIDEA PARK, ESSEX

THE house here described and illustrated was awarded the first prize in Class E (selling price limit £1,575) at the Modern Homes Exhibition at Gidea Park, where it is on exhibition along with a number of others of varying sizes. The actual cost of the house was £900. This house has been the subject of a certain amount of discussion, and in reply to criticisms that have been made, the architects have set out below their own approach to the problem of finding a completely satisfying contemporary architectural expression; the problem of which this design is a step towards the solution.

In spite of the care that has been taken in the design one feels in some way unsatisfied with the final result, not only of this house but also of nearly all recent buildings in this country which can claim attention as serious attempts at modern architecture. This house seems a good example of its kind. It is competently worked out. The planning is considered. The construction, the thermal insulation, the aspects, the ventilation, the services, the labour processes, all are considered, and many people will be content with a house which seems a convenient synthesis of all these factors. But still there seems to be something missing—a face, an expression. The fact is that a mass of new scientific knowledge and constructional methods, equipment, etc., has been available to architects for some time, and should now be well known; but still their buildings appear to appeal to the public more on intellectual grounds, on self-conscious presentation of this knowledge or these constructional methods, than on any real architectural beauty. It is time for a development, time that this knowledge should be assimilated, and that the designing process should be directed towards the formation of some clear expression, where systems of planning and construction are not merely paraded, but are refined and formalized, so that the public looking at a building can not only be keenly interested, *but can really* feel *some new simple sensation. This is indeed a difficult process, and one that architects in this country have so far hardly attempted, but not until buildings are designed in this way will they be really easy to live in, in spite of all the attention paid to labour-saving and functional design.*



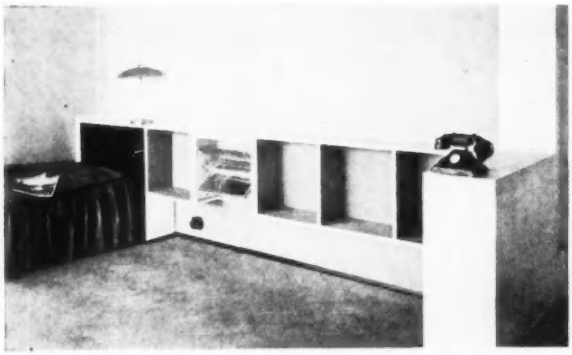
S. W. NEWBERY

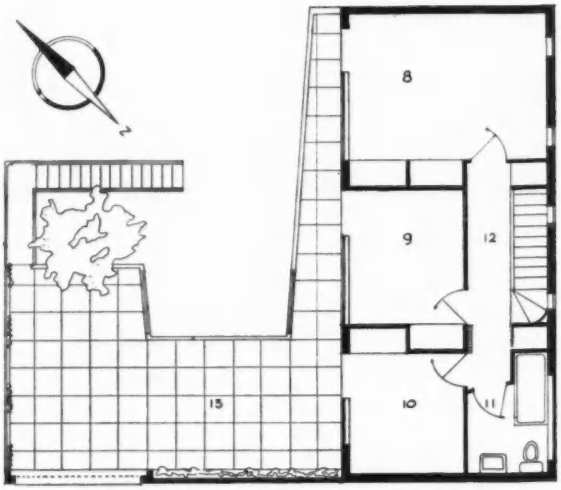


The photograph above shows the north-east side, facing the road. The drawing shows the way in which the house forms a unit for row-development, for which it has been designed.

DESIGNED BY F. SKINNER AND TECTON

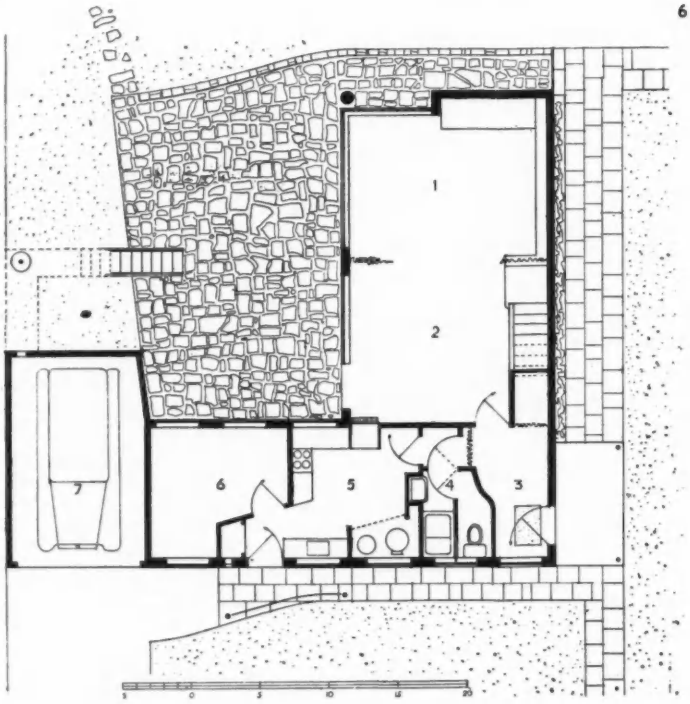
HOUSE AT GIDEA PARK, ESSEX:





KEY TO PLANS

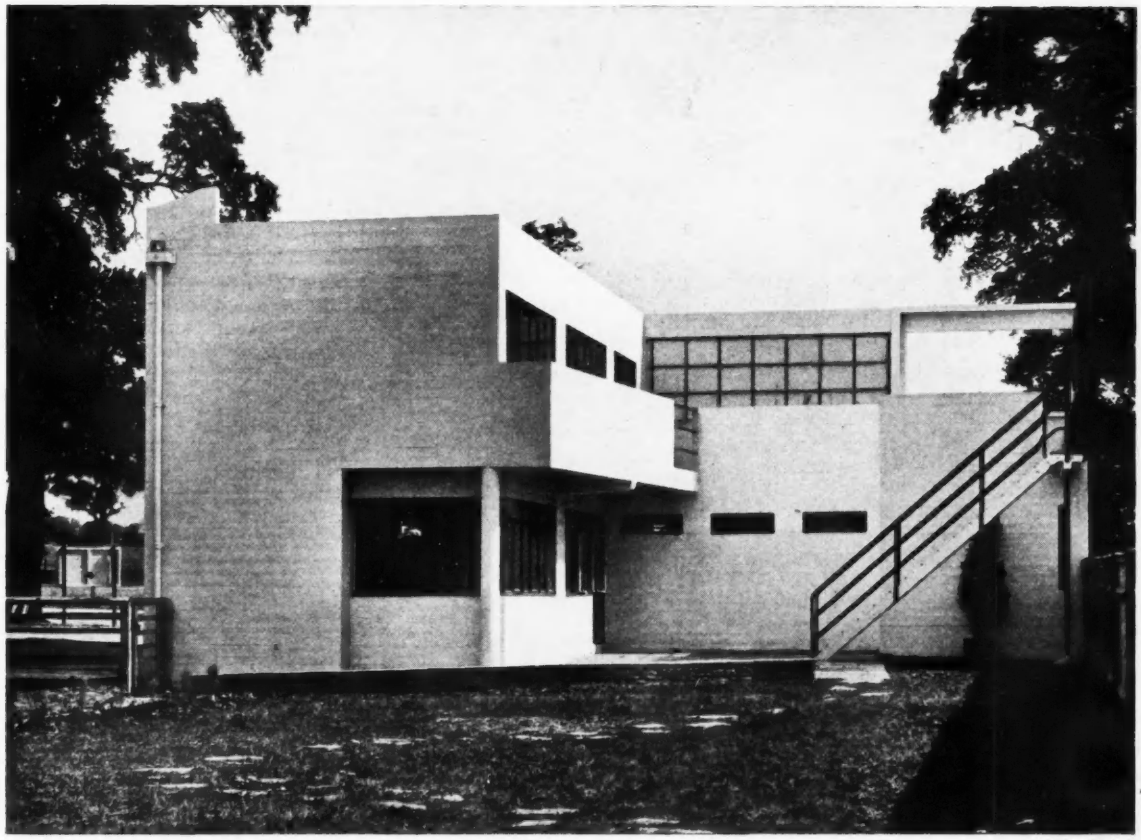
1 & 2 : LIVING ROOM.	7 : GARAGE.
3 : ENTRANCE.	8, 9 & 10 : BEDROOMS.
4 : LAVATORY & W.C.	11 : BATHROOM.
5 : KITCHEN.	12 : LANDING.
6 : MAID'S ROOM.	13 : TERRACE.



This house was specifically designed for a plot 45 ft. wide by about 100 to 150 ft. deep, with the street frontage facing north-east.

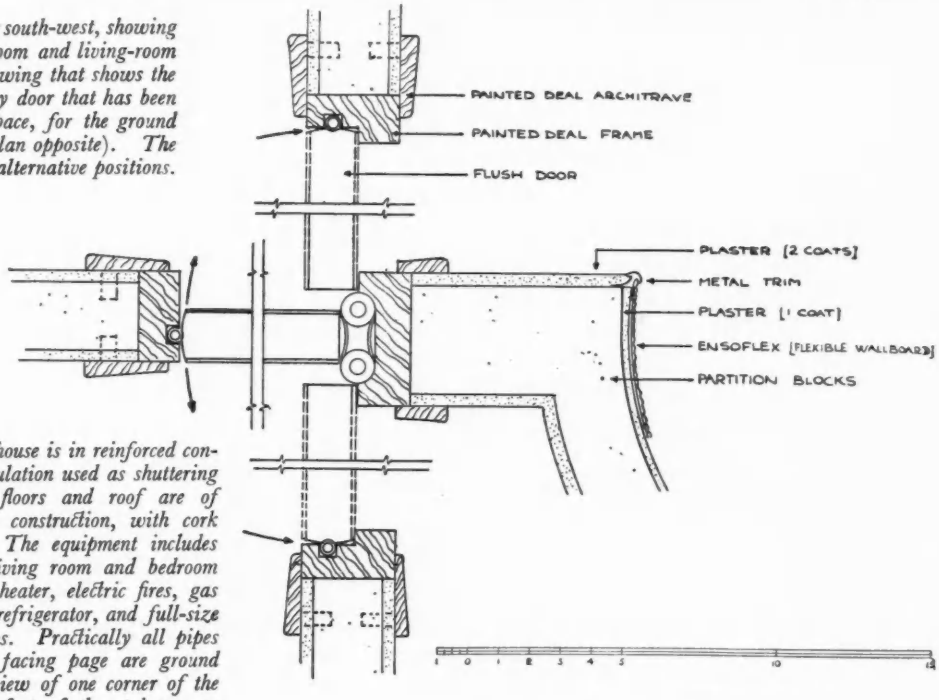
Although in the Modern Homes Exhibition the house stands on an open corner site, it was designed as a unit for row development, it being assumed that this was the most satisfactory solution for this type of house from economic and architectural points of view. The house is suitable for a household of three or four persons, and a resident maid. The one large living room can be divided by a curtain (or by movable screens) and has a continuous row of windows facing south-east to south-west on to a garden court, with access through French doors. From this court a stair leads up to a screened sun terrace, which is again connected to the three bedrooms by French doors. These bedrooms face at right angles to the road (south-east), and so get morning sun, but avoid overheating by evening sun. Downstairs again, a service hatch and cupboard connect the living room with the kitchen. Next to the kitchen is the maid's room, and the maid has the use of the downstairs lavatory and w.c. and a sitz bath, which can all be shut off from the rest of the house by a three-way door. This enables a maid's flat to be formed at will.

DESIGNED BY F. SKINNER AND TECTON



S. W. NEWBERY

Above: the house from the south-west, showing the terrace and the bedroom and living-room windows. Right: a drawing that shows the working of the three-way door that has been designed, to economise space, for the ground floor lavatory (see floor plan opposite). The door is shown in its three alternative positions.



THE THREE-WAY DOOR

The construction of the house is in reinforced concrete, with 2 in. cork insulation used as shuttering for the concrete. The floors and roof are of concrete and hollow tile construction, with cork insulation to the roof. The equipment includes hot water radiators to living room and bedroom landing with gas water heater, electric fires, gas water storage heating, a refrigerator, and full-size cupboards to the bedrooms. Practically all pipes are concealed. On the facing page are ground and first floor plans, a view of one corner of the living room showing the foot of the staircase on the right, and an exterior view looking down on the terrace from the roof.

L I T E R A T U R E

ERIC GILL ON THE NATURE OF ART

[*By John Gloag*]

Art and a Changing Civilization, by Eric Gill. London : John Lane : The Twentieth Century Library. Price 2s. 6d. net.

THE text of Mr. Gill's trenchant essay on Art may be discovered in a footnote on page 48. It is worth quoting at length, because it illustrates the author's point of view so forcibly :

" The model for the pre-Renaissance painter was the work of his contemporaries. Plagiarism was unknown because there was nothing else. Our 'modern' painter, on the contrary, must at all costs be 'original.' As the modern engineer studies modern engineering, so the pre-Renaissance painter studied contemporary painting. But, today, if Mr. B copies Mr. A, all the critics condemn him. The reason for this is that, whereas the engineer and the pre-Renaissance painter think and thought of themselves as makers of *things* (e.g., bridges, or images of the Madonna), are therefore concerned to make the best possible bridges or Madonnas and have therefore no scruple about copying (provided that the thing copied is the best and most suitable for their purpose), the modern painter is not a maker of *things* but of self revelations (i.e., pictures of things). Therefore if he copies other people's work he is a sort of swindler. Before the Renaissance you bought, say, a Madonna. Today you buy, say, a Cezanne or an Orpen —or even a Lutyens. But in engineering you still buy bridges and not specimens of the work of such and such an engineer."

A book unflavoured by prejudices is insipid. It would be impossible for Mr. Gill to write an unstimulating book, and this book, as he says, is not " about any special kind of art or any special kind of man." Through his eight chapters there runs an undercurrent of protest ; a murmuring suggestion that since 1500 the world has taken the wrong turning, and that Western civilization has ceased to be full, significant and healthy civilization since the dear, dead Middle Ages. There is no sentimental drivel about Mr. Gill ; but, like Chesterton and Belloc, his literary roots are in Cobbett, and the glorification, directly and indirectly, of Mediæval England at the expense of the embryonic machine age is the *leitmotif* of his writings. But this is a book to buy, and to keep, and to read frequently : like an earlier book, *Beauty Looks after Herself*, it can be dipped into without fear of disappointment, for you cannot turn a page without stirring from some lucent sentence a thought that soothes, enlivens or infuriates.

AN INTERNATIONAL ENGINEERING PUBLICATION

Second volume of the *Publications of the International Association for Bridge and Structural Engineering*. Zurich : A. G. Gebr. Leemann & Co. Price 34.80 francs.

THE second volume of *Publications of the International Association for Bridge and Structural Engineering* consists of twenty-nine papers by various European and American structural engineers. Of these papers sixteen are in German, eight in French and five in English (although none of the contributions is from an English engineer). In each case a short summary of the paper is given in English, French and German.

The majority of the subjects dealt with are beyond the range of all but specialists in structural design, a large proportion of the papers dealing with statically indeterminate structures. There are, however, three interesting papers dealing with welded construction and giving the results of tests of various welds and combinations of rivets and welds.

Results are also given of tests to destruction on an interesting roof consisting of thin conical reinforced " shells." The clear span of the roof is over 50 ft., and these " shells," which are only 2 ins. thick, are used with stiffening ribs to give a pleasing type of " north-light " construction.

W. E. J. B.

NEW BOOK ON SOVIET ARCHITECTURE

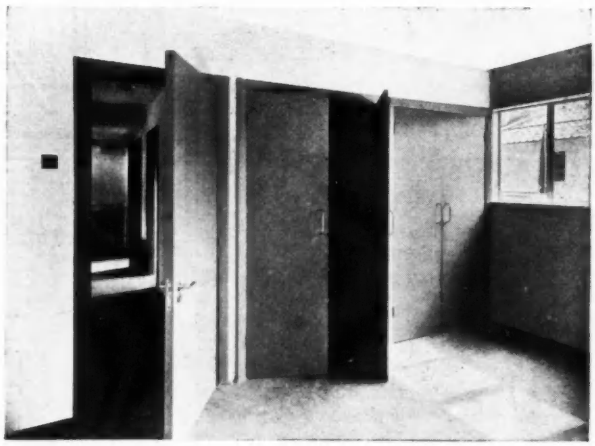
The Izogis publishing house is bringing out a volume of collected articles on architecture, entitled *Questions Relating to Architecture*. The first part of the book will be devoted to the actual problems at present engaging the attention of Soviet architects—the synthesis of architecture, sculpture and painting ; town planning, laying out of parks, etc. The second part will deal with the present practice of Soviet architects, particularly of Moscow architects. This part will also contain a review of the designs submitted at various times by different groups of architects for the replanning of Moscow, as well as a comprehensive analysis of the approved plan for the reconstruction of the capital.

Publications Received

Country Planning and Landscape Design. University Press of Liverpool. London : Hodder and Stoughton. Price 1s.

Empire Forestry Journal. Edited by C. E. Legat, B.SC. Vol. 13, No. 1, 1934. Published by the Empire Forestry Association. Price 7s. 6d. to non-members.

Law of Housing in Scotland. By Sir W. E. Whyte, O.B.E., and William Gordon. Edinburgh : William Hodge and Co., Ltd. Price 42s.

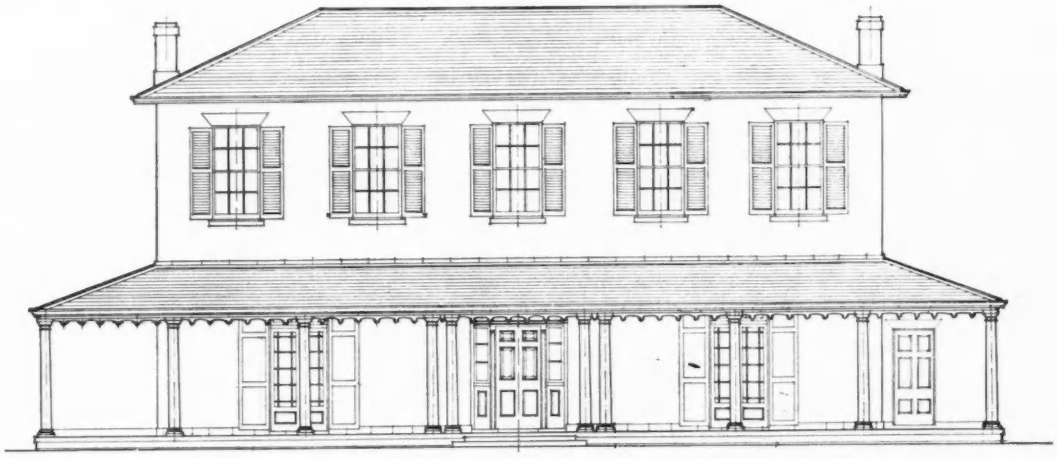


A typical interior in the four-bedroomed reinforced-concrete house at Gidea Park, which is illustrated on pages 333-337 of this issue. Architects : F. Skinner and Tecton.

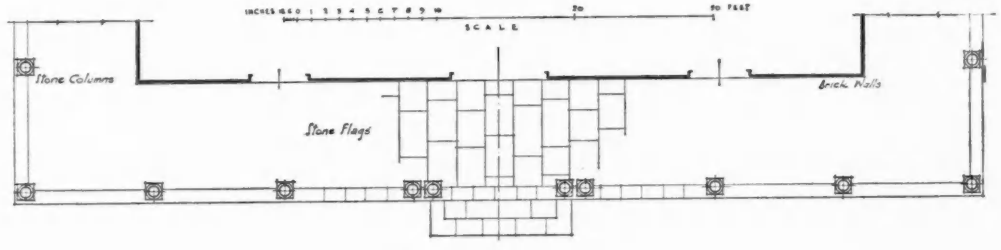
AUSTRALIAN COLONIAL ARCHITECTURE

A SERIES OF MEASURED DRAWINGS

4: House at Ryde, New South Wales



SOUTH ELEVATION



PLAN OF VERANDAH.

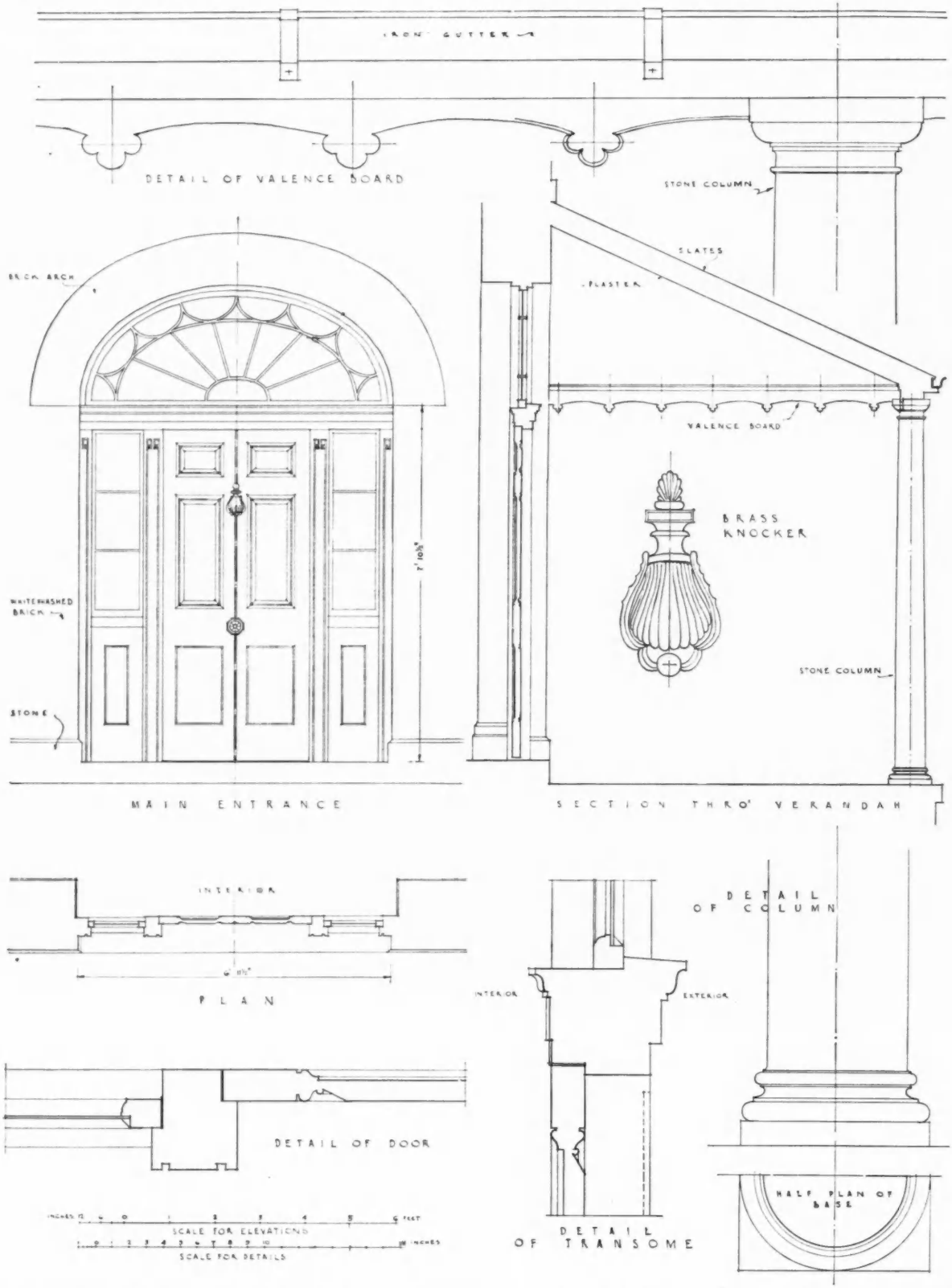
THIS early nineteenth century country house shows the typical arrangement of a one-storied verandah to a two-storied building. It is rather unusual, however, in that the verandah extends round three sides of the house, instead of across the front only. The ornamental valence board is a common feature of Colonial houses. The architect of this example is unknown and the date of erection is uncertain, although the building was in existence by 1823.

The walls are of whitewashed brickwork trimmed with sandstone, and the roofs are covered with slates.

The slender Doric columns to the verandah are of sandstone and are only 8½ ins. thick at the base.

The whole of the woodwork in the house, including even the roof members, is of red cedar, a fine joinery timber.

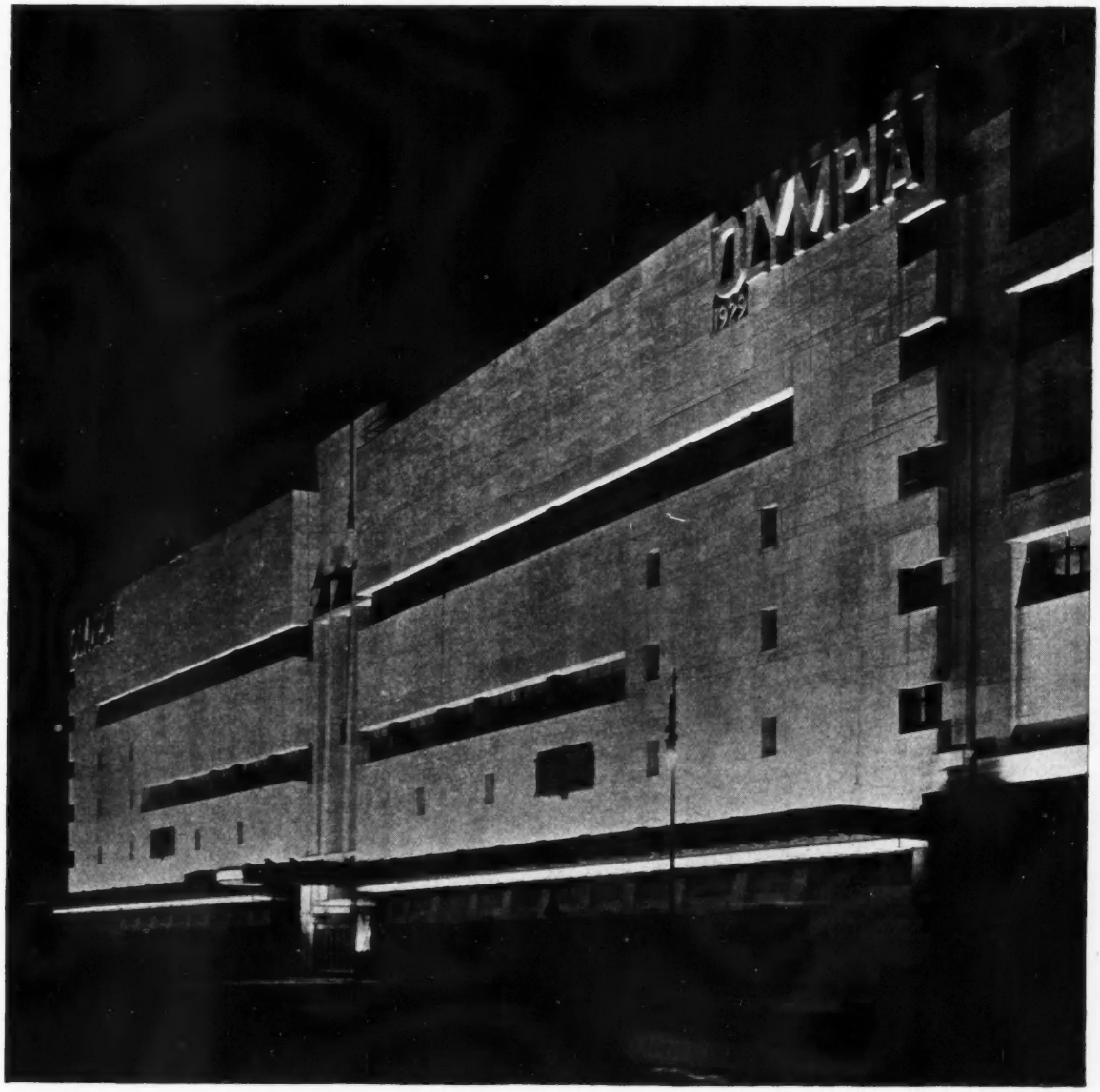
HOUSE AT RYDE, NEW SOUTH WALES



Measured and drawn by M. E. Herman

BUILDING EXHIBITION

SEPTEMBER 12—26



The 1934 Building Exhibition is to be opened next Wednesday at 4 p.m. by Lord Balfour of Burleigh. This, the first of our series of articles dealing with the Exhibition, contains a full programme of events, a selection of the more prominent architect-designed stands, and advance notes on manufacturers' exhibits. Next week, in the second of three special Building Exhibition issues, we propose to include a stand plan of Olympia, with a full classified list of exhibitors.

PRELIMINARY NOTICES

The Rt. Hon. Lord Balfour of Burleigh will formally open the Exhibition.

BUILDING EXHIBITION 1934

September 12—26

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Programme and Arrangements

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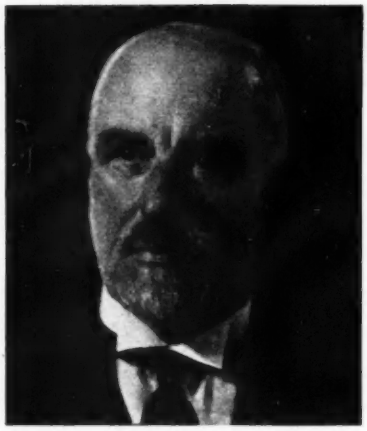
THE Rt. Hon. Lord Balfour of Burleigh will formally open the 1934 Building Trades Exhibition at Olympia on Wednesday, September 12, at 4 p.m. Sir Giles Gilbert Scott, P.R.I.B.A., will be in the chair.

The chief social event of the Exhibition will be the Architects' Ball in aid of the Architects' Unemployment Fund, and this is to take place on Friday, September 21. Mr. H. Greville Montgomery, the Director of the Exhibition, has once more undertaken to defray the whole of the expenses of the dance, in order that the entire proceeds may be devoted to the purposes of the fund. The dance is being organized by the Social Committee of the R.I.B.A. and tickets (£1 each—three for 45s.) may be obtained from Mrs. Lanchester at 9 Conduit Street, W.1. Supper will be served at 8.30 p.m. and tables may be reserved for parties of six or more.

The exhibition this year has more features of general interest than has been usual in the past. The "New Homes for Old" exhibit, organized by the Housing Centre, will consist of a typical slum alley, a section on clearance and rehousing, "suggestions," an analysis of the Bethnal Green area carried out by the MARS group and an information bureau and library. Other sections will cover Town Planning (Miss Abram), Planning and Equipment (Miss Elizabeth Denby) and Amenities (Lady Allen of Hurtwood). Replicas of architects' kitchens will also be shown, the examples taken being from Mr. Louis de Soissons' Duchy of Cornwall flats at Kennington, Mr. Joseph Emberton's Chapman Estate flats at Stepney, and from a proposed middle-class block in Westminster by Sir Aston Webb and Sons.

The Council of the R.I.B.A. have accepted the offer of Mr. Montgomery to give facilities for the establishment of an R.I.B.A. Club at Olympia during the forthcoming Building Trades Exhibition.

Some years ago, at one of the earlier Building Trades Exhibitions, a clubroom was provided for members of the R.I.B.A. This year the R.I.B.A. Public Relations Committee, who have been responsible for the project, propose to enlarge the facilities offered by the Club so that it can be used not only by individual members but will allow parties or joint visits to be catered for. Mr. Montgomery has provided a suite of rooms at the right-hand side of the main hall from the Addison Road entrance. One of these rooms will be furnished as a lounge in which a refreshment service will be available, one as a writing and reading room, and another as a room in which parties can meet for meals. The Club will be under the direction of a member of the R.I.B.A., and a shorthand typist will be in attendance to deal with any letters that members may wish to send. Messages for members can also be received at the Club. A telephone and cloakroom will be provided. The club can be entered from both the main ground floor and the gallery.



Mr. H. Greville Montgomery, Hon. A.R.I.B.A., the Director of the Exhibition.

Sir Giles Gilbert Scott, P.R.I.B.A., will take the chair at the opening ceremony.

On the suggestion of the Public Relations Committee, the Council have decided to offer the use of the Club to members of the following bodies :—

R.I.B.A. Allied Societies ; Architectural Association ; Building Industries National Council ; Council for the Preservation of Rural England ; and the Architecture Club.

Four city companies have also offered prizes for finished work shown at the Exhibition, by students of the technical schools.

The following Schools will be exhibiting : Trades Training Schools, Gt. Titchfield Street, W.1, Northern Polytechnic, Kingston Technical College, Army Vocational Training Centre, Chiswick Polytechnic, the L.C.C. School of Building, Brixton, and the L.C.C. Hammersmith School of Arts and Crafts.

The prizes and their donors are as follows :—

The Worshipful Company of Tylers and Bricklayers—£5 5s. for the best piece of finished brickwork ; also diplomas.

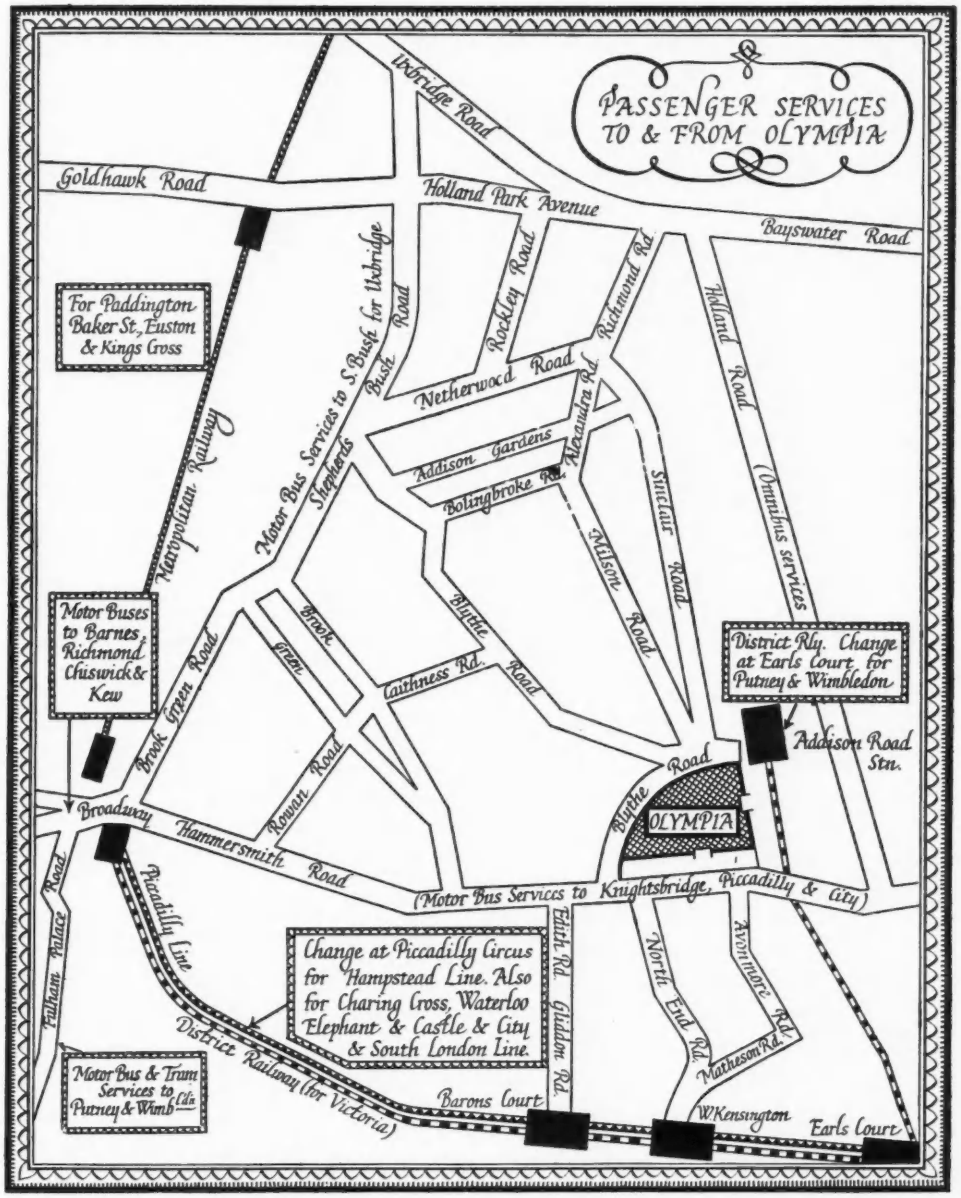
The Worshipful Company of Masons —£5 5s. and a silver medal, for the best finished work exhibited in connection with masonry.

The Worshipful Company of Pewterers—£20, for the best exhibits of plumbing, and £5 for the best work exhibited by a competitor from the Army Vocational Training Centre, Aldershot.

The Worshipful Company of Painters —£5 5s. for the best work in graining and marbling.

The Promoters of the Building Exhibition—Four prizes to the value of £5 each.

Judging will take place on Friday, September 14, at 2.30 p.m.



Numerous meetings and official visits have also been arranged, the programme of which is given below :—

Wednesday, 12. Opening Function.
Stock Brick Manufacturers' Association. Meeting.

Thursday, 13. London Association of Master Decorators. Visit.

Friday, 14. Institution of Structural Engineers. Visit.
Judging of Students' Work.

Saturday, 15. Sheffield and District Clerks of Works and Building Foremen's Association. Visit.
Incorporated British Institute of Certified Carpenters. Visit.
Lancashire Guild of Bricklayers. Meeting.

Monday, 17. Society of Estate Clerks of Works. Visit.

Tuesday, 18. Cast Concrete Products Association. Meeting.
Institution of Sanitary Engineers. Visit.
English Joinery Manufacturers' Association. Meeting.

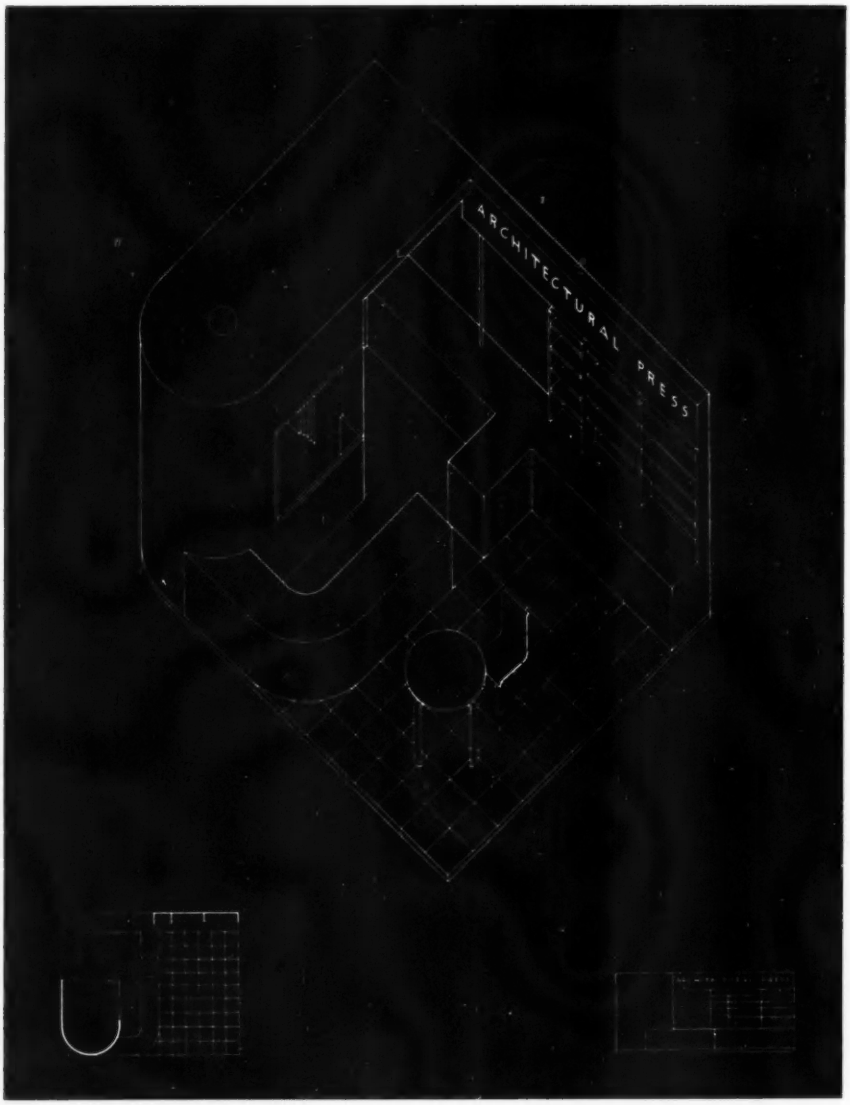
Wednesday, 19. National Federation of Clay Industries. Meeting.
London Master Builders' Association. Visit.

Thursday, 20. Ceramic Society. Meeting.
Institution of Municipal and County Engineers. Visit.
Southern Counties' Federation of Building Trade Employers. Visit.
"Under Forty Club" (Public Utility Housing). Meeting.

Friday, 21. Chartered Surveyors' Institution. Visit.
Land Agents' Society. Visit.
Garden Cities Association. Meeting.
Architects' Ball.

Saturday, 22. Association of Architects, Surveyors and Technical Assistants. Visit.
Incorporated Clerks of Works Association of Great Britain. Visit.

Monday, 24. South-Eastern Federation of the Brick Trade. Meeting.
Ballast, Sand and Allied Trades Association. Meeting.



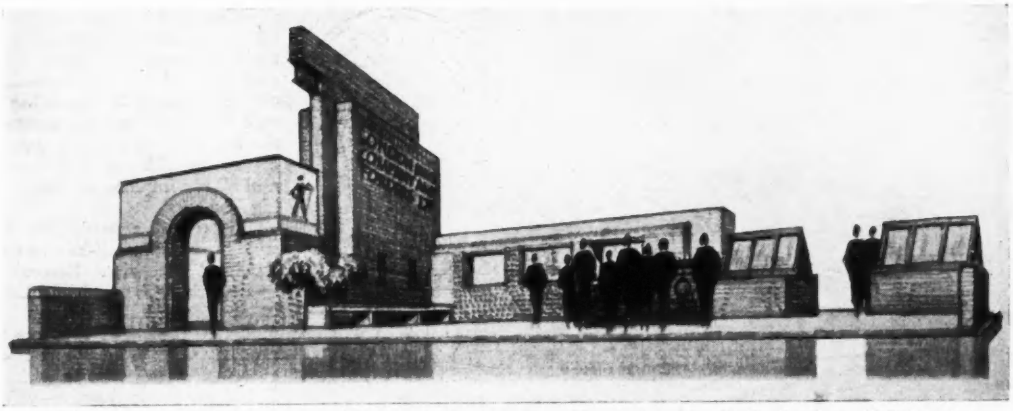
The Architectural Press (Stand No. 98E), designed by F. R. S. Yorke, A.R.I.B.A.

EXHIBITION FORECAST

Some Notable Exhibits and Stands

THE ARCHITECTURAL PRESS cordially invite all architects and readers of *The Architects' Journal* to their new stand (No. 98E), which has been designed by F. R. S. Yorke, A.R.I.B.A., and where all their publications, including *The Architectural Review* and *Specification*, may be inspected. The complete set of plates of *The Architects' Journal* Library of Planned Information will be displayed on one of the walls of the stand, which provides open access to bookshelves containing the complete range of Architectural Press publications. Facilities have been provided for reading in comfort, and it is hoped that architects will find a convenient refuge for meeting their friends or obtaining information about the exhibition.

Stand No. 158H has been designed for the LONDON BRICK COMPANY AND FORDERS, LTD., by Mr. Julian R. Leathart, F.R.I.B.A., to display the various types and shapes of "Phorpres" bricks, of which the production is now more than five millions daily. The varying textures and colours of the different types of bricks have been arranged to produce a definite surface patterning in which the darker Rustic facing bricks form a base to the lighter colour of the upper walls. No bricks have been cut in this design, but various standard brick shapes have been introduced to illustrate the decorative possibilities of bricks which normally are used for ordinary wall bonding; the effect, for example, of common squint bricks used vertically in the form of pilasters or arch rings produces an interesting effect of liveliness and richness of contour. Included in the wall surfaces are panels of hollow partition blocks, which are now manufactured by the company, and of "Phorpres" Cellular bricks sectioned to show the multicellular form of wall obtained by their use. This brick, whilst being stronger than many common bricks, is 22 per cent lighter than the standard "Phorpres" brick and is, therefore, of great value in steel-frame structures; in ordinary brickwork the sealed air-spaces give improved insulation of sound, temperature and moisture. Samples of special bricks, partition blocks, land drain pipes, road stone, granite chippings, and other products of the company, are also exhibited.



The London Brick Company and Forders Ltd. (Stand 158H), designed by J. R. Leathart, F.R.I.B.A.

"Colemanoid" waterproofer and floor hardener, "Alundum" non-slip floor products, "Atlas White" non-staining Portland cement and "Bricanion" lathing, the four materials marketed by THE ADAMITE CO., LTD., are shown on stand 146G from a practical viewpoint. The main feature of the stand is a miniature swimming pool, 10 ft. long by 5 ft. wide. The pool is constructed with 3 in. reinforced concrete walls and a 1 in. concrete floor, the whole being waterproofed with "Colemanoid," which is poured into the gauging water and requires no mixing. The walls of the pool are finished in "Atlas White" stucco and the floors with grey-white and black "Alundum" non-slip floor tile, an excellent floor for paddling pools and the shallow end of swimming pools. The surround consists of pre-cast "Atlas White" terrazzo scum channels and nosings, rendered non-slip—even when wet—with "Alundum" tiles, mosaics and aggregates in the nine colours in which they are supplied. "Bricanion" lathing is also employed in the construction of the curved ceiling leading through the office and in the canopy around the office. Part of the "Bricanion" is left unplastered to demonstrate the highly efficient key which is obtained, due to the combination of the mechanical bond and the suction bond from the baked clay crosses. A form of "Alundum" not exhibited before is the rubber bonded safety tread—a tread composed of "Alundum" aggregate securely moulded into a reinforced base of rubber, the rubber being so vulcanized as to be hard and tough, yet sufficiently resilient to adapt itself to any unevenness in the surface to which the treads are applied.

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REDALON, LTD., are showing on the same stand "Redalon" liquid and "Bull Dog" clips. "Redalon" Liquid may be used as a retarder wherever an efficient key is required for bonding plaster or cement renderings, terrazzo or tiles, to poured concrete: it is also used to obtain a perfect joint between sections of poured concrete where day joints have to be made. Slabs of "Redalon" treated concrete, demonstrating the efficiency of the bond, are shown on this stand. The "Bull Dog" clip generally used is the 2 in. regular clip with a sheradized finish, which lengthy experiments have proved to be most suitable. Other standard clips are the short-leg floor clip, for use with hollow tile floors; the single leg floor clip, for use with precast floors; the suspended ceiling clip for concrete floors and the single leg suspended ceiling clip for hollow tile and precast floors.

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TURNERS ASBESTOS CEMENT CO. (Branch of Turner and Newall, Ltd.) will exhibit on Stand 143G the new "Turnall" building slab, the size of which is 6 ft. long by 2 ft. 6 in. wide, with a thickness of 2 in.; the details of the tests which these building slabs have withstood will be displayed on the stand. Another new exhibit since the last Building Exhibition—"Turnall" asbestos reinforced aluminium foil—has been produced to meet the increasing need for an efficient low-priced heat-insulating material for use in building construction, which shall be at once light in weight, convenient to handle and apply, and infinitely durable in performance. The well-known "Turnall" Trafford tile is also now manufactured with a metal reinforcement, and this product, together with the T.A.C. system of reinforced asbestos-cement corrugated roofs, by using the "Poilite" metal reinforced asbestos-cement sheeting, will be exhibited in conjunction with a replica of the test structure used for the testing of these metal reinforced products. The decorative side of the industry will be represented by a wide range of different glazed products applied in a practical manner, and the moulding department with such items as large hoods, canopies, safety ducts, ventilating ducts, rainwater goods, pressure pipes for water and gas mains, and soil pipes.

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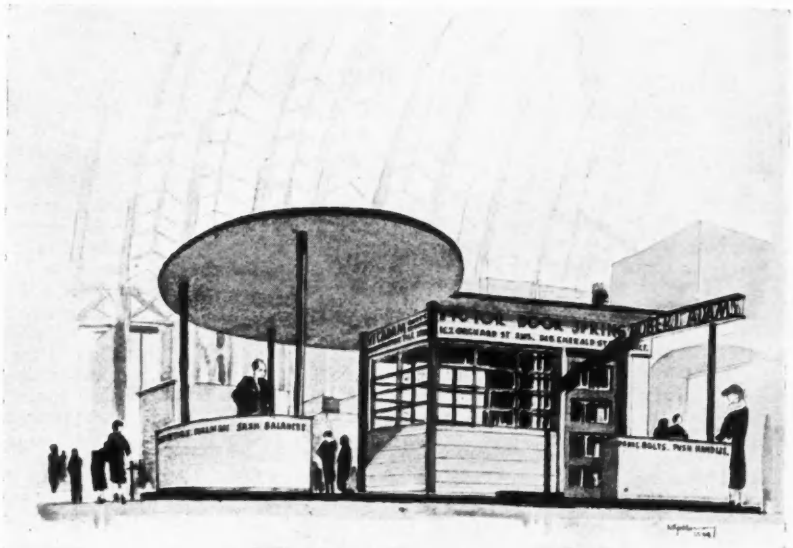
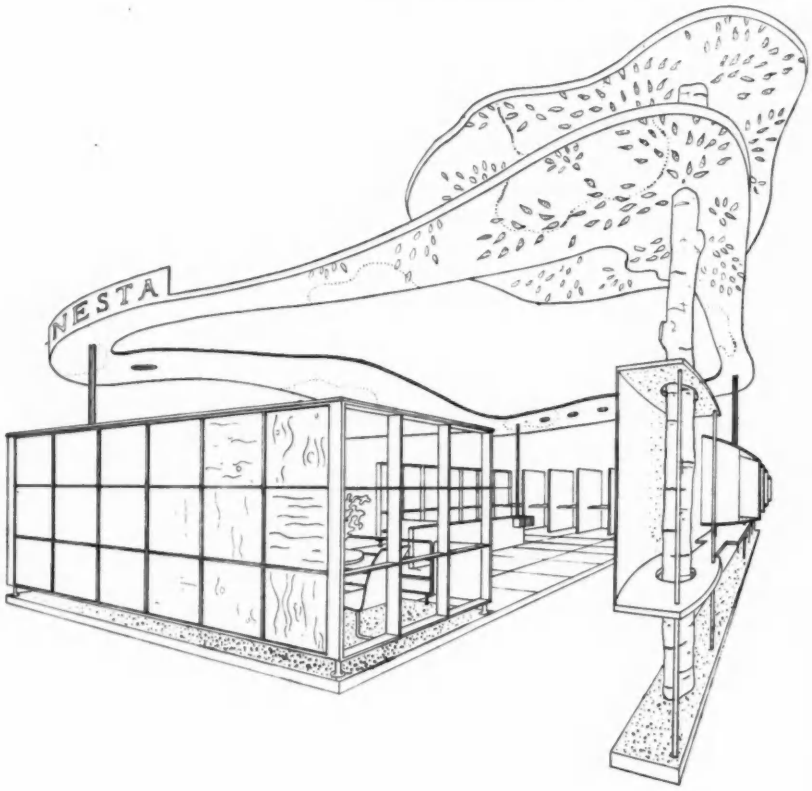
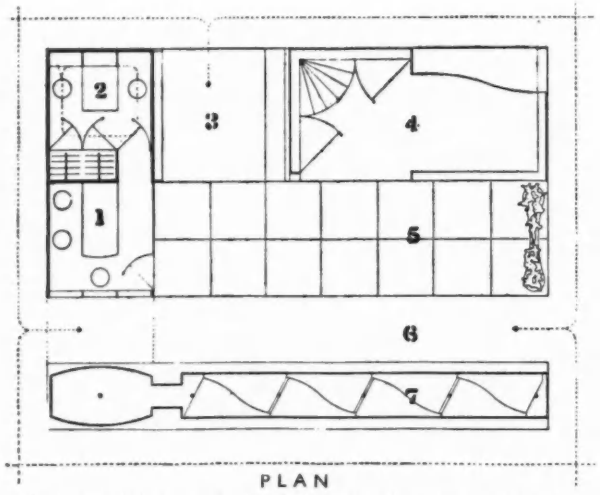
On Stand 58D ROBERT ADAMS exhibits a very comprehensive selection of "Victor" door springs and hinges, also door and window furniture and other specialities, all of which have been adopted for recent important contracts. This firm is also showing new patterns of the shallow "Victor" double and single-action door springs with exclusive water- and oil-tight patent devices and silent check action, both in oil-check and pneumatic-check patterns; also their overhead oil-check and pneumatic-check door springs, and silent butt and back spring hinges. Attention is also drawn to the new patent "Victor" lavatory lock and the "Vicadam" patent combination till lock, each of which possess novel features which will be found useful and interesting.

Other items of interest are the various patterns of ventilating gearing and fanlight



Robert Adams Ltd. (Stand 58D), designed by W. B. Galloway.





Venesta Ltd. (Stand 114F), designed by F. Skinner and Tecton.

openers, panic bolts, spring sash balances, and door furniture in brass, bronze, stainless steel, bakelite, china, glass, etc., in a large variety of modern patterns.

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On Stand 214L, SIDNEY FLAVEL AND CO., LTD., and MESSRS. ROBBINS AND CO., are showing a large range of fireplaces and cookers of all kinds. Flavel's offer a range of gas insets for building-in with tiles, marble or other wall substances. They may be fixed by several alternate methods, and, being supplied in size-multiples of 3 in. and 4 in., building-in is a very simple matter. Cast-iron surrounds suitable for several of the insets are listed in colours to harmonize with that of the fires. A patented mixture regulator and improved burner, and the "Insulator" backbrick—for which 12½ per cent. efficiency gain is claimed, are features of this particular range. The "Radiant-Panel" gas heater exploits the fact that a dead black surface is an outstandingly effective heat radiant. In that appliance the black panel is carried in upright and elevated designs; there are, in addition, models of the heater for building-in flush with the wall face. A feature is the smaller panel of heat-resisting flame-coloured glass. through which the light of the flame is reflected by a background of stainless steel. Flavel's are also showing several examples of their gas cookers. The new "Kabineat" cooker is of entirely new design; when closed, nothing is to be seen but an enamelled case with stainless steel mountings. When the lid is raised and the doors opened the cooker provides every approved feature and all the implements essential for preparing food.

The faithful reproduction of "period" style grates is a well-known side of Messrs. Robbins' activities. Several examples of their work, Hob grates and Dog grates, will be seen in suitable settings. Many of the modern grates and interiors make use of stainless steel. The "Fire-in-the-Hearth" grate—a barless type in which economy of fuel is a great feature—will be seen in various styles and treatments. These grates are built upon very simple lines, and consequently easily fixed. There are various styles and sizes to suit all rooms and periods. and special designs can be adapted by the makers.

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Once again VENESTA, LTD., have organized a competition for their Olympia stand, and the winning design by Skinner and Tecton will be found at 114F, which has been designed to show the application of plywood and plywood products to construction. Plywood is used in a constructional form on the stand itself and bent plywood is also used for the seats. Venesta plywood flush doors, type A, are shown with their various finishes, also "Plymax" flush doors and table tops. Various methods of finishing plymax, including marble finish and other synthetic finishings, including cellulose and bakelite, are also shown. The stand also demonstrates the new Venesta plywood floors in "Nilnot" squares.

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On Stand 91E HIGHWAYS CONSTRUCTION LIMITED, have arranged an exhibit demonstrating the general uses of Natural Rock Asphalte in building construction. The stand floor represents the flat roof (or roof garden) of a modern building, access to it being gained through the doorway formed in the bulkhead erected over the stairway. The roof is partly paved with coloured asphalte tiles, known as "Colorpavets," and also with natural colour asphalte tiles—marketed as "Monopavets." The former are composed of natural rock asphalte powder with pigments added according to the colour required, and the latter of natural rock asphalte powder in its natural colour (no pigments added); both types of tiles being manufactured under high hydraulic pressure. "Colorpavets" are manufactured with a smooth surface only—"Monopavets" can be supplied with smooth, grooved or diamond grooved surfaces according to the purpose for which they are required. The bulkhead has been designed to show the various finishes which can be executed in standardized natural asphalte rock mastic, and this section, together with the remaining portion of the flat roof, is of this material laid in accordance with the standard methods of application and specification of the Natural Asphalte Mine-Owners and Manufacturers

Council. To provide light to the stairway, a dormer window has been constructed in the slope of the bulkhead. The riser at the base forms the side of the girder casing, and there is a parapet gutter at the finish of the slope for collecting rain water, which finally discharges on to the flat roof. The bulkhead is constructed of timber and, in accordance with the usual and accepted method, expanded metal reinforcement superimposed on a layer of sheathing felt has been affixed to all sloping and vertical faces to form a key between timber and asphalte. The exhibit demonstrates the usefulness of this type of covering for flat roofs which are to be utilized for purposes of recreation or roof gardens.

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The stand of Messrs. KERNER-GREENWOOD & Co., LTD. (No. 49C), provides a practical example of the use of Portland cement, waterproofed with "Pudlo" powder, for the lining of ponds and tanks which are required to retain water, and also for the waterproofing and prevention of disfigurement by crazing and staining of artificial stonework, of which the ornamental coping to the pond is made. The statuette which forms the central feature of the pond is also cast in cement, waterproofed with "Pudlo" and was modeled by P. G. Bentham, A.R.B.S. At the back of the pond is a wall built with breeze concrete blocks selected because of their great porosity, thus providing better proof of the watertightness of the ¾in. stucco rendering applied to the face of the wall, also waterproofed with "Pudlo." A stream of water runs down the face of this rendering during the whole time that the exhibition is open and an examination of the back of the porous breeze concrete wall shows that there is not the slightest sign of dampness penetrating. In addition to other exhibits of a practical character are several types of apparatus by means of which specimens of waterproofed cement mortar are subjected to pressures up to 300 lb. per square inch. One machine, connected to the water main, subjects discs of waterproofed cement mortar ⅝ in. thick to a water-hammer test, in which the impacts—each equal to 70 lb. spread over an area 3 inches in diameter—are repeated continuously at the rate of over 30 per minute the whole day long.

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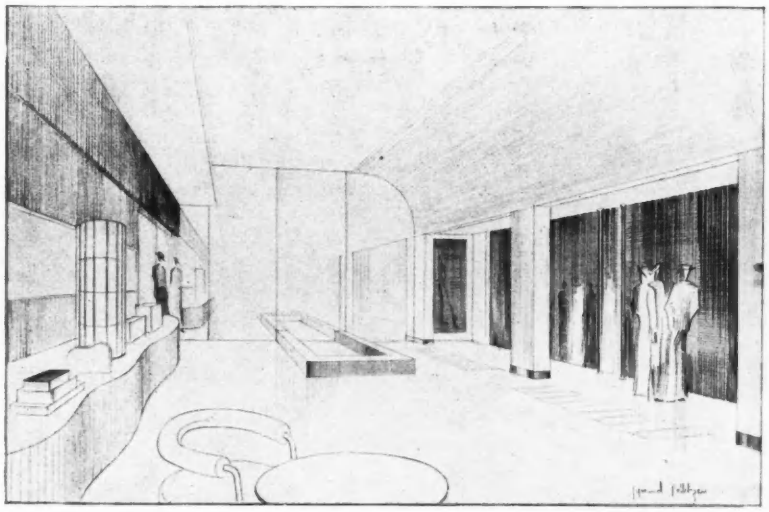
The "Attoc" block, shown by ATTOC BLOCKS, LTD. on Stand 200K, is a hard burnt clay hollow block for partitions and floor construction. It is unique, being glazed on one or both sides and so requiring no applied surface finish, and is particularly valuable in cases where speed of erection is an important factor, for by its use, walls and ceilings are erected complete with surface treatment in one operation. For a single storey building, the block can be used alone for wall construction, and it may also be used where a cavity wall is required with a glazed inner surface. The block is made in thicknesses of 2 in., 2½ in., 3 in. and 4½ in., with a face measurement of 12 in. by 9 in. The hollow flooring block is made with a glazed soffit and has on either side nibs projecting 1½ in., which, when fixed, leave a space of 3 in. between the vertical faces of adjacent blocks to take reinforcing rods and poured concrete. When the centering is struck a level and decorative finish to the soffit is revealed requiring no further treatment.



Pilkington Bros., Ltd. (Stand 302S), designed by Kenneth Cheeseman, A.R.I.B.A.

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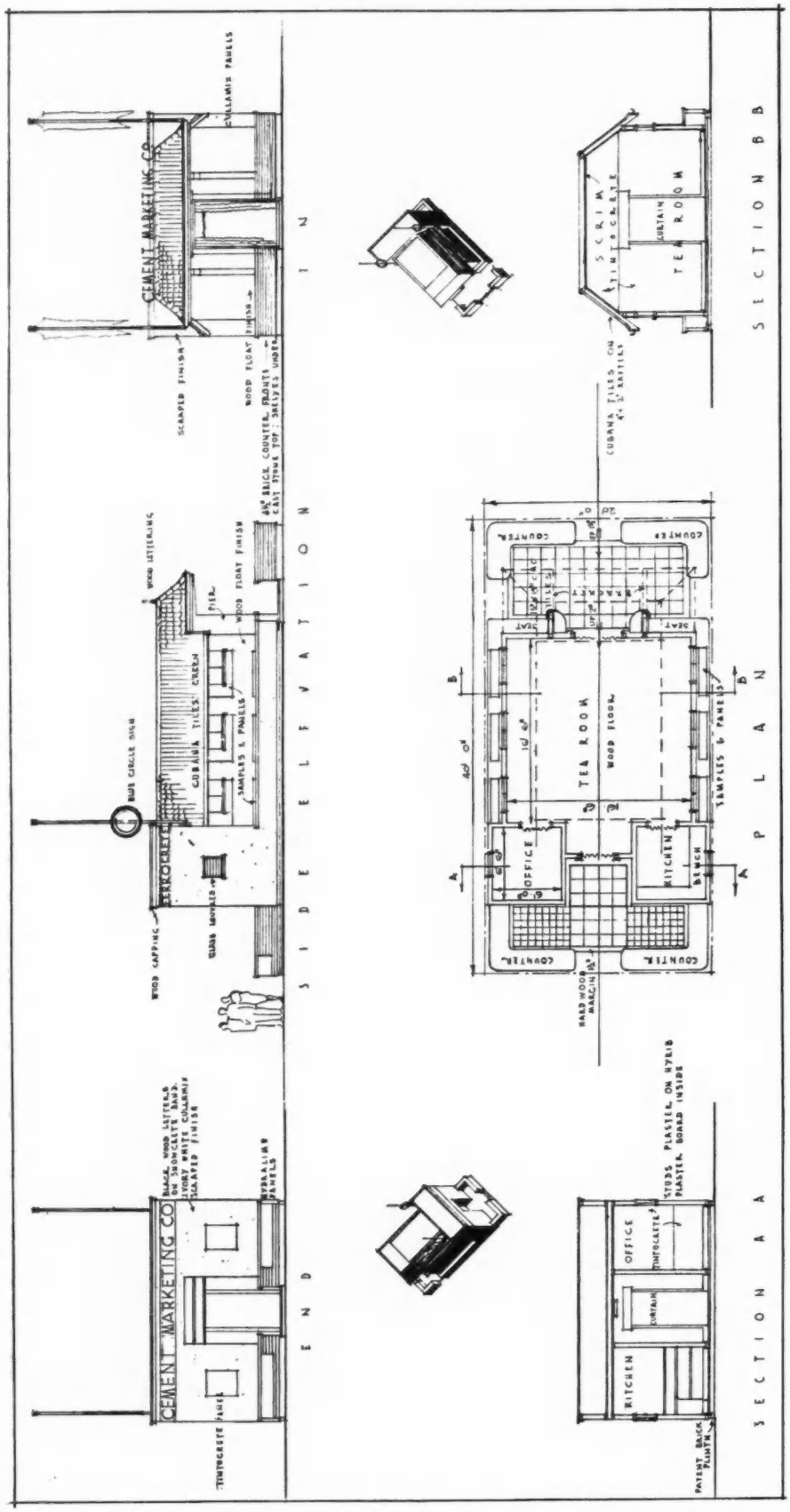
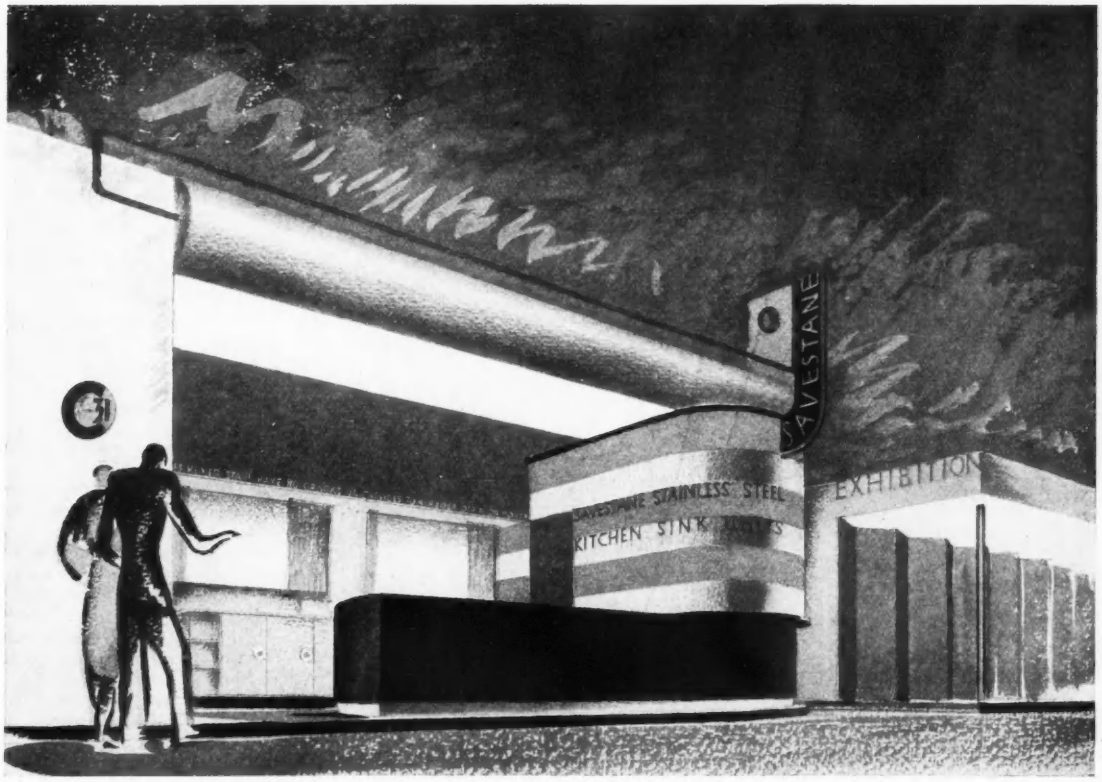
On Stands 130 and 131F, THE TRUSSED CONCRETE STEEL CO., LTD., will be exhibiting full-sized examples of the Truscon precast reinforced concrete floor. Examples will include various adaptations of the Truscon Precast Floor to suit differing types of floor finish, also varying types of ceiling construction. The examples will also show the economic accommodation of pipe conduiting in a form eminently suited to modern domestic and business buildings. At the same time they will demonstrate the advantages of the suspended ceiling in overcoming the transmission of sound-annoyance through the floor. An interesting feature in ceiling construction utilizing Hy-Rib "Key-mesh" reinforcement will be shown over the whole area of the stand ceiling. The Hy-Rib is shown fixed to steel supporting members but without the plastering. Other exhibits include various types of concrete slabs in which Hy-Rib provides the centering as well as the reinforcement, fully demonstrating the economy attained by this method of construction. The remarkable progress made in the technique of finished concrete surfaces will be fully exemplified in the actual sample slabs displayed here. The finishes have been obtained by the use of carefully selected natural aggregates of various colours and textures, and show polished surfaces as well as exposed faces to the aggregates.

"Solcheck" roofing tiles are designed to protect buildings with flat asphalted roofs from structural defects caused by the heat of the sun. Tests carried out at the Building Research Station have proved that reductions in temperature varying from 26½° F. to 31½° F. have been effected by

Kerner-Greenwood & Co., Ltd. (Stand 49C).



The Cement Marketing Co., Ltd. (Stand 118F), designed by Henry Tanner.



A. Johnson & Co. (London), Ltd. (Stand 35C), designed by Oscar A. Bayne, A.R.I.B.A.

the use of " Solcheck " the protected asphalt not rising more than 3½° F. above the maximum air temperature. " Solcheck " consists of reinforced concrete slabs 2 ft. square, perforated with numerous holes of such diameter and shape that the sun's rays cannot pass directly through the slabs. The holes are connected underneath by channels which permit free air circulation to cool the material it is desired to protect.

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MESSRS. G. A. HARVEY AND CO. (LONDON), LTD., are exhibiting on Stand 99E a varied assortment of ventilators, both painted steel and copper, zinc and copper roofing, also a selection of steel equipment, both suitable for office and works, which besides being fire-resisting, are economical in initial outlay and an added advantage occurs in the fact that the equipment can be dismantled and re-erected when and where desired. Wire window guards of every design are produced by this firm and representative designs are exhibited on model factory and church windows. Numerous mild steel tanks, cisterns and cylinders are shown, also gutters from 18 gauge material to ¼ in. plate, are also shown.

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The LIMMER AND TRINIDAD LAKE ASPHALT CO., LTD., have arranged many unique and ingenious forms of asphalt and asphaltic applications on Stand 120F, embodying all the new and standard uses to which natural rock asphalt has been put during the last few years. Among these is Colourphalt, a material in a variety of colours which combines the damp and rot-resisting qualities of ordinary asphalt and which is in great demand for floors in municipal housing schemes, institutes, hospitals and numberless other places. For some time past the asphalt technologist has been called upon to adapt his material to help the great industries in their demand for special products and applications. Thus on the market have appeared Acetas and Oilphalt (acid- and oil-resisting grades of asphalt), Ferrophalt (steel reinforced asphalt for heavy loads) and many other materials to meet a variety of requirements. There are few industries which do not need a weather- and corrosion-resisting paint for some purpose or another, and to meet this demand Bitmarin (bituminous paint) is manufactured.

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Stand 118F has been designed by Messrs. Henry Tanner to demonstrate the use of the various products supplied by THE CEMENT MARKETING CO., LTD. The principal materials—" Blue Circle " portland cement, and " Ferrocrete " rapid-hardening portland cement are not featured so prominently as the range of products for artistic concrete. The exhibits demonstrate the obvious beauty of coloured concrete rather than the hidden strength of the concrete for ordinary constructional purposes, and by means of slabs, panels and precast units it is shown that it is possible to produce concrete in any colour and with any textural finish desired. The materials used are : " Snowcrete," a white portland cement, " Snowcrete " mixture, " Snowcrete " and special white aggregate mixed ready for use, and supplied in gradings suitable for renderings and facings and also for structural work ; and " Colorcrete," a coloured rapid-hardening portland cement in buff and red—for coloured mass concrete. Also a special range of 12 more brilliantly coloured for renderings and facings (not rapid hardening) ; " Cullamix," in 12 colours mixed ready for use, graded specially for renderings and facings and also for dustless polished floors ; and " Tintocrete," white and coloured cement finish (matt or glazed), for application to concrete, brick, or stone, by brush or spray.

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The TENTEST COMPANY'S exhibit on Stand 141G comprises examples of concrete wall, floor, roof and partition construction, showing the application of their product as a sound and thermal insulating material. This stand is of special interest as showing the application of wallboard to different forms of construction. A second exhibit is Stand No. 133, Row G, Canadian Section. This shows the decoration of walls, with particular reference to special methods of joint treatment. In the gallery a special exhibit known as " The 1935 Flats Modern Interior Architecture " is built entirely of TenTesT, the walls and ceilings showing decorative possibilities and special treatment of joints.

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Messrs. JOSEPH SANKEY AND SONS, LTD. (Stand 253O), will be showing their re-

George Jennings (Lambeth) Ltd. (Stand 139G), designed by G. Grey Wornum, F.R.I.B.A.

cently-introduced pressed steel radiators, which occupy less space, weigh less, cost less and are cleaner than the more usual cast-iron type. This firm also makes metal trims of all types. Metal trim is a sheet steel substitute for the wood used in the interior finishing of buildings in such places as skirtings, cornice mouldings, door and window frames and the like, and steel, because of its strength, durability and fireproof qualities, has considerable advantages over wood.

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FRIGIDAIRE LTD. have designed Stand 270P to demonstrate the complete range of their refrigerators. Household cabinets from 4 to 25 cubic feet capacity will be shown, together with a multiple system for installation in blocks of flats. The larger type of refrigerator for hotels, restaurants and shops, is shown in sizes up to 115 cubic feet, and there is also an air conditioning plant with dehumidifying equipment which ensures that the air in the building shall have the same moisture content both in summer and winter.

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The RUBEROID COMPANY on Stand 267P are, as usual, showing numerous examples of roofing materials. A recent introduction is Ruberoid Twin Butt Slates. These are made of slate surfaced material in either tile red or Westmorland slate green, and in two finishes, Standard and Rustic. The Standard gives a roof which is almost an exact replica of tiles, and the Rustic, owing to the slightly uneven edge, looks like hand-made tiles. The new Ruberoid Twin Butt Slates are also supplied under the title of "Mountain Green Blend." When assembled on a roof, as will be seen from the exhibit on the Ruberoid stand, the combination of colours is particularly suited to stucco or stone houses with dark tones, or to wood finish houses with green trim. Among many other exhibits is a special display of Ruberoid and Pluvex Dampcourses. These are made with a bitumen base in various weights and widths, and to meet every dampcourse requirement without being affected by pressure or temperature.

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On Stand 152H MESSRS. HENRY HOPE AND SONS, LTD., are showing an interesting range of metal windows embodying the latest developments in design and manufacture. Special windows for hospitals and schools, general housing, and for slum clearance schemes, embracing many interesting new features, are exhibited. Several examples of pressed steel sub-frames for doors and windows are shown by means of full size models. Of special interest is the new patent cavity sub-frame for use with metal windows, this method supersedes the hitherto unsatisfactory method of closing cavity walls where window openings occur. The new design steel door frames are being manufactured complete with brass hinges and door stops ready for building in. A working example of Hope's electrically controlled continuous opening ventilator gearing for factories, engineering shops, etc., is built into the main exhibit, together with their patent roof glazing, industrial sash windows, and an example of the latest pattern sliding-folding window.

On the same stand, HOPE'S HEATING AND LIGHTING will exhibit several automatic motor stoker models showing their application to central heating boilers. These are electrically operated to demonstrate the automatic burning of coal for central heating and hot water supply. Automatic oil burners will also be on exhibition.

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The PATENT IMPERMEABLE MILLBOARD CO., LTD. (Stand 265P), are showing the "Sundeala" and "Insulwood" insulation boards. "Insulwood" is a waterproofed insulating board made in three thicknesses, ¼ in., ½ in., and ¾ in., and the Building Research Report issued on the stands shows this material to be one of the most waterproof of its kind. The report also adds that insulation values are only maintained permanently in waterproofed boards. "Insulwood" is a fibre board for insulating sound and heat and can be used as a wall partition or ceiling lining; as a plaster base or permanent shuttering. "Sundeala" is shown in three qualities—"K" quality for ordinary interior linings, "A" quality for high-class panel work generally, either interior or exterior. "Sundeala" hardboard is an extra high density board for use where extra hard wear and tear is required. The flameproof specimens shown on the stand include Flameproof "Insulwood" and Fyburstone. Antproofed boards for use in the African and Indian markets are also shown and "Sundeala" has been known to stand the ravages of the white ant for a period of over 10 years.

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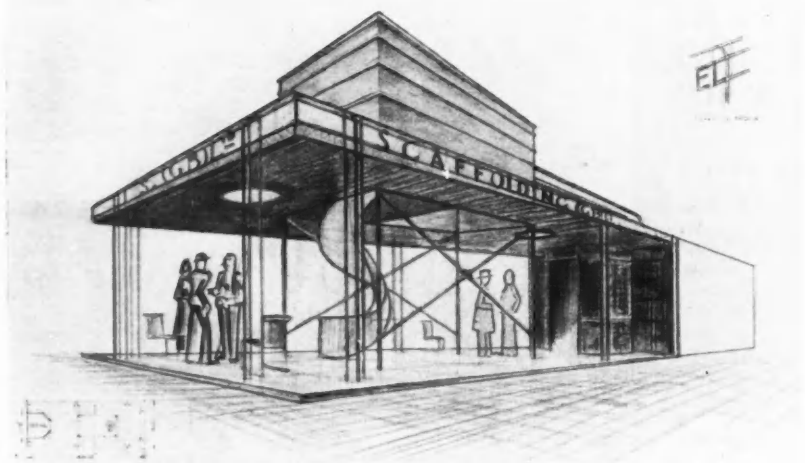
MODERN WASHWAYS (Stand 112 Gallery) is a propaganda organization whose object is to lighten domestic labour, particularly where clothes washing is concerned, and it has recently carried out a great deal of close research into the planning and equip-



The Steel Scaffolding Co., Ltd. (Stand 8B), designed by Ian Jeffcott, F.I.A.A.

ment of kitchens. The result of this has been the amassing of a considerable amount of information on kitchen design which is being put at the disposal of all those engaged in house construction. Two models will be on view consisting of miniature kitchens with miniature movable furniture and equipment, designed to show the various ways in which kitchens can be arranged and the amount of carrying and walking to and fro which can be saved if the arrangement is well done. These models are being used with great success in demonstrations given throughout the country in the showrooms of Gas and Electrical Supply organizations, designed to impress the housewives who attend with the importance of having good equipment and of having it properly arranged. The second feature is a model of a kitchen for a small house which embodies the results of Modern Washways researches. There is nothing spectacular about the kitchen, for it contains little, if any, more equipment than the average progressive builder installs in a good house ; nor is it claimed that the kitchen is absolutely perfect, but it is the fruit of some two years' study of domestic problems, and it has actually been worked in and continuously adapted and improved for over six months.

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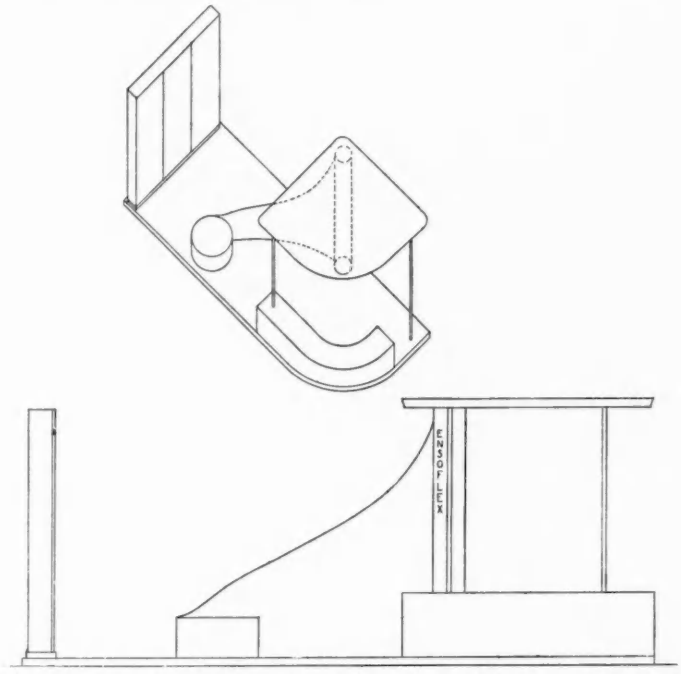

Wood Products Ltd. (Stand 165H), designed by F. R. S. Yorke, A.R.I.B.A.

Mr. Ian Jeffcott is the designer of Stand 287R for the NAUTILUS FIRE COMPANY, LTD., where a preliminary sample of the new Nautilus Slow Combustion Stove is on display in a tiled setting. The appliance embodies the well-known Nautilus roller bars to facilitate clinkering, and is available in a wide range of coloured enamelled finishes. The fine adjustments for slow burning make the stove efficient and economical in use. Nautilus Economy gas flue blocks are displayed actually built up in brickwork. Various methods of termination are shown and all types of blocks are on view. A tiled fireplace and wood mantelpiece embodying the Nautilus coal saving grate will also be seen on the stand. This grate, with its overhead damper control and small double flue outlets, is well known for its high efficiency and fuel economy. Domestic Boilers in various sizes and coloured enamel finishes are also on show. The body of the Nautilus is of welded mild steel, and the roller bars facilitate clinkering of the fire. A boiler in " Beau " green enamel finish is shown in a recess side by side with a modern thermostatically-controlled cooker in the same colour—a modern installation to replace the old-fashioned kitchen range.

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On Stand 46C, MESSRS. JOSEPH FREEMAN SONS & CO., LTD., have set out to show something of the range and variety of Cementone products. One of the most interesting is Cementone No. 7, the new range of synthetic finishes which incorporate a universal primer, and can thus be applied to new or old cement or plaster, wood, metal, brick, asbestos-cement, and, in fact, almost every conceivable type of building surface. The rest of the exhibit includes such specialities as Cementone No. 1, permanent colours for cement, a waterproof surface composition, known as Cementone No. 9 ; a surface tinter for asbestos-cement (Cementone No. 10) and a line of waterproofers—both integral and surface-applied.

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Door closers, locks and door furniture of all kinds will be shown by MESSRS. PARKER, WINDER AND ACHURCH, LTD., on Stand 227M. " Page " door closers are made in two sizes, Major and Minor at 25s. and 12s. 6d., the " Minor " being the cheapest oil check spring on the market, while the Major, for heavy doors, has a control which allows both spring and check action to be regulated. In addition to the usual bronze and chromium finish, cellulose in practically any colour can also be obtained. The company's registered designs include many examples of the modern tendency to simplicity in both door and lever handles, and have an added decorative effect in that certain portions are coloured by the " Parwinoid " process. Similar to Doverite, " Parwinoid " is a non-flammable plastic material, not sprayed, but an applied coloured material of definite thickness. Practically any colour can be supplied to harmonize with the B.M.A., chromium plate or " Mattbron " finishes. " Parwinoid " has become popular for handrailing of all kinds and has been supplied to the New Public Baths, Leyton, and other similar contracts.

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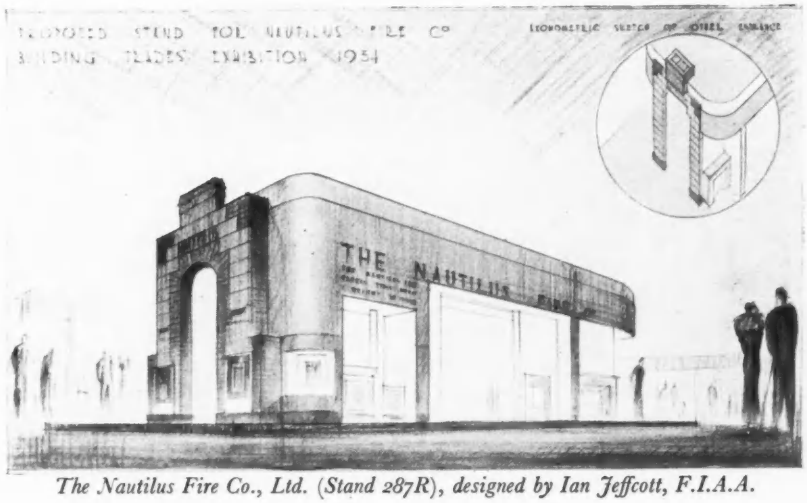
At Stand 13B, the TRIPLEX FOUNDRY, LIMITED, are showing the new permanent porcelain enamelled finish of their grates. Porcelain enamel is more durable than ordinary stove enamel ; it will not chip ;



The Nautilus Fire Co., Ltd. (Stand 287R), designed by Ian Jeffcott, F.I.A.A.

it is very easily cleaned—a rub with a dry duster only is required for the tiles, the chromium handles of the ovens, and porcelain enamelled framework of the grate. The "S" model Triplex combination grate is demonstrated, this being a popular one for a medium sized family and the domestic hot water supply is on the indirect system. This means of heating water entirely overcomes the expense and trouble of cleaning out the boiler at the back of the fire periodically and it is anticipated that it will become generally adopted in the near future. An entirely new model Triplex is exhibited for the first time to the building trades. This "K" pattern is a flat-topped range and has been specially designed for boarding houses, small hotels and similar establishments where the Triplex Grate is not sufficiently powerful.

*

The Stand of the CRITTALL MANUFACTURING CO., LTD. (No. 145G) is designed to accommodate windows suitable for as many different kinds of buildings as the space will allow. Each exhibit therefore should be considered by itself and not in relation to the other. The examples shown include the new popular type of circular-ended bay made of standard units and standard circular-on-plan fixed lights. The units are from the range in which all vertical glazing bars are omitted: an example of Crittall standard industrial sash with the extra reinforcement that is now a feature of this product, and a suggested standard window for tenement rehousing. There are also standard glazed metal partitions for office subdivisions, etc., a new construction embodying ducts for electric wiring, a school window made up from standardized units constructed in universal casement sections, and a balance window for hospital wards.

*

On Stand 133G the MERCHANT TRADING COMPANY, LTD., will be showing Beaver Board, one of the early pioneers of all wallboards, and "Donnacona" a combined insulating and building board made from Canadian spruce. The standard size boards range from 3 ft. by 7 ft. to 4 ft. by 13 ft., thicknesses are $\frac{5}{8}$ in., 1 in. and 2 in. The doors shown are Britco (British made) and Metco (Empire made), and the whole exhibit has been designed to show some of the many uses to which wallboard, insulating board and plywood can be put.

*

MESSRS. ADAMSEZ' stand (No. 178J) has been designed by Mr. Hubert Lidbetter, F.R.I.B.A., to show their large range of sanitary fittings of all types, electrically heated pedestal basins, syphonic w.c. sets. Drinking fountains and numerous examples of coloured ware and hospital fittings will be shown.

*

Stand 147G of the THAMES BOARD MILLS, LTD., illustrates the usefulness of "Essex" board for all kinds of jobs. Being constructed of the material itself, it affords an actual demonstration of its possibilities. The board is very strong and rigid and is unaffected by vibration. Particular stress is laid on the fact that it requires only one coat of water paint or distemper to give effective results.

*

UGANDA is the first African Colony to advertise its timbers at any exhibition, and Stand 90E is arranged by the Uganda Government in conjunction with local timber interests. Careful attention has been given to the organization of an export trade to meet present-day requirements, and to ensure that the name of "Uganda square edge lumber" will be associated with shipments from adequately seasoned and graded stocks. The stand will be designed to show Uganda Iroko as a constructional timber of wide utility, exceptional for its stability and durability; and Uganda mahogany as a joinery wood. The stand floor will be laid in Uganda Iroko, and it should be noted that the strips are of edge-grain—i.e., quarter sawn material.. The counter and panelling will illustrate the decorative merits of this wood for bank, and other work. Three other African mahoganies will be shown, including Sapele and Budongo, a wood closely related to Sapele, but milder and easier working. It will be made up into a door of uncommon design with a handle and other fittings in African blackwood worked by a well-known ornamental turner.

Two woods new to the home trade will be shown. One is Uganda Corkwood, a white timber lighter than cork, suitable for a variety of purposes such as feather light furniture, a very light core for plywood, etc. The other is a striking bright yellow wood with a fine lustre.

*

Specimens of CANADA'S complete range of commercial timbers are being shown in the Dominion's display on stand 133G in rough, prepared and manufactured forms. The softwoods include pine, spruce, hemlock, Douglas fir and red cedar, while in the hardwood group are to be seen poplar, birch, elm, maple and basswood. Each of these timbers has many uses, but each can claim one predominant quality by which alone it justifies inclusion in the builder's programme or on the carpenter's bench. The pines—white, Western white, red and jack—are in general demand chiefly for general house construction, structural timbers, windows and doors and general carpentry, and the Canadian and sitka spruce for formwork, carcassing, house framing, and scaffolding boards and planks. The Eastern hemlock is excellent for bridge planking and railway sleepers, and the Western hemlock for house and general construction, and interior and exterior joinery. Douglas fir is too well known to require commendation for heavy structural purposes, docks and harbour works, and railway wagons and sleepers; and red cedar is excellent for outdoor work which is to be stained or painted, and for shingles — for which purpose it is the most widely used wood in America. The hardwoods, too, have their specialized uses; the poplar for matches and boxes; the yellow birch for flooring, furniture, and all high class interior work; the white birch for tooled work such as spools, bobbins and clothes pegs; the sugar maple for flooring, panels, furniture; and basswood —a widely useful soft hardwood—for hand-carved work, containers for foodstuffs.

The Canadian Timber section will also contain an exhibit arranged by the British Columbia Timber Commissioner to show B.C. pine, cedar and western hemlock. Edge-grain flooring, doors and plywood are shown in pine, panelling, doors, wood tiles, panel cores and fencing in western red cedar, with further examples of panelling and flooring in Western hemlock.

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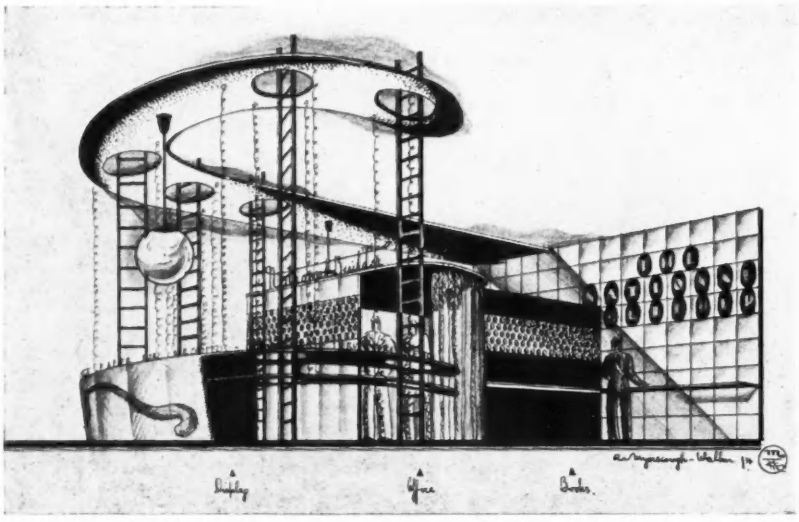
At Stand 222L, MESSRS. SMITH AND WELLSTOOD, LTD., are showing a wide variety of their products. One of the most interesting of these is the "Esse"



The "National Builder" (Stand 76D), designed by R. Myerscough-Walker, A.R.I.B.A.

heat-storage cooker which offers the combined advantages of fuel economy with large cooking accommodation. In many households it burns as little as four-pennyworth of anthracite in twenty-four hours. In addition to "Columbian" cookers designed for anthracite and other solid fuels for larger houses, there are also such ranges as the "New Leader" for housing schemes and portable boilers for workmen's dwellings. "Esse" anthracite heating stoves, which provide one of the cheapest and healthiest forms of heating known, are also displayed in several types and there will also be shown "Hydresse" and other water heaters.

*

An entirely new type of telephone instrument for intercommunication in works, offices, hotels, or private residences is shown under working conditions on Stand 140G, of the RELIANCE TELEPHONE COMPANY, LTD. This ingenious instrument, although working off an automatic exchange, does not necessitate dialling.

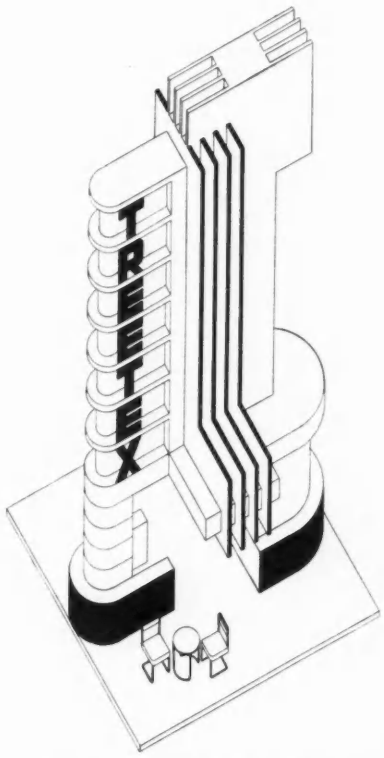
This feature is useful, but there are further advantages to be obtained. There is also no need to hold a receiver, for by throwing over a switch mounted on the base of the instrument, a loudspeaker and supersensitive microphone are brought into operation, so that replies are heard aloud, and the voice picked up by the microphone even at some distance from the actual instrument. Both hands are therefore entirely free, and conversation can be carried on while walking about the room. It is, however, possible to silence the loudspeaker at any time should it be undesirable for a third party in the room to hear the conversation. While this instrument can give full secret intercommunication with any number of lines from 10 to 10,000, it requires only a twin wire to connect and occupies very little space, approximately 7 inches square.

*

MESSRS. WILLIAMS AND WILLIAMS, LTD., will be showing on Stand 255O several examples of their "Reliance" metal windows actually built into openings. While it is impossible within the limited scope of a stand to show a full and comprehensive range of windows, the exhibit is, nevertheless, representative of "Reliance" products and includes several types of windows and doors applicable to public buildings, offices, hospitals, schools and residences. Examples of standard windows are contained in a seven-light bay built into the walls of the stand, and on the opposite side of the stand is a recently introduced type—called the "Clereview"—the principal feature of which is the hinged, folding, and sliding leaves, affording a clear and uninterrupted view when open.

*

The EDUCATIONAL SUPPLY ASSOCIATION, LTD., have a two-storey exhibit on Stand 281Q. On the ground floor are shown Esavian semi-circular folding and sliding loggia doors, designed to fold half to each side, with the weathered cill fitted flush to the inside floor level. The opening is unobstructed when the doors are folded back. In addition, on the ground floor will be found an Esavian folding and sliding partition which folds flat back to the wall in the same plane as when extended, and a set of the "Esaround" garage doors. On the first floor are shown examples of the Esavian "Maxlite" and "Morlite" windows; both these have fittings housed within the thickness of the leaf and are entirely protected from the weather when the windows are shut. The Esavian Maxlite are formed of narrow wooden sashes reinforced with concealed steel angle; steel glazing bars are welded to the frame allowing a maximum amount of light to enter, and combining the adaptability and rigidity of wood with the lightness and strength of steel.



"Treetex" (Stand 269P), designed by John Edginton.

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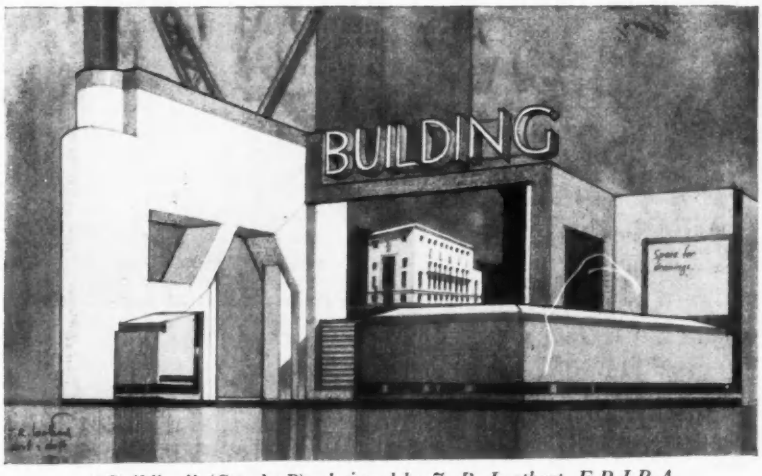
On Stand 290R, ELECTROLUX, LTD., will be displaying a comprehensive range of refrigerators which are automatic, motorless, and silent. Capacities from 1 to 45 cubic feet. Of special interest will be an improved air-cooled "Minor" model, which is the lowest-priced, self-contained automatic refrigerator ever offered, and also an entirely new cabinet, the air-cooled M.1 model, made especially for "building-in" to the structure of the small house or flat where space is limited. In addition, a full range of Electrolux water softeners will be exhibited, from portable types to mains models.

*

A new type of fireproof floor is being shown on Stand 10G by SMITH'S FIREPROOF FLOORS LTD. The system of construction is to set in position the patent telescopic centering—which can be laid at the rate of 100 sq. yds. per hour—to support the hollow concrete tiles, thus providing a floor over which workmen and materials can pass. Reinforcement is then inserted and the tiles and bars grouted to bind the whole together, and constructional concrete added for heavy loading. Screed for factory or wood block floors, or composition flooring, can be laid directly on the upper side of the floor. The floor comprises hollow concrete tiles, blind at one end, which, when laid with open ends adjacent, form a closed box unit 18 inches square. These units laid adjacent form channels sealed at the bottom into which longitudinal and lateral reinforcement is placed. Dense concrete poured into the channels makes the whole homogeneous. A special feature of this form of construction is that the soffit, when the telescopic centres are removed, is claimed to be so true and the underside of the concrete tiles to provide such an effective natural key that a quarter of an inch of plaster will make a finished ceiling.



"Building" (Stand 9B), designed by J. R. Leathart, F.R.I.B.A.

SOCIETIES AND SCHOOLS

HACKNEY TECHNICAL INSTITUTE

The Architectural and Building Trades Department of the L.C.C. Hackney Technical Institute provides theoretical and practical training in the large range of subjects set forth in the syllabus, including classes both professional and trade in character. The Institute is well equipped as to staff and lecture room and workshop accommodation. The course of study provided for the award of National Certificates in Building has been approved by the Institute of Builders and Board of Education. Individual instruction is given in the preparation of detail drawings, composition and planning, testimonies of study, and students are assisted in their preparation for such professional examinations as are held by the R.I.B.A., the Chartered Surveyors' Institution and the Royal Sanitary Institute. Mr. C. W. Box, A.R.I.B.A., A.I.STRUCT.E., is Head of the Department and prospectuses and full particulars may be obtained on application to the Principal, Mr. W. Rankine, M.B.E., M.I.MECH.E., Dalston Lane, E.8. Enrolment for the forthcoming session commences on September 17.

STOCKPORT COLLEGE FOR FURTHER EDUCATION

The new term at the Stockport College for Further Education—(Principal: Mr. G. Wood, M.SC. (Leeds), B.SC.ENG. (London), begins on September 17. The Winter Courses for Commercial, Technological, and Art students extend from September to the examinations in or about April; the Summer Courses from May to July. The session for Matriculation, University and Pharmaceutical Courses, and for Day courses in Engineering and Building, extends from September to June or July.

The courses in the Building Department (head of department: Mr. F. S. Mumford, P.A.S.I., M.I.STRUCT.E., M.R.SAN.I.) include both day and evening architectural courses, up to R.I.B.A. Intermediate standard. The principal lecturer in architecture is Mr. W. A. Banks, F.R.I.B.A.

LAW REPORTS

DISPUTE OVER BUILDING CONTRACT

Iverson and Morgan v. *Davidson—Official Referee's Court. Before Mr. S. R. C. Bosanquet, K.C.*

THIS was an action brought by Messrs. Iverson and Morgan, builders, of Highcliff Road, South Benfleet, Essex, to recover from the defendant, Mr. J. C. Davidson, £764 8s. 5d., the balance of their charges in connection with the building of a café and restaurant, known as the Bay County Club, The Promenade, Canvey Island. The plaintiffs' claim was admitted, but the defendant in reply alleged various defects in the plaintiffs' work, and he counter-claimed for £484 3s. to cover the cost of remedying them.

Having heard the evidence the Official Referee, in a considered judgment, said the plaintiffs had failed in a number of particulars to carry out their contract. Having gone through in detail the various items in the counter-claim in respect of which the defendant claimed, he (the Referee) found that there was a total sum due to defendant of £426 3s., leaving a balance due to the plaintiffs of £338 5s. 5d. The defendant, however, had paid £375 into court. In these circumstances there would be judgment for the plaintiffs for £338 5s. 5d. with costs up to the date of the payment into court and all the costs after that date would be the defendant's.

Judgment was entered accordingly.

Mr. F. R. S. Yorke, A.R.I.B.A., is away on holiday. His Trade Notes will be resumed on his return next week.

CITY LIGHT AND AIR DISPUTE

Franklin and Others v. *Brass and Another.—Chancery Division. Before Mr. Justice Clauson.*

THIS was an action for an injunction to restrain the defendants from making additions to premises on the site of 5 and 6 Throgmorton Street, E.C., which would exceed the heights and projections of the buildings previously on the site, so as to interfere with the light to the plaintiffs' premises to any further extent than was agreed under a document in writing of December, 1899.

The plaintiffs were Sir L. B. Franklin, Mr. M. M. Keyser, Mr. J. A. Franklin, Mr. G. L. Schlesinger, Mr. E. A. Franklin, and Mr. A. E. Franklin, and they sued as owners of 31 and 33 Throgmorton Street which are opposite the defendants' (Sir Wm. Brass and Sir A. T. Nugent) premises.

Mr. Christie, K.C., appeared for the plaintiffs and explained that the action was to enforce the agreement of December, 1899. His case was that the defendants were making alterations and additions to the upper floors of their premises which would be higher than the buildings previously there and would be an interference with the light coming to the plaintiffs' premises.

Mr. C. H. Gage and Mr. A. S. E. Ackerman were the experts called for the plaintiffs.

Mr. Spens, K.C., for the defendants, submitted that the agreement of 1899 was solely to control light and in the construction of it was that the defendants could build as they liked so long as they kept inside the requisite angles of light. In any event his clients contended that, should the court be against them, the only remedy was one of damages.

Mr. Percy J. Waldram and Mr. Sydney Tatchell were the defendants' experts.

His lordship dismissed the action. In giving judgment his lordship said on the evidence he was satisfied that the plaintiffs' building was just as well lighted now as it was before. There was a slight physical interference, it was true, but it was so trivial that the Court would not interfere, seeing that in his view it did not make the slightest difference as regards the enjoyment of any occupation of premises. There was an agreement here between the parties and he had to consider their rights under it. In his opinion, on the construction of that agreement, the plaintiffs' action failed. He thought that the erection of the superstructure of the defendants' building had not been an infringement of the agreement. Even assuming the construction of the agreement to be more favourable to the plaintiffs, in his view, having regard to the absence of damages to them, he would not have felt in a position to grant a mandatory injunction. He did not think the damages would have been more than 40s. and on the assumption that the construction was more favourable to the plaintiffs, the difference would have been that they would have got the costs of the action instead of it being dismissed with costs against them.

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

Following are the names of the general contractors and some of the sub-contractors for the buildings illustrated in this issue :—

Waterloo Station News Theatre (pages 322-327). General Contractors, F. G. Minter, Ltd. S. W. Budd, civil engineer. Sub-contractors: Somerville-Barnard Construction Co., Ltd., steelwork; Young, Austen and Young, heating and ventilation; General Asphalte Co., Ltd., asphalte; Rapid Floor Co., Ltd., floors; Tappin & Co., plastering; Clark and Fenn, Ltd., decorative plastering; Troughton and Young, electrical work; Frank Burkitt, Ltd., fireproof shutters; Cement Marketing Co., Ltd., Portland cement, etc.; F. A. Norris & Co., Ltd., metal in staircase windows and lantern lights; Newalls Acoustic Products, Ltd., insulation; Nash and Hull, Ltd., interchangeable lettering and poster frames; "Maurice," curtains; W. Lusty and Sons, seating; Grantitese (G. B.), Ltd., seamless cement glaze; Bulman Jupiter Screen Co., Ltd., transparent glass projection screen; Pilkington Brothers, mirror; Kershaw Projection Co., projection equipment; Sound and Cinema Equipment, Ltd., sound equipment; F. Knight & Co., Ltd., ironmongery; Comyn Ching, metal handrails and balustrade; Rusts, vitreous mosaic paving; Claude-General Neon Lights Ltd., neon lighting; F. G. Minter (Decorations), Ltd., floor coverings.

House at Gidea Park (pages 333-337). General contractors, Pell and Clayton. Sub-contractors: "Eonit" (Speakers, Ltd.), partitions; Hollis Bros. & Co., Ltd. woodblock flooring; Marbolith Flooring Co., patent jointless flooring; John Wright & Co., Ltd., central heating and gas water heaters; A. & C. Electrical Co., electric wiring; Merchant Adventurers, electric light fixtures; Ferranti, electric fires; Electrolux, refrigerator; Thos. Crapper & Co., sanitary fittings; Sissons Bros. & Co., Ltd., "Hall's Distemper" and "Tungaline"; Gordon Russell, Ltd., door furniture; Williams and Williams, casements; Penfold Fencing, Ltd., fencing; Ensoflex (Wood Products, Ltd.), wall-finish; Russell Daniels, shrubs and trees.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

CHELSEA. *Rehousing.* The B.C. has obtained sanction to borrow £18,595 for clearing and rehousing in the Manor Street area.

CITY OF LONDON. *Street widening.* The City of London Corporation is to widen Old Broad Street at a cost of £37,416 in association with a proposal for the rebuilding of Nos. 20, 21 and 22.

EALING. *Estate development.* The Corporation has approved the subjoined estate development plans: Part of Greystoke estate for London and Provincial Building Co.; part of Greenford Green Farm estate for Mr. T. Spencer Bright, architect; part of Oldfields estate for Messrs. Percy Bilton, Ltd.; Gosling End estate for Messrs. Taylor Woodrow, Ltd.; part of Northolt Park estate for Messrs. Swannell and Sly, architects; Northolt Racecourse estate, for Messrs. Grainger Bros., Ltd.; Brent Valley estate for Messrs. Hilbery Chaplin, Ltd.; Bays estate for Mr. E. Schaufelberg, architect.

HACKNEY. *Rehousing.* The L.C.C. is preparing a scheme for clearing the Duncan Square area and providing rehousing accommodation in five-storey blocks at an estimated cost of £52,000. The L.C.C. is to acquire a three-acre site in Amhurst Road for the erection of dwellings.

ILFORD. *Redevelopment.* Mr. G. F. Seigerts, architect, has prepared plans for the redevelopment of land at the junction of High Road and Oakfield Road.

LAMBETH. *Flats, etc.* Plans passed by the B.C.: Block of flats, Kennington Road, for Messrs. Parnacotts; street lay-out, off Brantwood Road, for Messrs. L. H. Kemp and Tasker. Plans submitted: Buildings, Norwood Road, for Mr. E. R. Taylor.

ST. PANCRAS. *Premises.* Messrs. Connell and Ward are to erect premises on the site of 13-17 Ferdinand Street.

SHOREDITCH. *Dwellings and Shops.* The L.C.C. is to redevelop the Haggerston Road area by the erection of 260 dwellings and 26 shops at a cost of £165,000. The Oakford Place area is to be reconstructed at a cost of £28,500.

SOUTHALL. *Shops.* Mr. Edward Hayes is to erect shops on the site of cottages at 37-43 North Road.

SOUTHGATE. *Schools.* The Middlesex Education Committee is to acquire a site in Green Road, for the erection of an elementary school, and for the erection of a technical institute.

WILLESDEN. *Rehousing.* The Health Committee of the Corporation has considered further the question of rehousing accommodation for persons displaced under clearance and improvement orders and states that from 600 to 700 houses will be required in due course, probably by the end of December, 1935, having regard to the Council's programme. 200 new houses are required in connection with the areas dealt with by the Council at its meeting in April last, and 66 new houses will be required with regard to areas now under consideration, and the Committee therefore recommends that at least 266 new houses for rehousing purposes be erected without delay.

WILLESDEN. *Factories, flats, etc.* Plans passed by the Corporation: 40 houses, Vincent Gardens and Tanfield Avenue, for Messrs. T. W. Heath (1933), Ltd.; 12 flats, Nicoll Road, for Messrs. Andrews and Holroyd; two houses, Alexander Avenue, for Mr. A. L. Tolcher; amended line of roads, Balnacraig Avenue, for Messrs. T. W. Heath, Ltd.; flats, Cavendish Road, for Miss W. L. Howard; factory, Cumberland Avenue, for Associated Agricultural Processes, Ltd.; 10 houses, Midstrath Road and Balnacraig Avenue, for Messrs. Neasden Builders, Ltd.; Plans submitted: 12 flats, Chamberlayne Road, for Mr. George Ball; factory, Park Avenue, Twyford, for Wilden Tile Co., Ltd.; factory extensions, Cobbold Road, for North London Engineering Co., Ltd.; factory, Park Avenue, Twyford, for Mr. J. L. Gottlieb.

WOOLWICH. *Dwellings.* The B.C. has obtained sanction for a loan of £173,000 for the erection of further dwellings on the Middle Park estate, chiefly for rehousing persons to be displaced from the war-time hutments which are to be demolished.

SOUTHERN COUNTIES

GUILDFORD. *Estate development.* Messrs. Knight, Frank and Rutley are in negotiation with the Corporation regarding the drainage of the Park Barn estate which is about to be developed.

LOWER WILLINGDON. *Roads.* Mr. Scales, the architect for the development of the Coppice Estate, is in communication with the East Sussex C.C. regarding new road construction.

PORTSMOUTH. *Swimming Bath, etc.* The Corporation has invited tenders for the construction of a swimming bath, paddling pool, café, pump-house, etc., at Hilsea.

EASTERN COUNTIES

YARMOUTH. *Building Sites.* The Corporation has leased two building sites to Mr. W. G. Wright and six to Mr. J. R. Chase in Beatty Road.

YARMOUTH. *Houses.* Plans passed by the Corporation: Ten houses, Beatty Road, for Mr. J. R. Chase; two houses, Perebrown Avenue, for Mr. J. G, Chase; two houses, Beccles Road, for Mr. H. A. Landsell; two houses, Lawn Avenue, for Mr. G. Holmes.

MIDLAND COUNTIES

BIRSTALL, ETC. *Schools.* The Leicestershire Education Committee is to erect a primary school at Birstall, and a modern school at Barwell. The governors of the Loughborough Endowed Schools are to erect a gymnasium at the Grammar School, at a cost of £2,000.

BOSWORTH PARK. *Nurses' Home.* The Leicestershire C.C. has approved plans for the erection of a nurses' home at the Institution, at a cost of £35,412.

HINCKLEY. *Cinema.* The Leicestershire C.C. has approved plans for the reconstruction of the Borough Cinema, provisions being made for seating for over 1,000.

LEICESTER. *Offices.* The Leicestershire C.C. reports that the county architect is preparing the scheme for obtaining tenders for the erection of new county offices.

MARKET HARBOROUGH. *Casual Wards.* The Leicestershire C.C. is acquiring a site for the erection of causal wards.

STRETTON. *Mental Colony.* The Leicestershire and Rutland Joint Board for the Mentally Defective reports that plans have been prepared for the scheme for the provision of a colony for 320 patients.

WARWICKSHIRE. *Building.* The Buildings Committee of the Warwickshire C.C. reports that the approximate estimated cost of further building work under consideration amounts to £146,440.

WIGSTON. *Cinema.* The Leicestershire C.C. has approved plans for the erection of a cinema, with seating for 800, at Long Street.

NORTHERN COUNTIES

DURHAM. *Hospital.* The County Council has under consideration alternative proposals for the erection of a new hospital of 300 beds on the Dryburn estate, near Durham, in place of the reconstruction of the Bishop Auckland and Chester-le-Street institutions as special surgical and medical units respectively.

MANCHESTER. *Schools.* The Education Committee reports that a Catholic school for 400 is to be built at Brownley Green, Wythenshawe, and the St. Ambrose R.C. school is to be enlarged to accommodate an additional 120 children.

WAKEFIELD. *Estate development.* Mr. J. H. Bates is to develop an estate in Walton Lane.

SCOTLAND

GLASGOW. *Extensions to Institution.* The Corporation proposes to extend and improve the Crookston institution at a cost of £24,480.

GLASGOW. *Hospital improvements.* The Corporation has approved an estimate of £17,000 for extensions and improvements at the Southern General Hospital.

GLASGOW. *Park developments.* The Corporation Parks Committee has approved schemes for park improvements and developments at a total cost of £38,000.

GLASGOW. *Housing Schemes and Institutions.* The Housing Committee of the Corporation has included the following sums of capital expenditure in the estimates for the year ending May 31, 1935: Completed housing schemes, £182,150; schemes in progress, £514,450; schemes contemplated, £1,224,410; and assistance to private enterprise, £177,860. The Health Committee of the Glasgow Corporation has included the sum of £241,800 for capital expenditure in the estimates for the year ended May 31, 1935, comprising additional beds and staff accommodation and 12 houses at Hawkhead (£9,500); 12 houses for staff at Woodilee (£3,000); eight staff houses, Gartloch (£2,000); and new institution, Lennox Castle (£227,300).

GLASGOW. *Cinema.* The Corporation has approved an application by Mr. Bernard Frutin for the relaxation of the building regulations with regard to a picture-house at Parkhead Cross.

GLASGOW. *Gymnasium.* The Education Committee is to consider further a proposal for the purchase of land adjoining Wellshot school for the erection of a gymnasium.

GLASGOW. *Houses.* At the Housing Committee of the Corporation there was submitted an offer from Messrs. Kyle and Frew to sell approximately six acres east of Wellshot Road, at the price of £2,250, including roads and sewers so far as constructed, and the Committee, after noting that 106 houses could be built on the land at the density of 17·66 to the acre, recommends that the offer be accepted. The Committee of the Corporation recommends the purchase from the Possil Estate of approximately four acres at Panmure Street, at £300 per acre, for the proposed erection of 132 houses. The Corporation is in negotiation with Messrs. Mitchells, Johnstone & Co., solicitors, for the purchase of land at Croft Street for housing purposes. It is estimated that 66 houses could be built on the land. The purchase price suggested for such land is in the neighbourhood of £3,850. The Corporation has authorised the housing director to obtain tenders for the erection of 23 houses at Mosspark.

GLASGOW. *Road and Tea-rooms.* The Corporation has appointed a special sub-committee to consider and report upon the question of the construction of a new road and the erection of new tea-rooms at Loch Lomond Park.

GLASGOW. *School.* The Education Committee is in negotiation for land adjoining St. Aloysius (Port Dundas) school, for school purposes.

GLASGOW. *School, Houses, Shops, etc.* Plans passed by the Corporation: School, Ashfield Street, Possilpark, for the Education Committee; building, Kemp Street, for the Cowlairs Co-operative Society, Ltd.; houses and shops, Garngad Road, for Corporation Housing Committee; and petrol station, Mitre Road, for Mr. A. E. Pickard.

GLASGOW. *Shops.* The Housing Committee of the Corporation has declined to grant an application by the Cowlairs Co-operative Society, Ltd., for permission to erect a suite of shops at Killearn Street, East Keppoch. Shops are to be erected on the site by the Committee.

GLASGOW. *Swimming Pool.* The Corporation is to consider further the question of the provision of a swimming pond at Oatlands baths.

WALES

CARDIFF. *Works.* The Concordia Electric Safety Lamp Co., Ltd., has a scheme for the erection of works on a site near Sanatorium Road.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a spearate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A	Aberdeen ..	Scotland	1 6	1 1½
A_1	Abergavenny ..	S. Wales & M.	1 5	1 0½
A_2	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A_2	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie ..	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B_2	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_2	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham ..	Mid Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton	N.W. Counties	1 5½	1 1½
A_2	Boston	Mid. Counties	1 4	1 0
A	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A	Brighton ..	S. Counties	1 4	1 0
A	Bristol	S.W. Counties	1 5½	1 1½
B_2	Brixham ..	S.W. Counties	1 2½	11
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B_2	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
	Burslem ..	Mid. Counties	1 5½	1 1½
	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury	N.W. Counties	1 5½	1 1½
A	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE ..	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A_2	Chelmsford ..	E. Counties	1 4	1 0
A	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_2	Chichester ..	S. Counties	1 3	11½
A	Chorley	N.W. Counties	1 5½	1 1½
B_2	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A_2	Colchester ..	E. Counties	1 4	1 0
A	Colne	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorchester ..	S.W. Counties	1 2½	11
A	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley	Mid. Counties	1 5½	1 1½
A_2	Dumfries ..	Scotland	1 5	1 0½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N.E. Coast	1 5½	1 1½
A_2	EASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_1	FELIXSTOWE	E. Counties	1 4	1 0
A_2	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S. W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A	Glasgow ..	Scotland	1 6	1 1½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	Gosport ..	S. Counties	1 4½	1 0½
A_2	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln ..	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12–15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_2	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middlesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid Counties	1 5½	1 1½
A_2	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_3	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth	Scotland	*1 5½	1 1½
A_2	Peterborough	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	SALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	Slough ..	S. Counties	1 4½	1 0½
A_1	Solihull ..	Mid. Counties	1 5	1 0½
A_2	Southampton	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stirling ..	Scotland	1 6	1 1½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud ..	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist. ..	N.E. Counties	1 5½	1 1½
A_3	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay ..	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall ..	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick ..	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby ..	Yorkshire	1 4½	1 0½
A	Widnes ..	N.W. Counties	1 5½	1 1½
A	Wigan ..	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor ..	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_3	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A_3	Wycombe ..	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil ..	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 8
Mason (Banker) . . . . . ,,	1 7
,, (Fixer) . . . . . ,,	1 8
Plumber . . . . . ,,	1 7
Painter . . . . . ,,	1 6
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 7
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 3
Timberman . . . . . ,,	1 3
Navvy . . . . . ,,	1 2½
General Labourer . . . . . ,,	1 2½
Lorryman . . . . . ,,	1 5
Crane Driver . . . . . ,,	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . . per ton	2 2 0
Blue Lias Lime . . . . . ,,	1 16 6
Hydrated Lime . . . . . ,,	3 0 9
Portland Cement, in 4-ton lots (d/d site, including Paper Bags) .	,, 1 18 0
Rapid Hardening Cement, in 4-ton lots (d/d site, including Paper Bags) .	,, 2 5 6
White Portland Cement, in 1-ton lots	,, 8 15 0
Thames Ballast . . . . . per Y.C.	6 3
¾" Crushed Ballast . . . . . ,,	6 9
Building Sand . . . . . ,,	7 3
Washed Sand . . . . . ,,	8 3
2" Broken Brick . . . . . ,,	8 0
½" ,, ,, ... ,,	10 3
Pan Breeze . . . . . ,,	6 6
Coke Breeze . . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . . per F.R.	0 9	1 1
Bends . . . . each	1 9	2 6
Taper Bends . . ,,	3 6	5 3
Rest Bends . . ,,	4 3	6 3
Single junctions . . ,,	3 6	5 3
Double . . . ,,	4 9	6 6
Straight channels . per F.R.	1 6	2 6
¼" Channel bends . each	2 9	4 0
Channel junctions . ,,	4 6	6 6
Channel tapers . ,,	2 9	4 0
Yard gullies . ,,	6 9	8 9
Interceptors . ,,	16 0	19 6
IRON DRAINS:		
Iron drain pipe . per F.R.	1 6	2 6
Bends . . . each	5 0	10 6
Inspection bends . ,,	9 0	15 0
Single junctions . ,,	8 9	18 0
Double junctions . ,,	13 6	30 0
Lead wool . . lb.	6	—
Gaskin . . ,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . . Per M.	2 18 0
Grooved do. . . . . ,,	3 0 0
Phorpres bricks . . . . . ,,	2 17 3
,, Cellular bricks . . ,,	2 17 3
Stocks, 1st quality . . . ,,	4 11 0
,, 2nd ,, . . . ,,	4 2 6
Blue Bricks, Pressed . . ,,	8 17 6
,, Wirecuts . . ,,	7 17 6
,, Brindles . . ,,	7 0 0
,, Bullnose . . ,,	9 0 0
Red Sand-faced Facings . ,,	6 18 6
Red Rubbers for Arches . ,,	12 0 0
Multicoloured Facings . ,,	7 10 0
Luton Facings . . . ,,	7 10 0
Phorpres White Facings . ,,	3 17 3
,, Rustic Facings . ,,	3 12 3
Midhurst White Facings . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . . ,,	21 0 0
Headers . . . . . ,,	20 10 0
Bullnose . . . . . ,,	27 10 0
Double Stretchers . . ,,	29 10 0
Double Headers . . ,,	26 10 0
Glazed Second Quality, *Less* . ,,	1 0 0
,, Buffs and Creams, *Add* . ,,	2 0 0
,, Other Colours . . ,,	5 10 0
2" Breeze Partition Blocks . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 10
3" ,, ,, ,, . . ,,	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

The following d/d F.O.R. at Nine Elms:	s. d.
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . . ,,	2 11
York stone . . . . . ,,	6 6
,, ,, Sawn templates . .	7 6
,, ,, Paving, 2" . . . F.S.	1 8
,, ,, ,, 3" . .	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . . per M.	28 17 6
22" × 12" Marchionesses . . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . . ,,	15 10 0
18" × 9" Ladies . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, ,, green ,, ,,	24 7 4
Best machine roofing tiles . ,,	4 10 0
Best hand-made do. . . ,,	5 0 0
Hips and valleys . . . each	9½
,, hand-made . . . ,,	10
Nails, compo . . . . lb.	1 4
,, copper . . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . . as 1" F.S.	9
Deal, Joiner's . . . ,, ,,	5
,, ,, 2nds . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . ,, ,,	1 6
,, English . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . ,, ,,	4
,, British Columbian . ,, ,,	4
Teak, Moulmein . . ,, ,,	1 3
,, Burma . . ,, ,,	1 2
Walnut, American . . ,, ,,	2 3
,, French . . ,, ,,	2 3
Whitewood, American . ,, ,,	1 1
Deal floorings, ¾" . . Sq.	18 6
,, 1" . . ,,	1 1 6
,, 1¼" . . ,,	1 2 0
,, 1½" . . ,,	1 5 0
,, 2" . . ,,	1 10 0
Deal matchings ¾" . . ,,	14 0
,, 1¼" . . ,,	15 6
,, 1" . . ,,	1 4 0
Rough boarding ¾" . . ,,	16 0
,, 1¼" . . ,,	18 0
,, 1½" . . ,,	1 6 0

Plywood, per ft. sup.

—Thickness	¼"			⅜"			½"		
Qualities	AA	A	B	AA	A	B	AA	A	B
	d.	d.	d.	d.	d.	d.	d.	d.	d.
Birch .	4	3	2	5	4	3	7½	6	4½
Alder .	3½	3	2	5	4	3	6½	5½	4½
Gaboon									
Mahogany	4	3	3	6½	5½	4½	9½	7½	–
Figured Oak									
1 side	8½	7	–	10	8	–	11½	–	–
Plain Oak .									
1 side	6½	6	–	7½	7	-	9½	–	–
Oregon P.ne	5	4	–	5½	5	–	6	–	–

	⅝"			¾"			1"		
Qualities	AA	A	B	AA	A	B	AA	A	B
	d.	d.	d.	d.	d.	d.	d.	d.	d.
Birch .	8½	7	6						
Alder .	8	7	6						
Gaboon									
Mahogany	1/0½	10	–						
Figured Oak									
1 side	1/6	–	–						
Plain Oak .									
1 side	1/–	–	–						
Oregon P.ne	–	–	–						

	d.
Scotch glue . . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:

(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	¼"	½"	1"	1¼"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
,, 3"-11½" long ,,	7	9	1/3	1/8	3/–
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3
,, 3"M-½" long ,,	8	10	1/5	1/11	3/6
Bends . . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . . ,,	1/–	1/3	1/10	2/6	5/1
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/–	2/–
Flanges . . . ,,	9	1/–	1/4	1/9	2/9
Caps . . . . ,,	3½	5	8	1/–	2/–
Backnuts . . . ,,	2	3	5	6	1/1
Iron main cocks . ,,	1/6	2/3	4/2	5/4	11/6
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–

Discounts:

TUBES.	Per cent.		Per cent.
Gas . . .	65	Galvanized gas .	52½
Water . . .	61½	,, water	47½
Steam . . .	57½	,, steam	42½
FITTINGS.			
Gas . .	57½	Galvanized gas	47½
Water . .	52½	,, water	42½
Steam . .	47½	,, steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ⅜" . . ,,	8 6
,, ,, ½" . . ,,	8 3
,, ,, ⅝" . . ,,	8 0
,, ,, ¾" . . ,,	7 6
,, ,, ⅞" . . ,,	7 6
,, ,, 1" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1½" . . ,,	7 6

Cast-iron rain-water pipes of	3" s. d.	4" s. d.
ordinary thickness metal . F.R.	8	10
Shoes . . . . each	2 0	3 0
Anti-splash shoes . . ,,	4 6	8 0
Boots . . . . ,,	3 0	4 0
Bends . . . . ,,	2 7	3 9
,, with access door . ,,	—	6 3
Heads . . . . ,,	4 0	5 0
Swan-necks up to 9" offsets . ,,	3 9	6 0
Plinth bends, 4½" to 6" . ,,	3 9	5 3

Half-round rain-water gutters of	s. d.
ordinary thickness metal . F.R.	5 6
Stop ends . . . . each	6 6
Angles . . . . ,,	1 7 1 11
Obtuse angles . . . ,,	2 0 2 6
Outlets . . . . ,,	1 9 2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	18 6
,, drawn pipes . . . ,,	17 0
,, soil pipe . . . ,,	18 6
,, scrap . . . ,,	10 6
Solder, plumbers' . . . lb.	9½
,, fine do. . . . ,,	1 0
Copper, sheet . . . ,,	8½
,, tubes . . . ,,	11

L.C.C. soil and waste pipes:	3"	4"	6"
Plain cast . . F.R.	1 0	1 2	2 6
Coated . . ,,	1 1	1 3	2 8
Galvanized . . ,,	2 0	2 6	4 6
Holderbats . . each	3 10	4 0	4 9
Bends . . . ,,	3 9	5 3	10 3
Shoes . . . ,,	2 10	4 4	9 6
Heads . . . ,,	4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . . per ton	2 5 0
Plaster, coarse . . . ,,	2 10 0
,, fine . . . ,,	4 15 0
Hydrated lime . . . ,,	3 0 9
Sirapite . . . ,,	3 6 0
Keene's cement . . . ,,	5 0 0
Gothite Plaster . . . ,,	5 0 0
Thistle Plaster . . . ,,	3 6 0
Sand, washed . . . Y.C.	3 6 0
Hair . . . . lb.	11 6
Laths, sawn . . . bundle	6
,, rent . . . ,,	2 4
Lath nails . . . lb.	3 9
	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft. s. F.S.		2½
,, ,, 26 oz. ,, ,, ,, ,,		3
Flemish, Arctic, Figured (white)* ,,		7
Blazoned glasses . . . ,,		2 6
Reeded; Cross Reeded ,,		11
Cathedrals: eleven varieties (white)* ,,		6½
Crown sheet glass (n/e 12 in. x 10 in.) ,,		2 0
Flashed opals (white and coloured) ,,	1 0 and	2 0
¼" rough cast; rolled plate . ,,		7
¼" wired cast; wired rolled . ,,		10
¼" Georgian wired cast. . . ,,		11
¼" Polished plate, n/e 1 ft. . ,,	† 10 to	‡1 1
,, ,, 2 . . ,,	†1 2 ,,	‡1 4
,, ,, 4 . . ,,	†2 3 ,,	‡2 6
,, ,, 8 . . ,,	†2 9 ,,	‡3 2
,, ,, 20 . . ,,	†3 7 ,,	‡4 2
,, ,, 45 . . ,,	†3 11 ,,	‡4 7
,, ,, 100 . . ,,	†5 0 ,,	‡5 7
Vita glass, sheet, n/e 2 ft. . . ,,		1 3
,, ,, ,, over 2 . ,,		1 9
,, ,, plate, n/e 2 ft. . ,,		3 0
,, ,, ,, 7 . ,,		5 0
,, ,, ,, 15 . ,,		6 0
,, ,, ,, over 15 . ,,		7 6
"Calorex" sheet 21 oz., and 32 oz. ,,	2 6 and	3 6
,, rough cast ¼" and ½" ,,	8¾ ,,	1 0
Putty, linseed oil . . lb.		3

* *Colours*, 1d. *F.S. extra.*
†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s. d.
White lead in 1 cwt. casks . . cwt.	2 6 0
Linseed oil . . . . gall.	2 2½
Boiled oil . . . . ,,	2 4½
Turpentine . . . . ,,	4 1½
Patent knotting . . . ,,	14 0
Distemper, washable . . cwt.	2 6 0
,, ordinary . . ,,	2 0 0
Whitening . . . . ,,	4 0
Size, double . . . firkin	3 0
Copal varnish . . . gall.	13 0
Flat varnish . . . ,,	14 0
Outside varnish . . ,,	16 0
White enamel . . . ,,	1 15 0
Ready mixed paint . . ,,	13 6
Brunswick black . . ,,	7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR

		£	s.	d.
Digging over surface n/e 12″ deep and cart away	Y.S.		2	9
,, to reduce levels n/e 5′ 0″ deep and cart away	Y.C.		8	6
,, to form basement n/e 5′ 0″ deep and cart away	,,		9	0
,, ,, 10′ 0″ deep and cart away	,,		9	6
,, ,, 15′ 0″ deep and cart away	,,		10	0
If in stiff clay	add ,,			6
If in underpinning	,, ,,		4	0
Planking and strutting to sides of excavation	F.S.		1	0
,, ,, to pier holes	,,			5
,, ,, to trenches	,,			5
,, ,, extra, only if left in	,,			3
Hardcore, filled in and rammed	Y.C.		10	0
Portland cement concrete in foundations (6-1)	,,	1	6	0
,, ,, (4-2-1)	,,	1	12	6
,, ,, underpinning	,,	1	16	0
Finishing surface of concrete, spade face	Y.S.			7

DRAINLAYER

		4″ s.	d.	6″ s.	d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1	6	2	3
Extra, only for bends	Each	2	8	3	9
,, junctions	,,	3	9	4	6
Gullies and gratings	,,	16	6	18	0
Cast iron drains, and laying and jointing	F.R.	4	9	6	9
Extra, only for bends	Each	10	6	15	6

BRICKLAYER

		£	s.	d.
Brickwork, Flettons in lime mortar	Per Rod	27	10	0
,, ,, in cement	,,	28	15	0
,, Stocks in cement	,,	35	0	0
,, Blues in cement	,,	52	0	0
Extra only for circular on plan	,,	2	0	0
,, backing to masonry	,,	1	10	0
,, raising on old walls	,,	2	0	0
,, underpinning	,,	5	10	0
Fair Face and pointing internally	F.S.			1½
Extra over fletton brickwork for picked stock facings and pointing	,,			8
,, ,, ,, red brick facings and pointing	,,			11
,, ,, ,, blue brick facing and pointing	,,		1	4
,, ,, ,, glazed brick facings and pointing	,,		3	6
Tuck pointing	,,			7½
Weather pointing in cement	,,			3
Slate dampcourse	,,			10
Vertical dampcourse	,,		1	1

ASPHALTER

		s.	d.
½″ Horizontal dampcourse	Y.S.	4	6
½″ Vertical dampcourse	,,	6	9
½″ paving or flat	,,	4	0
1″ paving or flat	,,	5	6
1″ × 6″ skirting	F.R.	1	0
Angle fillet	,,		2
Rounded angle	,,		2
Cesspools	Each	5	0

MASON

		s.	d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17	9
Bath stone and do., all as last	,,	13	6
Artificial stone and do.	,,	13	0
York stone templates, fixed complete	,,	10	6
,, thresholds	,,	13	6
,, sills	,,	1	0	6

SLATER AND TILER

		£	s.	d.
Slating, Bangor or equal, laid to a 3″ lap, and fixing with compo nails, 20″ × 10″	Sqr.	3	10	0
Do., 18″ × 9″	,,	3	7	0
Do., 24″ × 12″	,,	3	17	0
Westmorland slating, laid with diminished courses	,,	6	0	0
Tiling, best hand-made sand-faced, laid to a 4″ gauge, nailed every fourth course	,,	3	0	0
Do., all as last, but of machine-made tiles	,,	2	16	0
20″ × 10″ medium Old Delabole slating, laid to a 3″ lap (grey)	,,	4	6	0
,, ,, ,, ,, ,, ,, (green)	,,	4	15	0

CARPENTER AND JOINER

		£	s.	d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2	5	0
Shuttering to sides and soffits of beams	F.S.			8
,, to stanchions	,,			8
,, to staircases	,,		1	8
Fir and fixing in wall plates, lintols, etc.	F.C.		3	9
Fir framed in floors	,,		4	6
,, ,, roofs	,,		6	6
,, ,, trusses	,,		7	6
,, ,, partitions	,,		8	6
⅞″ deal sawn boarding and fixing to joists	Sqr.	1	14	6
1″ ,, ,, ,, ,,	,,	1	17	6
1½″ ,, ,, ,, ,,	,,	2	3	0
2½ × 2″ fir battening for Countess slating	,,		9	6
Do. for 4″ gauge tiling	,,		12	0
Stout feather-edged tilting fillet	F.R.			4½
Patent inodorous felt, 1 ply	Y.S.		2	3
,, ,, ,, 2 ,,	,,		2	9
,, ,, ,, 3 ,,	,,		3	3
Stout herringbone strutting to 9″ joists	F.R.			10½
1″ deal gutter boards and bearers	F.S.		1	2
1½″ ,, ,, ,, ,,	,,		1	6
2″ deal wrought rounded roll	F.R.			8
1″ deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2	1	0
1¼″ do.	,,	2	10	0
1½″ do.	,,	2	17	0
1″ deal moulded skirting, fixed on, and including grounds plugged to wall	F.S.		1	6
1¼″ do.	,,		1	9

CARPENTER AND JOINER—*continued*

		s.	d.
1½″ deal moulded sashes of average size	F.S.	1	9½
2″ ,, ,, ,, ,,	,,	1	11½
1½″ deal cased frames double hung, of 6″ × 3″ oak sills, 1¼″ pulley stiles, 1¼″ heads, 1″ inside and outside linings, ⅝″ parting beads, and with brass faced axle pulleys, etc., fixed complete	,,	3	7
2″ ,, ,, ,, ,,	,,	3	10
Extra only for moulded horns	Each		6
1½″ deal four-panel square, both sides, door	F.S.	2	0
2″ ,, ,, ,, ,,	,,	2	8
1½″ ,, but moulded both sides	,,	2	4
2″ ,, ,, ,, ,,	,,	3	0
4″ × 3″ deal, rebated and moulded frames	F.R.	1	0
4½″ × 3½″ ,, ,, ,,	,,	1	4
1¼″ deal tongued and moulded window board, on and including deal bearers	F.S.	1	9
1¼″ deal treads, 1″ risers in staircases, and tongued and grooved together on and including strong fir carriages	,,	2	6
1½″ deal moulded wall strings	,,	2	1
1½″ ,, outer strings	,,	2	4
Ends of treads and risers housed to string	Each	1	9
3″ × 2″ deal moulded handrail	F.R.	1	3
1″ × 1″ deal balusters and housing each end	Each	2	0
1½″ × 1½″ ,, ,, ,,	,,	2	9
3½ × 3″ deal wrought framed newels	F.R.	1	3
Extra only for newel caps	Each	6	0
Do., pendants	,,	6	0

SMITH AND FOUNDER

		£	s.	d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.		15	6
Riveted plate or compound girders, and hoisting and fixing in position	,,		19	6
Do. stanchions with riveted caps and bases and do.	,,		19	0
Mild steel bar reinforcement, ½″ and up, bent and fixed complete	,,		17	6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.			11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1	10	0

PLUMBER

		£	s.	d.
Milled lead and labour in flats	cwt.	1	12	0
Do. in flashings	,,	1	15	6
Do. in covering to turrets	,,	2	3	0
Do. in soakers	,,	1	7	6
Labour to welted edge	F.R.			3½
Open copper nailing	,,			3
Close ,, ,,	,,			4

		½″ s.	d.	¾″ s.	d.	1″ s.	d.	1½″ s.	d.	2″ s.	d.	4″ s.	d.
Lead service pipe and fixing with pipe hooks	F.R.	10		1	0	1	3	2	0	2	10	—	
Do. soil pipe and fixing with cast lead tacks		—		—		—		—		—		5	6
Extra, only to bends	Each	—		—		—		—		2	0	6	9
Do. to stop ends	,,	6½		8		9		11		1	0	—	
Boiler screws and unions	,,	3	3	3	9	5	0	8	0	—		—	
Lead traps	,,	—		—		—		6	3	8	9	—	
Screw down bib valves	,,	6	9	9	6	11	0	—		—		—	
Do. stop cocks	,,	7	0	9	6	12	6	—		—		—	
4″ cast-iron ½-rd. gutter and fixing	F.R.									1	0		
Extra, only stop ends	Each									1	0		
Do. angles	,,									1	6		
Do. outlets	,,									2	9		
4″ dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.									1	2		
Extra, only for shoes	Each									1	3		
Do. for plain heads	,,									5	6		

PLASTERER AND TILING

		s.	d.
Expanded metal lathing, small mesh	Y.S.	2	0
Do. in n/w to beams, stanchions, etc.	,,	2	9
Lathing with sawn laths to ceilings	,,	1	3
½″ screeding in Portland cement and sand for tiling, wood block floor, etc.	,,	1	5
Do. vertical	,,	1	7
Rough render on walls	,,	1	2½
Render, float and set in lime and hair	,,	1	9
Render and set in Sirapite	,,	1	11
Render, backing in cement and sand, and set in Keene's cement	,,	2	9
Extra, only if on lathing	,,		4
Keene's cement, angle and arris	F.R.		6
Arris	,,		1½
Rounded angle, small	,,		3
Plain cornices in plaster, including dubbing out, per 1″ girth	,,		1½
1″ granolithic pavings	Y.S.	3	6
1½″ ,, ,,	,,	4	6
6″ × 6″ white glazed wall tiling and fixing on prepared screed	,,	17	6
9″ × 3″ ,, ,, ,, ,,	,,	1	2	6
Extra, only for small quadrant angle	F.R.			8

GLAZIER

		s.	d.
21 oz. sheet glass and glazing with putty	F.S.		7½
26 oz. do and do.	,,		8½
Flemish, Arctic Figured (white) and glazing with putty	,,	1	1
Cathedral glass and do.	,,	1	2
Glazing only, British polished plate	,,		7
Extra, only if in beads	,,		2
Washleather	F.R.		4

PAINTER

		s.	d.
Clearcole and whiten ceilings	Y.S.		6
Do. and distemper walls	,,		9
Do. with washable distemper	,,	1	1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	,,	3	3
Do. on woodwork	,,	3	6
Do. on steelwork	,,	3	6
Do. and brush grain and twice varnish	,,	5	6
Stain and twice varnish woodwork	,,	1	11
Stain and wax-polish woodwork	,,	4	6
French polishing	F.S.	1	2
Stripping off old paper	Piece	2	0
Hanging ordinary paper	from ,,	2	9

M.A.R.S. GROUP AT WORK

MATERIAL FOR OLYMPIA

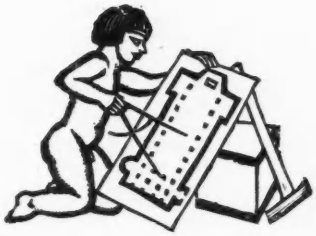
S. W. NEWBERY

THE MARS (Modern Architectural Research) Group is contributing one section of the Housing Exhibit shown at the Building Exhibition by the "New Homes for Old" Committee.

This photograph, taken on Sunday, shows members of MARS putting finishing touches to some of the maps, charts and diagrams that illustrate their exhibit, before they were taken to Olympia in time for the opening yesterday.

THE BRIDGE

The twenty-fifth International Exhibition of Pictorial Camera Work is now being held by the London Salon of Photography. Above is a reproduction of one of the studies on show, entitled "The Bridge." It is exhibited by Maurice Turney, and shows the pictorial possibilities of simple architectural shapes. The exhibition is at the galleries of the Royal Society of Painters in Water Colours, and will remain open till October 6.



PLAN THE BUILDING EXHIBITION

IN our leading article last week, the Building Exhibition being announced again after the customary two years' interval, we felt it opportune to make some remarks on the depressingly low standard of design and the complete absence of planning which have come to be associated with Building Exhibitions. We asked whether it was not unreasonable that the one exhibition with which the architect—society's trained technician in the ordering of unrelated units into a co-ordinated whole—is most closely concerned should be one of the last to make use of and appreciate the advantages of organized arrangement.

The Building Exhibition is now open, and everyone will be able to see for himself whether this year's exhibition is or is not a mere confusion of mutually destructive individual exhibits—and that despite the progress that other exhibitions have lately made. The things exhibited are certainly as interesting as ever, perhaps more so ; because every year the speed of scientific progress is increased and the possible field of research widens. The importance of the exhibition is as great as ever. As the advance advertisement of it says : " Not an inch of space in the Grand and National Halls and Grand Hall Gallery remains unallotted, and the exhibits are bigger and brighter and better than ever." But that very advertisement unknowingly reveals the limitations of the exhibition's organization. Bigness and brightness in exhibits are not the ultimate virtues—are not always virtues at all, and the advertisement says nothing of the really essential virtues : lucidity, ease of circumnavigation, convenient classification and simplicity. It couldn't ; because those are the collective virtues, and collective qualities can only be the outcome of collective organization. An exhibition is as much more than a number of exhibits as a building is than a pile of builder's material. To form it into a real exhibition is required the essential operation of assembling the material into its proper shape, so that each bears an intelligent relationship to its neighbour and makes its proper contribution to the functioning of the whole. The Building Exhibition will never attain its full value until it has been given this co-ordinating control.

In criticizing the exhibition we are not criticizing its organizers, though we have quoted their advertisement. They, we are confident, are in agreement with us, and plan the exhibition to the extent they are allowed to under the present system. But exhibitors get the exhibition they deserve, and it is in the exhibitors' hands that the future usefulness of the Building Exhibition lies. The architect, without doubt, would like to see the exhibition pleasingly displayed and systematically planned, so that he could find his way about it as he can about one of his own specifications, and find in it an attractively presented catalogue in which the illustrations are taken so far in the direction of realism and exhaustiveness that no question he has to ask remains unanswered. It remains with the exhibitors to decide which practice they prefer : to play their own unobtrusive share in a civilized enterprise that is of real use to the building industry and the architectural profession—an enterprise of which the whole is greater than the sum of the parts, but in which every part is essential to the whole ; or to continue the familiar game of competitive individualism, in which every exhibitor tries to drown his neighbour by his own assertiveness, like so many fortune-tellers at the Mitcham, horse dealers at the Barnet, or manufacturers at the British Industries Fair ; to the confusion and exasperation of the unfortunate visitor.

The building trade as a trade has, after all, made great progress during the last few years, and most remarkably in the field of organization. The " time and progress schedule " has been perfected, records for rapid construction have been broken, and the business of getting a huge and complicated building put up has been reduced to an exact science ; all these, be it noted, the result of co-operation between the many parts of which the building trade consists. Nevertheless, on the one occasion on which the building trade makes any public display of its progressiveness in nature or degree it fails totally to apply those powers of organization with which it eliminates confusion in its everyday existence.

Olympia today is like a house for which all the necessary materials and equipment, excellent in themselves, have been ordered in advance and dumped aimlessly on the site, without any regard to what is to be done with them or how they can be resolved into an organization that *works*. The building trade must put its house in order. If it manages to do that it will deserve all the advantages from its enterprise that it will certainly receive.

The Architects' Journal
Westminster, S.W.1
Telephones: Victoria
0212-7
Telegrams:
Buildable
Parl
London

NOTES & TOPICS

PRE-WAR DESIGN

MORE than one of the fortunate people who began taking an intellectual interest in life and in architectural design before the war have referred to my note about "Pa" Murray last week. One of them reminded me that I had inadvertently mis-spelled his second name, which was inexcusable, especially as I possess one of his water-colours, which is boldly signed Frank Stuart Murray, 1907.

*

I don't think I suspected quite how many people were influenced by him; but the Georgian revival which distinguished the early nineteen-twenties owed something, indirectly, to his taste. I saw recently a little street of houses that had about them an agreeable flavour of mid-eighteenth century American Colonial architecture.

*

I found that the architect had known "Pa" Murray years before; and the resurrection of the graces of that particular style had been one of Murray's achievements.

*

Don't please assume a functionalist superiority. The bright young people of design who are now fumbling with the beginnings of a new Renaissance would have been doing what Murray and others like him were doing had they lived between 1905 and 1914.

*

Murray helped to lead taste out of the squalid morass of Victorian "comfort," while Charles Rennie Mackintosh, Voysey, and, on the Continent, men like Adolph Loos, worked and thought twenty-five years in front of their time.

*

Do the modernists of today pretend that they are twenty-five years ahead of *their* time? Aren't they working out logically the pioneer efforts of Voysey, as before the war Murray was working out logically the pioneer efforts of the late Victorian architects who revived an interest in good proportion by studying the achievements of the eighteenth century?

THE THREATENED ELM

The disease that attacks elm trees may alter the character of the English countryside, because few people now care to plant elms. But I came across an interesting exception in Yorkshire last week.

*

The village of Kirksandall, which was designed by Professor Patrick Abercrombie just after the war to accommodate some hundreds of people employed at Pilkington's Doncaster factory, has its pleasant streets lined with *Ulmus Wheatleyii*, commonly known as the Cornish elm.

*

It is a sturdy tree, and has grown faster than the chestnuts that were planted to shade some of the village streets at the same time.

MODERNISM MADE IN GERMANY

While in Yorkshire I had occasion to talk with an architect who has recently designed an hotel in which modern materials have been used with considerable skill, though in a manner familiar enough to practitioners of the modern movement. It was a pleasant place, full of fresh and vivid colours and untroubled surfaces.

*

He told me that a few days after the hotel opened he happened to be in the public bar—on business—and two clients of the place discussed its design with him, without knowing that he was the designer.

*

"The architect that did all this was interned in Germany during the war," he was told; "that's where he got all these ideas from that he's worked off on us!"

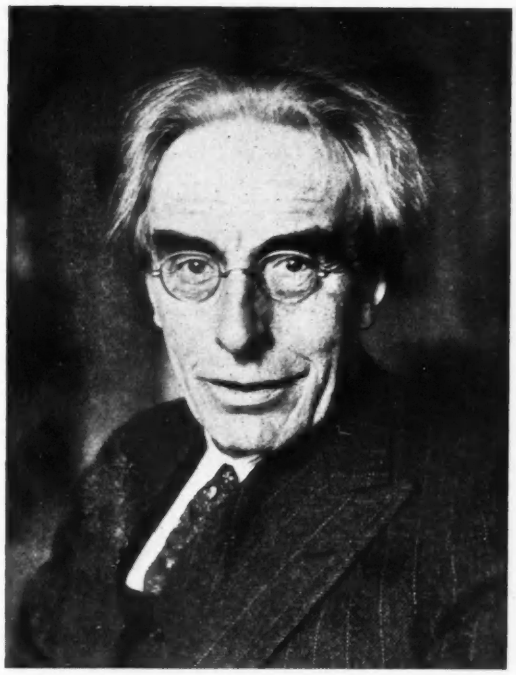
I.R.A.

Elsewhere in this issue of the JOURNAL appears the text of a circular recently sent out by the Institute of Registered Architects, and designed, I can only suppose, to gain the confidence of those architects who have not joined its ranks.

*

Very early on in the life of the I.R.A. a number of architects rushed to join; other architects didn't. Then

Three painted panels, by Max Chapman, depicting ship-building, coal-mining and the iron and steel industry, which have just been completed on the walls of the head office of the United Dominions Trust.



Professor Roger Fry, whose death occured on Sunday. See Astragal's note on this page.

followed a rather clownish Press controversy (too acrimonious to be taken very seriously anyway) between people who ought to have known better and whose time and energies might have been more suitably spent. This new manifesto merely starts the ball rolling again without answering any of the original questions.

*

It is all very well to talk about the financial " deficit " of the Registration Council. The expenses of getting such a body into a routine as a going concern are obviously heavy, and most people of my own very normal intelligence would have been surprised if everything in the administrative or financial way had been satisfactory at once.

*

My personal view is that, when the Registration Council has been given reasonable time to get properly organized and settled down to routine, it will be found that even those ogres, its members, have not decamped with *all* the scholarship money.

ROGER FRY

That Roger Fry should have died holding a position of the " highest academic honour " was perfectly consonant with his particular mission, which was to explain and further the changing forms of art in his day.

*

Largely responsible for the introduction into England of post impressionism, and the doughtiest champion of Cézanne, he was an indispensable link between the English and the continental streams of thought ; and the alliance of a logical brain with exquisite sensibility gave him the power to put into understandable language so much that escaped those less gifted.

*

Nearly all that Ruskin stood for—the importance of subject matter, painters' ethics, and so on—Fry abhorred. He did much to change the public appreciation of art from being a matter of sentimentality and association to what it is today ; creating at the same time a field of art wide enough for the exercise of talents which twenty years ago were " certifiable " if not criminal.

*

His own work, though overshadowed by his achievements as a critic, was sensitive and had great dignity and may well be considered one day of far more importance than contemporary appreciation allows.

*

Some architects may remember his historic address given ten years ago at the R.I.B.A., when his paper, " Architectural Heresies of a Painter," must have shocked into real thought a great many complacent minds.

*

He never set up as an architectural critic, but his influence on modern design, though indirect, was wider than might be supposed. We are so accustomed to the advantages of continuous contact with continental ideas that it is hard to remember that once it needed all the persuasiveness men of vision like Fry possessed to break down our native insularity and open up to us the source of nearly everything vital that we know.

EXHIBITIONS IN GENERAL

Years ago (comparatively) *The Daily Mail* and the late Douglas Tanner set a standard of exhibition design. They did more than that : they introduced to this country the conception of a trading exhibition as a planned, controlled and cohesive entity. The Advertising Exhibition has for the last few years been conspicuously well-behaved under Mr. Emberton's autocracy.

*

" Autocracy " isn't really fair, I suppose, as a word in this connection. The mere fact that Mr. Emberton was employed by the promoters shows that they understood that good design is an inherent part of good selling.

*

What Emberton has had to do at Advertising Exhibitions and Jeffcott has had to do at Ideal Home Exhibitions (following in Tanner's steps) has been to whip in the laggard individual exhibitors to a perception of public spirit and decent communal behaviour.

*

Recently Radiolympia has been drawing not too favourable Press comment. *The Advertiser's Weekly* has been urging upon the promoters the desirability of regarding the Wireless Exhibition as a planned organism. One day perhaps planning may become the rule rather than the exception.

*

Meanwhile I am looking forward to the Building Exhibition at Olympia. I have not been there yet ; I want to see it for the first time when the dress rehearsals are over and the show is on its feet. ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

The new R.I.B.A. building is to be opened by H.M. the King .. 365

The cost of the new Liverpool Orphanage was less than one shilling per foot cube 366

The so-called A+B Theorem . . . . is a striking example of what logicians call the fallacy of composition 371

A tower 2,000 metres high for the aerial defence of Paris 382

THE COMPLETION OF BUSH HOUSE

Work was started last Monday on the fifth and final block of Bush House, and Harvey Wiley Corbett's original scheme will be complete in about nine months. The exterior will vary only slightly from the existing Bush House blocks, but, in the interests of good lighting, the depth of the plan has been reduced. The whole of the new block has been leased by H.M. Office of Works for a term of 99 years, and it is suggested that its future occupants will be either the Air Ministry, or the already overcrowded staff of Somerset House, though no official decision has, as yet, been announced.

SIR HILTON YOUNG AT TRURO

Sir Hilton Young, the Minister of Health, speaking at Truro yesterday, foreshadowed further important housing legislation, to be promoted in the autumn.

"It is with the evil of overcrowding we shall deal in the next stage of the Government's housing programme," he said, "and I invite your attention in sweeping forward in this next stage of our victory over housing evils."

The Minister indicated that a national standard of accommodation would be laid down; it would state what accommodation was adequate for so many persons, and this would be enforced by law on the nation as a whole.

NEW YORK CATHEDRAL

The completed nave of the new cathedral of St. John the Divine in New York City has just been opened to the public. The wall of division between it and the crossing, however, is still standing, because the authorities will not add the vast space of the nave to that portion of the cathedral now in use, which has to be heated through the cold New York winter, until complete endowment for nave operation has been secured. The nave remains, therefore, for the time being, unconsecrated and unused, and probably will remain so for at least two years.

The new nave was begun in 1925. It has cost £2,200,000. In all, in the forty-two years since Bishop H. C. Potter laid the corner-stone in 1892, there has been expended on the whole cathedral £3,600,000. To complete the structure will take £2,000,000 more.

The western rose window, executed by Charles J. Conick, of Boston, after a design by Ralph Adams Cramm, one of the architects, is among the portions recently finished.

THE ARCHITECTS' DIARY

Thursday, September 13

R.I.B.A. *Architects' Unemployment Committee. At 7 Bedford Square, W.C.1. Exhibition of work done under the Architects' Emergency Scheme. Open until further notice.*

THE BUILDING EXHIBITION. *At Olympia. Open daily from 11 a.m. until 9 p.m. Until September 26.*

Saturday, September 15

THE LONDON SOCIETY. *Visit to Bromley College and Bromley Palace. 3 p.m.*

Monday, September 17

ROYAL PHOTOGRAPHIC SOCIETY. *At 35 Russell Square, W.C.1. Annual International Exhibition. Open until October 6.*

LECTURES AT OLYMPIA

The following is a programme of free lectures, each starting at 6 p.m. and lasting an hour, which are to be given in the Minor Hall (entered from the Gallery) at the Building Exhibition at Olympia.

Thursday, September 13.
London, Past and Present. By Mr. E. R. Jarrett, A.R.I.B.A. Illustrated with lantern slides.

Saturday, September 15.
The English Village, Past and Future. By Mr. G. H. Jack, F.R.I.B.A. Illustrated with lantern slides.

Tuesday, September 18.
The Home of To-morrow. By Mr. F. E. Towndrow, A.R.I.B.A. Illustrated with lantern slides.

Thursday, September 20.
Modern Gardens. By Mr. G. A. Jellicoe, A.R.I.B.A., A.I.L.A. Illustrated with lantern slides.

Saturday, September 22.
How a Building Goes Up. By Mr. G. W. Harris, Ex-President of the Incorporated Clerks of Works Association of Great Britain. Illustrated by cinematograph film. Chair will be taken at 6 p.m. by Mr. W. H. Hamlyn, A.R.I.B.A.

Tuesday, September 25.
The City of the Future. By Mr. R. A. Duncan, A.R.I.B.A. Illustrated with lantern slides.

BIRMINGHAM HOUSING

A letter, reports *The Birmingham Post*, has been received by the Town Clerk of Birmingham from the Ministry of Health intimating that an Order will be issued at an early date approving the Emily Street Clearance Scheme. Only slight modifications will be made in the scheme as put forward by Birmingham Corporation. In the letter from the Ministry it is pointed out that the Government favours as a general principle the building of flats in central areas in large towns and cities, provided the cost is not excessive. In April the Estates Committee recommended the erection on the site of a block of four-storey flats at a cost of £89,130, but there was an alternative scheme for the building of maisonettes. After a long discussion, the Council decided against flats by forty-eight votes to forty-five.

NEW BANK HEAD OFFICE

The National Bank of Scotland announce that they propose to build a new head office in place of their present building in St. Andrew Square, Edinburgh. They have acquired for this purpose a site at present occupied by numbers 9 and 11, George Street, and have appointed as their architects, Messrs. Leslie G. Thomson A.R.I.B.A., F.R.I.A.S., of Edinburgh, and Arthur J. Davis, A.R.A., F.R.I.B.A., of London.

HOUSING IN SCOTLAND

The Secretary of State for Scotland has set up an advisory committee to the Department of Health to consider the architectural quality and amenities of the lay-out, planning, and external treatment of working class houses in Scotland, and to consider whether higher tenements than have hitherto been accepted should be permitted. The chairman of the committee is Mr. J. R. Richmond, C.B.E.

CANTERBURY HOSPITAL

Mr. Cecil Burns, F.R.I.B.A., of Tunbridge Wells, has been appointed architect for the new Kent and Canterbury Hospital, which is to be built at Canterbury. Mr. Burns was the architect of the Kent and Sussex Hospital, recently completed, and is also hon. treasurer of the South Eastern Society of Architects.

CHELTENHAM BATH

Work is to be started this month on the new swimming pool at Cheltenham, the £12,086 tender for which was accepted by the Town Council at a meeting last week. It is hoped that it will be ready for opening next May. 75 per cent. of the work is to be done by local labour.

OBITUARY

The death has occurred of Mr. J. M. Johnston, F.R.I.B.A., who carried on business in Leith for many years. Mr. Johnston served an apprenticeship with Mr. Rowland Anderson, of Edinburgh, and later became an assistant to Mr. W. M. Thomson, of Leith.

In business on his own account, he acquired a large general practice, besides doing architectural work for various public bodies. He designed a number of schools

and other buildings, including the Capitol Picture House, Leith, and the Leith Alhambra Theatre.

Mr. Alexander Symon, F.R.I.B.A., has died in Arbroath after a brief illness. Mr. Symon, who was 58, was the only son of the late Mr. Archibald A. Symon, architect, Arbroath. He served his apprenticeship in the Arbroath office of Messrs. Carver and Symon, of which his father was a partner. After a period in Arbroath Mr. Symon returned to London and was on the staff of the Office of Works. Subsequently he began business in London on his own account, and after his father's death in 1930 he continued to carry on both the London and Arbroath businesses.

R. I. B. A.

CENTENARY

The Institute's new building in Portland Place is to be opened on Thursday, November 8, by His Majesty the King.

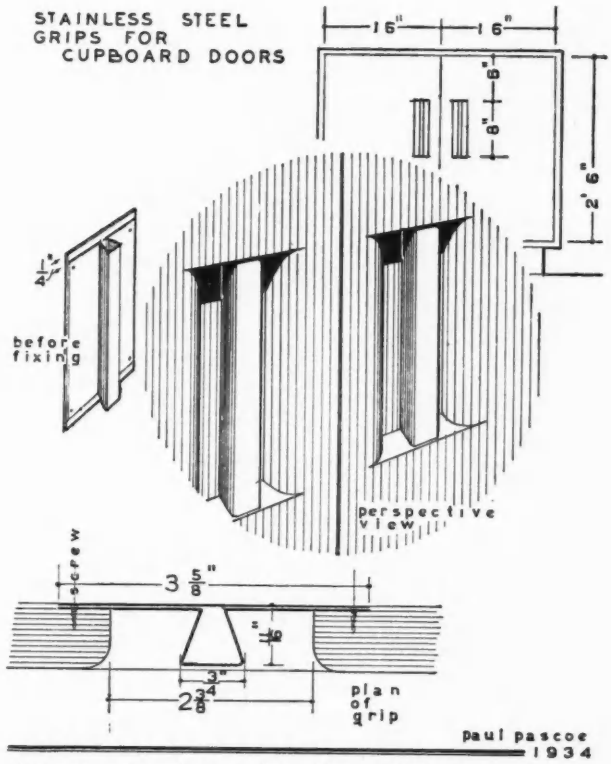
During November the Institute will also celebrate its Centenary. A conference will be held from November 21 to November 24 at which the President, Sir Giles Gilbert Scott, R.A., will preside. His Royal Highness the Prince of Wales has accepted the invitation of the Council to be present at the Centenary Banquet on November 22.

The Conference will be followed by an Exhibition, to be held in the new building, entitled "International Architecture, 1924 to 1934," and which will be opened on November 30. During the course of the Exhibition the principal rooms of the building will be open for inspection by the public.

ARCHITECTS' DANCE AT OLYMPIA

The arrangements for the Architects' Dance at Olympia are now completed and applications for tickets should be made early as accommodation is limited. As already announced, the dance is being given by Mr. Greville Montgomery, the director of the Building Trades Exhibition, in aid of the Architects' Employment Scheme, and will be held on Friday, September 21. A sit-down supper will be served at 8.30 p.m., and dancing will continue till 1 a.m. Tickets are £1 each, 15s. if bought in numbers of three; i.e., three tickets cost £2 5s., four £3 5s., six £4 10s., etc. Tables may be reserved for parties of six or more if the order is received before Wednesday, September 19, but not afterwards. The entrance to the dance is in Hammersmith Road. Moon's Garage at the corner of Holland Road is the nearest garage, but there is also an open A.A. parking place in North End Road.

Tickets may be obtained from Mrs. Lanchester, Chairman, Social Committee R.I.B.A., 9 Conduit Street, London, W.1, or the Secretary, Architects' Unemployment Committee, 9 Conduit Street, London, W.1.



Grips for cupboard doors, from Messrs. Johnson's Stand at the Building Exhibition at Olympia. The design is copyright. Designer: Oscar A. Bayne.

COMPETITION NEWS

NEW MILLS U.D.C. HOUSING LAY-OUT COMPETITION

The R.I.B.A. announces that its members and members of its Allied Societies must not take part in the above competition because the conditions are not in accordance with the published Regulations of the Royal Institute for Architectural Competitions.

WEMBLEY MUNICIPAL OFFICES

The president of the R.I.B.A. has nominated Mr. Stanley Hamp to act as assessor in the competition for new Municipal Offices for the Wembley Urban District Council.

Competitions Open

September 22.—Sending-in Day. Civic Centre, Tunbridge Wells, for the Corporation of Tunbridge Wells. Assessor: E. Berry Webber, F.R.I.B.A. Premiums of £300, £200, £100 and £75. Conditions are now obtainable (deposit £1 1s.) from Mr. J. Whitehead. Town Clerk, Tunbridge Wells. The last day for submission of designs is September 22.

October 1.—Sending-in Day. Proposed Municipal Assembly Halls, Wolverhampton, for the Wolverhampton Corporation. Assessor: C. Cowles Voysey, F.R.I.B.A. Premiums: £350, £250 and £150. Conditions from the Town Clerk, Town Hall, Wolverhampton. Last day for questions was May 21. (Deposit £1 1s.)

Competitions Pending

Lay-out of, and scheme for building on the prison grounds, York, for the York Corporation. Premiums: £250, £150 and £100.

New college for technical, commercial and art studies, Birmingham, for the Birmingham Education Committee.

Central offices, Hertford, for the Herts C.C. Premiums: £350, £250 and £150.

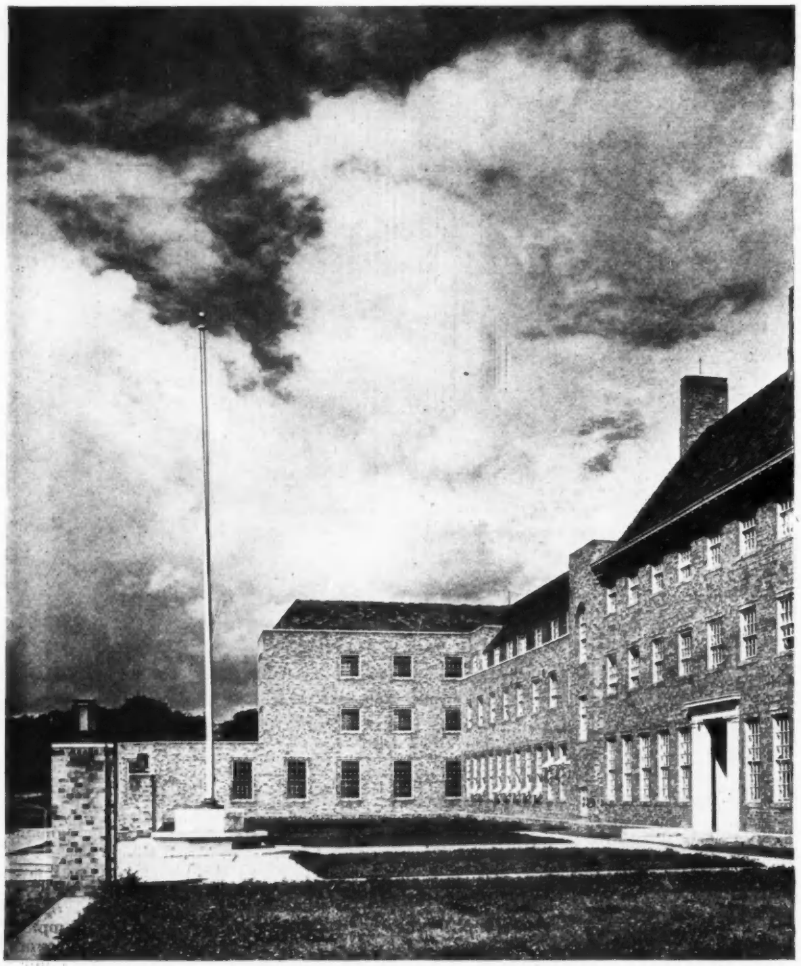
Technical college, Bolton, for the Bolton Education Committee. Premiums: £500, £250 and £100.

Civic building in connection with the proposed scheme for a civic centre, Enfield, for the Enfield U.D.C.

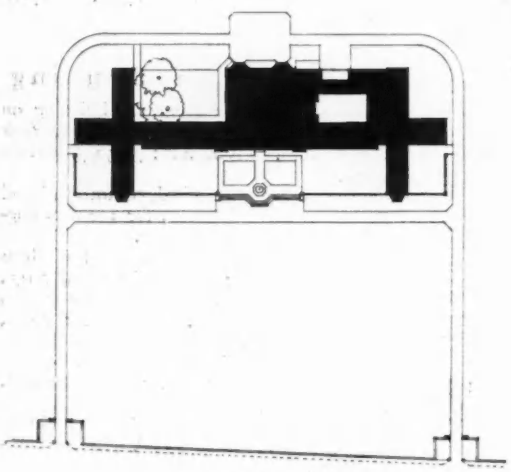
Development of the Tuns Gate site, Guildford, for the Guildford T.C. (limited competition).

Rebuilding of Bishopsgate Police Station and Police Hospital, for the City of London Corporation. Premiums: £250, £100 and £50.

LIVERPOOL ORPHANAGE,



STEWART BALE



BLOCK PLAN

Left: block plan. Above: looking along the terrace with the main entrance to the administrative building on the right. On the facing page: a detail of the entrance and flagstaff.

The new Liverpool Orphanage at Woolton provides accommodation for 200 children and a staff of about thirty. The building has its main or south front facing the road, but is separated from it by a sports ground, and a belt of trees. The middle portion of the building, and the highest, contains the administrative offices, with the matron's quarters and hospital section above; on either side are the classrooms and staff bedrooms; and projecting forward and backward at each end are the playroom and dormitory wings. These enclose, on the south side, a raised terrace, on which, in a central position, is the flagstaff with its Portland stone base. Beyond the dormitory wings again, the children's lavatory blocks terminate the building in each direction, and the provision of ample pipe ducts has enabled this to be done without the usual display of soil and vent pipes. The north side, which faces the adjacent Training College, has the same general outline as the south, but is dominated in the middle by the projecting dining and assembly halls, between which, on the central axis, is the main carriage entrance to the building. Connecting the dining hall with the east dormitory wing, and enclosing an internal garden court, is the kitchen and service block, the service yard being taken out of the depth of the building and screened by a series of arches. Between the assembly hall and the west dormitory wing is a sunk garden court, in the centre of which is an ornamental pool which reflects the several fine trees which it has been possible to retain.

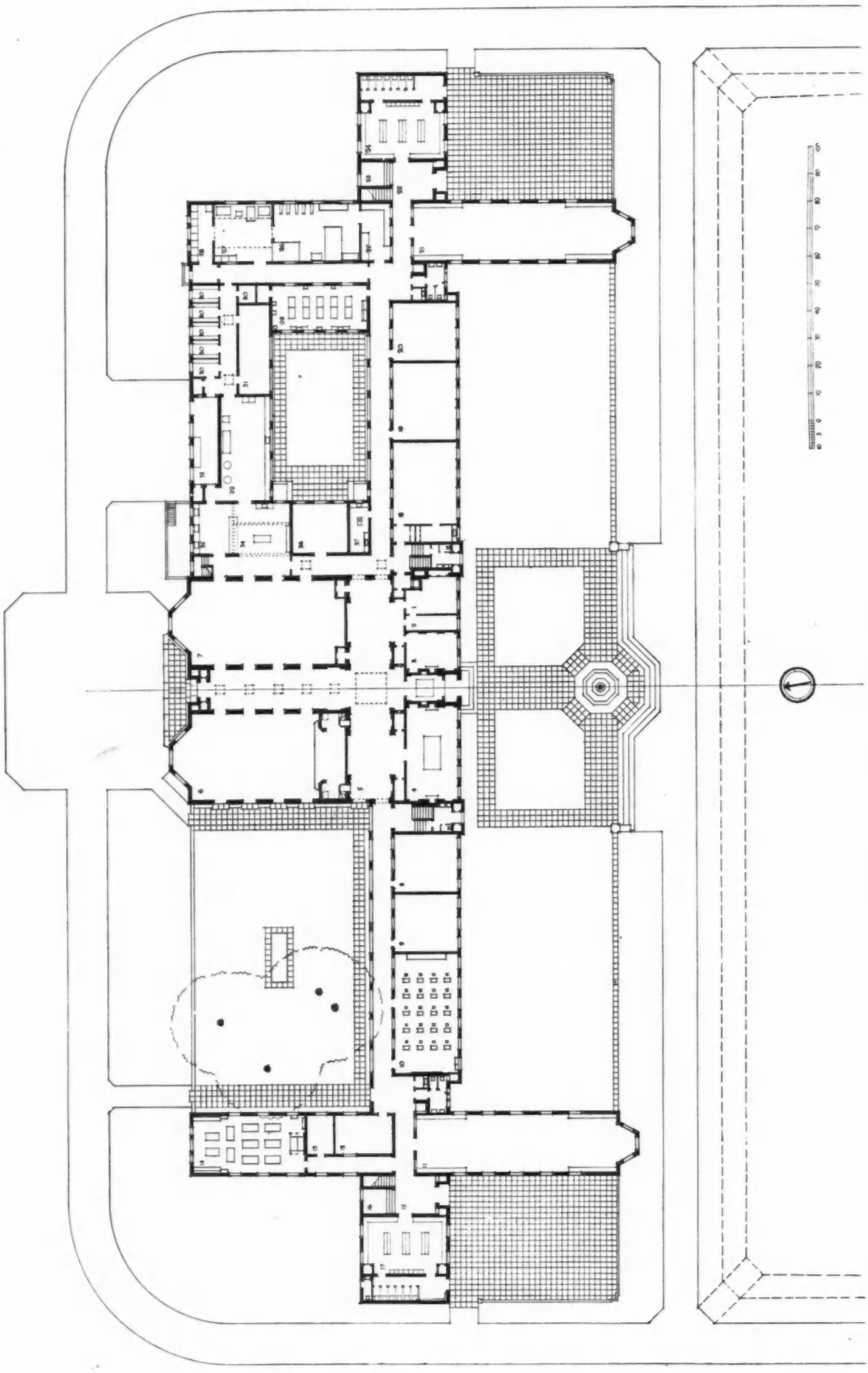
The building is faced with Ravenhead Rustic bricks, set with a brownish joint to harmonize with the dun-coloured Blockley roofing tiles. The planning has been governed chiefly by considerations of light and ventilation. The classrooms, administrative rooms, domestic quarters, nurseries, and the hospital section face south: the dormitories and playrooms have windows to both east and west, allowing morning and evening sunlight. The kitchens, laundry and science rooms are disposed on the north side. All the children's accommodation has direct cross ventilation. There is full mechanical equipment, including a large steam laundry; a kitchen fitted with steam, gas and electrical plant; central heating (coke fuel); electric clocks, bells, fire alarms and service lift; fully equipped domestic science, science and handicraft rooms; a dispensary with modern dental apparatus, and an internal telephone service. The cost of the building was about £47,000, giving a price per foot cube of less than one shilling.

BY BARNISH, SILCOCK AND THEARLE

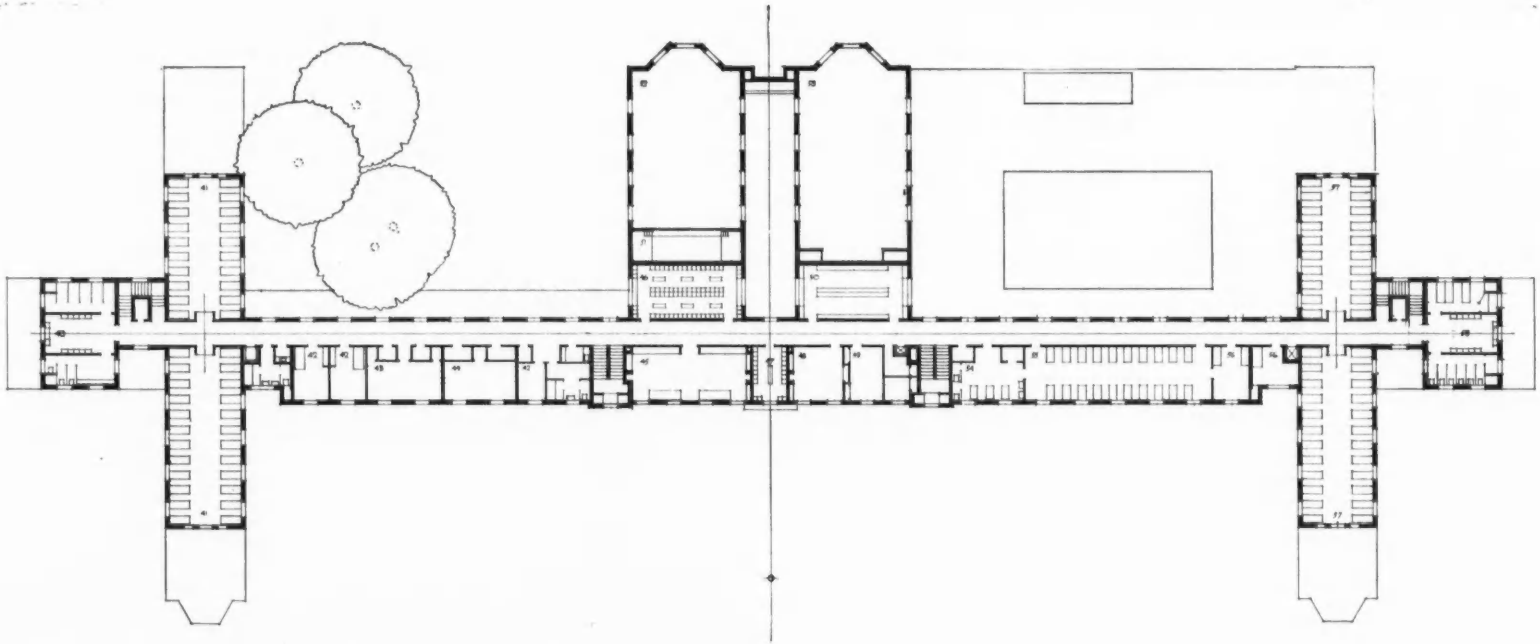
WOOLTON, LANCASHIRE

STEWART BALE

LIVERPOOL ORPHANAGE, WOOLTON



GROUND FLOOR PLAN



FIRST FLOOR PLAN

A general view from the south.

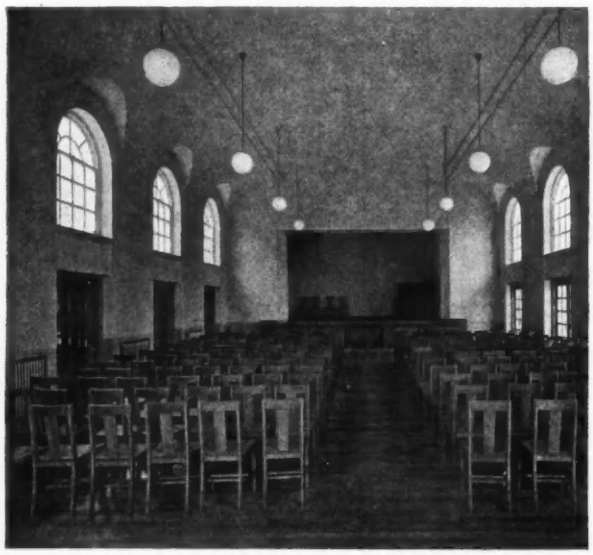
KEY TO PLANS

1. OFFICE.
2. TELEPHONES.
3. HEADMASTER'S ROOM.
4. BOARD ROOM.
5. MEMORIAL HALL.
6. ASSEMBLY HALL.
7. DINING HALL.
8. CLASSROOM.
9. CLASSROOM.
10. PRACTICAL ROOM.
11. BOYS' PLAY ROOM.
12. ASSISTANT MASTERS' ROOM.
13. LIBRARY.
14. SCIENCE AND HANDICRAFTS ROOM.
15. BOYS' ENTRANCE HALL.
16. BOYS' BOOT ROOM.
17. BOYS' CLOAKS AND CHANGING ROOM.
18. DAY NURSERY.
19. CLASSROOM.
20. CLASSROOM.
21. GIRLS' PLAY ROOM.
22. GIRLS' ENTRANCE HALL.
23. GIRLS' BOOT ROOM.
24. GIRLS' CLOAKS AND CHANGING ROOM.
25. LAUNDRY (DESPATCH).
26. LAUNDRY (IRONING).
27. LAUNDRY (WASHING).
28. LAUNDRY (SORTING).
29. DOMESTIC SCIENCE ROOM.
30. LARDERS AND STORES.
31. SERVANTS' HALL.
32. KITCHEN.
33. SERVICE YARD.
34. SERVERY.
35. SCULLERY.
36. STAFF DINING ROOM.
37. DISPENSARY AND DENTAL ROOM.
40. BOYS' LAVATORIES.
41. BOYS' DORMITORY.
42. ASSISTANT MASTER'S BEDROOM.
43. HEADMASTER'S BEDROOM.
44. ASSISTANT MATRON'S SITTING ROOM.
45. SEWING ROOM.
46. BOYS' WARDROBE ROOM.
47. INFANTS' WARDROBE ROOM.
48. MATRON'S SITTING ROOM.
49. MATRON'S BEDROOM.
50. GIRLS' WARDROBE ROOM.
51. UPPER PART OF STAGE.
52. UPPER PART OF ASSEMBLY HALL.
53. UPPER PART OF DINING HALL.
54. INFANTS' BATHS AND LAVATORIES.
55. NIGHT NURSERY.
56. ASSISTANT MATRON'S BEDROOM.
57. GIRLS' DORMITORY.
58. GIRLS' LAVATORIES.

BY BARNISH, SILCOCK AND THEARLE

LIVERPOOL ORPHANAGE

STEWART BALE



The photographs on this page show : above, a view looking into the service close ; left, the interior of the assembly hall, showing the stage at the end. The furniture was not designed by the architects.

DESIGNED BY

BARNISH, SILCOCK

AND THEARLE

LETTERS FROM READERS

S. DARRELL

ARTHUR WELFORD, A.R.I.B.A.

J. L. SINGER

Economics and the Architect

SIR,—There is one useful point that the social-credit controversy in your columns has brought out—namely, that architects who are keenly aware of the need for housing reforms cannot afford to remain ignorant of the conditions in which these reforms can take place. The existence of slums is not an isolated phenomenon to be cured piecemeal or by *ad hoc* reform; it is an integral part of a social and economic system without the disappearance of which the slums also cannot disappear.

The social-credit proposals themselves need not detain us long. The pseudo-scientific jargon and semi-mathematical façade with which these proposals are presented by Major Douglas and his followers can have no other function but to deceive the layman who is not versed in the "mysteries" of banking and cost-accounting.

The so-called A+B Theorem, which means all things to all men, is a striking example of what logicians call the fallacy of composition. Major Douglas begins by dividing all payments into two categories—A, payments to individuals for wages, salaries and dividends, and, B, payments to other organizations for raw materials, banking charges, etc. He then argues that, since prices include A+B payments and income is comprised solely of A payments, there exists a chronic deficiency of purchasing power to be remedied by a regular inflationary process. No industry distributes enough purchasing power to individuals in the form of wages, salaries, and dividends to purchase all the goods it produces; therefore, as no one industry can purchase its own products, society as a whole lacks sufficient purchasing power to buy all the goods and services coming on to the market.

This criticism of the pricing-system loses its force if it is remembered that when production consists of many stages, as it does with the existence of division of labour, B payments become A payments in earlier stages of production. When I buy leather to manufacture shoes, I should be guilty of double counting if I included total costs in current income; the B costs in the final stage of the production of shoes will include *all* the previous costs incurred in all the earlier stages of production. In other words, to equate *total* costs with income is to duplicate items; hence it is only necessary to equate income with *current* costs. Prices need only, and indeed must, equal current costs in any stage of production. In short, Major Douglas confuses the procedure of a single act of production and turnover with (a) the total transactions of a firm, (b) the total transactions of the entire economic system.

So far we have dealt with Major Douglas's views on his own assumptions. If his mistaken views on the nature of bank credit and his failure to realize the significance of the velocity of circulation of money are taken into account, his proposals and the theories on which they are based become even more blatantly absurd.

The Douglas theories have a more than merely technical interest if they are related to the totality of existing social conditions. Currency crankery has become the complement of, if not a substitute for, religious crankery in capitalist society in decay. Its danger lies in the fact that it is a ready instrument for a demagogic movement which wishes to distract the attention of the masses from the real evils of existing society. By entirely ignoring the system of property relations and the growing internal contradictions between productive forces and productive relations, by emphasizing a mechanical "flaw" in the pricing-system, and by making rash and reckless promises to distribute the "National Dividend," it fulfils the same function as all Fascist theories.

Hitler's promise to smash the *Zinsknechtschaft* (interest-slavery) if the Nazis got into power, and his subsequent performances in power, are an instructive example of how reactionaries will use any popular slogan to get into power, which, when obtained, is ruthlessly used to consolidate the interests of monopoly capital.

It is not an accident that Major Douglas in his "Draft scheme for Scotland" promises the Scotch workers a hypothetical and nebulous share in the National Dividend in order to gull them into accepting an *immediate* reduction of 25 per cent. in their wages. Nor is it by chance that among his foremost supporters are to be found some of the wealthiest landowners and some of the most diehard *littérateurs* in the country. Architects should think twice before they allow themselves to be deceived by half-baked catchwords about "the National Dividend" and "the Just Price," which can only serve the forces of reaction. If the problems of rehousing the working class are honestly faced by architects, they will realise that it is only by the overthrow of capitalism that slums and poverty can be abolished. The interests of architects as a professional group are none other than those of the rest of the intellectual and professional proletariat, they are identical with those of the proletariat itself.

S. DARRELL
London

SIR,—I beg Mr. Biddulph's pardon; his last letter shows that he is not so orthodox as that of August 16 led me to believe. He admits that the Bank of England creates money for itself, for I suppose that that is what he means when he says ". . the Bank of England pays for 'cash' (?) by a draft on itself."

The Bank of England, of course, pays for gold or securities by means of a draft on itself, which is to say it gets them for nothing. Having got gold it can and does print notes for it, thus doubling the value of the gold—draft plus notes. If the holder of the draft wishes to cash it the notes are available, and the Bank still retains the gold, though the likelihood of such a demand is remote.

But the total of this original money wealth is only a small fraction of the total deposits in the joint stock banks. Whence comes the difference? If Mr. Biddulph still contends that the joint stock banks do not create money perhaps he will explain.

Mr. Biddulph quotes Mr. McKenna. ". . every advance comes out of the bank's cash resources." If Mr. Biddulph took this as a plain and complete statement of fact he would naturally reach the conclusion to which he has come; that banks can only lend a safe proportion of what is deposited with them. But in that case he has yet to explain how it is that money increases.

May I paraphrase the quotation as follows: "Traders sometimes assume that banks have an unlimited power of making advances. They forget that banks have made a rule, for their own safety, that total advances may not exceed five times their cash account with their central bank." And further that "one can hardly expect a bank to pay more than 2 or 3 per cent. on the total of a few dormant deposits when it can get only 5 or 6 per cent. on the many times that total of its loans deposits." I think Major Douglas must have been very amused at Mr. McKenna's suggestion, and pleased at the interest that was shown by the committee in his evidence.

The last paragraph of Mr. Biddulph's letter might be rewritten, "And though

the Bank of England pays for gold by a draft on itself such expansion is limited by the general activity of international finance and the degree to which it will allow sterling to depreciate." When the International Bank is finally established its power to regulate this activity will be absolute. At present the Bank, though the idea is unorthodox, can easily exercise a restrictive influence on world trade, and it could easily stimulate a revival from depression by a simple reform of its self-imposed system of book-keeping.

May I suggest to Mr. Biddulph that this argument will be in danger of wandering from the particular to the general unless some agreement can be reached on the questions asked in my letter of August 23.

ARTHUR WELFORD
Saxmundham

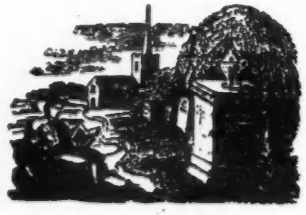
Readers and Advertisers

SIR,—The introduction in recent years of many new materials has been so rapid that it has become increasingly difficult to keep abreast of progress; notwithstanding the existence of the Building Centre, which it is not always convenient to visit. On making the weekly study of the advertisement columns of the JOURNAL, an announcement here and there catches the eye on which one would like additional information. The writing for a catalogue may be put off, for various reasons, until the matter is forgotten: a loss to the architect and a possible loss to the manufacturer.

Is it then practicable for the JOURNAL to keep a register of those of its readers who are interested in the advertisers' products, to enable the latter to give fuller information by means of catalogues, price lists, etc.?

J. L. SINGER
London

[*Mr. Singer's letter brings forward a suggestion, for which there is large support, and we should certainly be prepared to consider it. We should be glad to hear the views of other readers, some of whom may feel that the scheme is an advantage, in as much as they can make their enquiries anonymously, or alternatively save themselves the trouble of writing separately for each item.*—ED., *A.J.*]



M. INST. R.A.

A NEW ANNOUNCEMENT.

About a year ago Sir Edwin Lutyens issued a manifesto announcing the foundation of a new organization of architects, to be called the Institute of Registered Architects. His proposal caused a great deal of controversy and, in letters to the Press, Major Harry Barnes (as chairman of the Architects' Registration Council) and Sir Giles Scott (as president of the R.I.B.A.) expressed their disapproval of it and denied the necessity of its existence. Sir Edwin Lutyens now revives the subject in a communication which has been circulated among architects. This contains the matter printed below, a reprint of Sir Edwin Lutyens's original manifesto, a reprint of his reply to Sir Giles Scott's criticism of it and particulars of membership of this new Institute. The text of the new circular is as follows. *See also* ASTRAGAL'S *comments on page 362.*

THE Institute of Registered Architects was incorporated in the spring of last year and shortly afterwards the President (Sir Edwin Lutyens) issued a manifesto explaining its objects. At the same time, Sir Edwin invited the co-operation of the Royal Institute of British Architects and the Architects' Registration Council of the United Kingdom.

The Royal Institute of British Architects and the Chairman of the Registration Council criticized the new Institute, to which criticisms Sir Edwin Lutyens replied in a letter to the Press. The passage of time has served to emphasize Sir Edwin's assertions.

Since the Registration Council came into being the expenditure has been on such a scale as materially to exceed the proportion of income allocated to management, etc., and a very heavy deficit resulted. To free it from this financial liability a Private Members' Bill was promoted in Parliament this year, and an Act amending the original Registration Act has recently received Royal Assent. It is not without interest to note the method of procedure, for the Registration Council has not of itself the power to promote an amending measure.

One far-reaching effect of the amending Act is to divert money, originally earmarked to set up scholarships, to liquidate administration expenses, which appear to be greatly in excess of what might reasonably be regarded as normal requirements.

It is not perhaps inopportune to record that the recent circular, sent out in the name of the Registration Council, was neither drafted by that Council, nor approved by them, before publication. Indeed, the administration of the Act hitherto amply justifies the establishment of the Institute of Registered Architects.

One fact is clear—sooner or later the Royal Institute of British Architects and the Registration Council must co-operate with the Institute of Registered Architects, since the latter's policy is the only one that can benefit the architectural profession as a whole.

Many members of the former body are already to be found within the ranks of the Institute of Registered Architects, *high legal authority having ruled that they did not contravene their membership declaration in joining it.*

That there is a further need for the Institute of Registered Architects is clearly demonstrated by the fact that about 90 per cent. of the building in this country is at present undertaken without any supervision by a qualified architect. The estimate is a conservative one, the President of the Royal Institute placing the figure as high as 95 per cent.

Turning to yet another sphere, the defects and possible abuses of the so-called "Panel System" are even now too well known in professional circles to need reiteration. A scheme which eliminates the normal services of the architect by providing plans to builders and others at a paltry charge can never be other than detrimental to the interests of the architectural profession as a whole.

The importance of the whole question is such as to brook no further delay, for unless energetic measures be taken to arrest the form of creeping paralysis, which is now affecting the profession, the status of the architect as hitherto understood may be lost for all time.

The Institute of Registered Architects, appreciating the seriousness of the situation, is inaugurating a publicity campaign, and you are invited to watch the Press.

An effort of this nature and magnitude involves considerable expense and labour; every registered architect, therefore, is invited to support the Institute of Registered Architects by becoming a member.

Already announcements are appearing every week in London and provincial newspapers, and elsewhere, inviting the public to utilize the services of registered architects, and every opportunity will be taken by the Institute to put members of the public in touch with its members.

The administrative expenses of the Institute have been, and will continue to be, kept down to a minimum consistent with efficient service, that the maximum amount may be devoted to the best interests of its members. It cannot be too strongly emphasized that the Institute's policy is not opposed, but is complementary, to that of the other architectural bodies, whose co-operation will at all times be welcomed.

●

CHANGE OF ADDRESS

Mr. Colin S. Day, A.R.I.B.A., has changed his address to 13 Pentley Park, Welwyn Garden City, Herts.

COMPETITION RESULT

WHITEABBEY SANATORIUM

Last week we announced the result of the Whiteabbey Sanatorium (Belfast) competition. On this and the following page we reproduce the winning design and print some extracts from the report issued by the assessor, Mr. R. S. Wilshere, F.R.I.B.A.

The result of the competition was as follows :

First place, premium 500 guineas : Design No. 2 (R. H. Gibson and John MacGeagh, 23, Ocean Buildings, Belfast).

Second place, premium 200 guineas : Design No. 13 (E. G. Samways, 17, Ardgreenan Drive, Belfast).

Third place, premium 100 guineas : Design No. 5 (Messrs. Blackwood and Jury, 41, Donegall Place, Belfast).

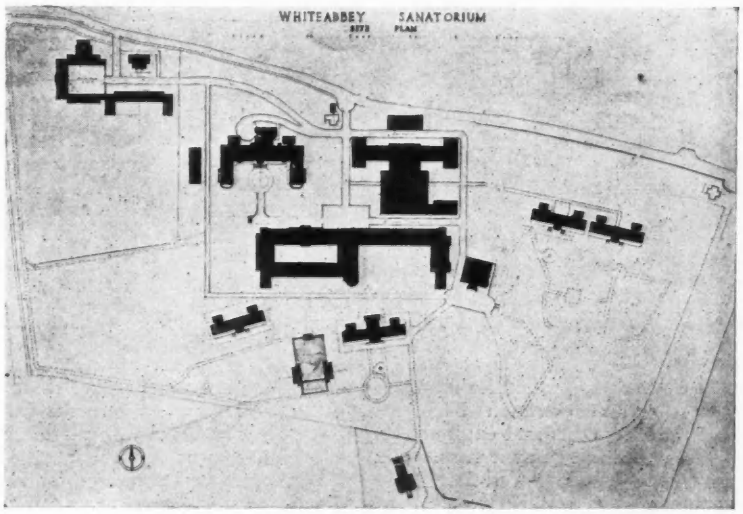
The competition was limited to architects practising in Northern Ireland.

FROM THE ASSESSOR'S REPORT

Schemes have been submitted by thirteen competitors, a total of one hundred drawings in all being sent by these competitors, and the Committee may feel well satisfied at such a good response, and with the general high quality of the work submitted, particularly in view of the fact that the problem was an extremely difficult one. Not only is the site particularly awkward, due to its varying levels and slopes, making the economic siting of large buildings very difficult, but added to this is the complication that there are a number of existing buildings which have to be retained. These existing buildings do not appear to have been sited with any planned scheme or arrangement, either individually or in relation to each other, and certainly without any consideration of the fact that there might be any further development of the hospital buildings.

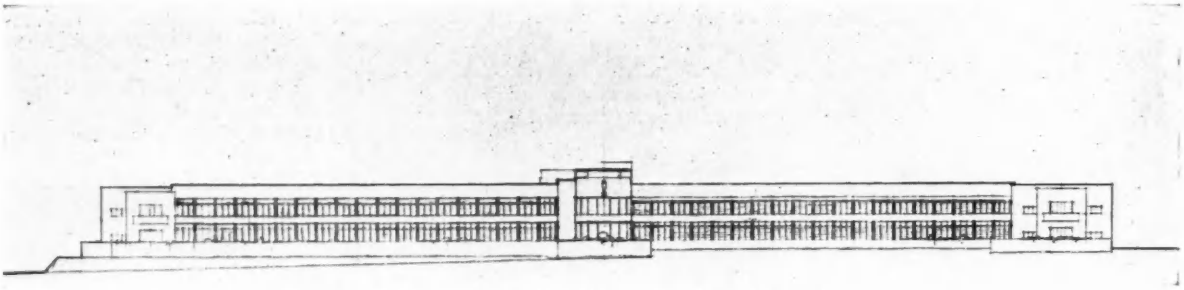
The design placed first, No. 2, provides a scheme which is very successful in co-ordinating the new buildings required with those existing buildings it is desired to retain. It gives a grouping and lay-out which will be convenient and easy to supervise and economical to administrate. The scheme is particularly successful in that it achieves this without a sense of overcrowding, which is noticeable in several of the other schemes submitted. This is largely achieved by the clever lay-out of the new hospital block. The provision of terraces for all beds has not been fully solved, but it would appear that with a slight reconsideration of the east and west wings, this defect would be overcome. The adoption of the double corridor on the ground floor, to provide the necessary bed terrace over, has the advantage of giving quietness to the single wards. It might, however, be advisable to consider whether the replanning of the "service rooms" with a single corridor and lighting bays would not give a more advantageous arrangement, as it would provide cross-ventilation and better lighting. The siting of the theatre block is excellent, both in its relationship to the new hospital and its convenience for use by patients from the other existing units on the site. The arrangement of all these rooms as a single unit, and all on the ground floor, is a very satisfactory arrangement, enabling the unit to be administered with the minimum of staff, and simple for the control of the patients. The boiler-house block is well placed and satisfactorily laid out, but the laundry would appear to be on rather a generous scale. The elevations of all the buildings are simple, effective, economical in design and upkeep, and are of distinct architectural merit. The competitor's estimate of cost is given as £132,000, and whilst this figure is higher than those given by other competitors, actually the scheme as planned, when considered on the same costs basis with the other schemes, is one of the three most economical submitted.

The design placed second, No. 13, has a very well-planned lay-out, with an effective grouping of the various units, which would give an excellent approach to the sanatoria. The buildings generally are well sited for administration and control, circulation between buildings is simple, straightforward and direct. The relation of the administrative block to the hospital unit is, perhaps, not quite satisfactory, but would be less objectionable actually than it might appear on the plans. The hospital block generally suits the levels satisfactorily, but the bed terracing has not been successfully solved, the building having projecting balconies instead of the more modern practice of a "set back" upper storey, which leaves the lower rooms with unobstructed light. The theatre block is provided with more generous accommodation than is asked for, and as a result occupies three floors, which is not so satisfactory as a single-storey unit. It would require more staff for superintendence and the use of stairs, which, especially for patients, should be avoided as far as possible, as, of course, in an institution of this type the general use of lifts by patients and staff is not desirable if it can be avoided. The nurses' home is well planned, but has five storeys. The kitchen unit is well placed, and the service approaches are good. The detailed planning of the whole scheme is good, and all wards have an unobstructed outlook, but, generally speaking, the disposition and planning of the various rooms are not so good as the design placed first. This competitor estimates the scheme would cost £120,000, and it is the most

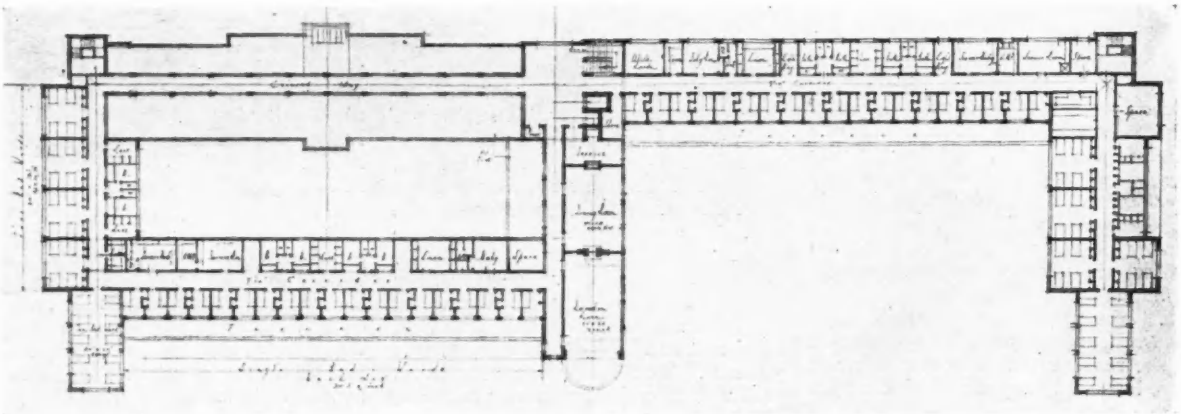


The block plan of the winning design, by R. H. Gibson and J. MacGeagh. Elevation and plans of their hospital block are reproduced overleaf.

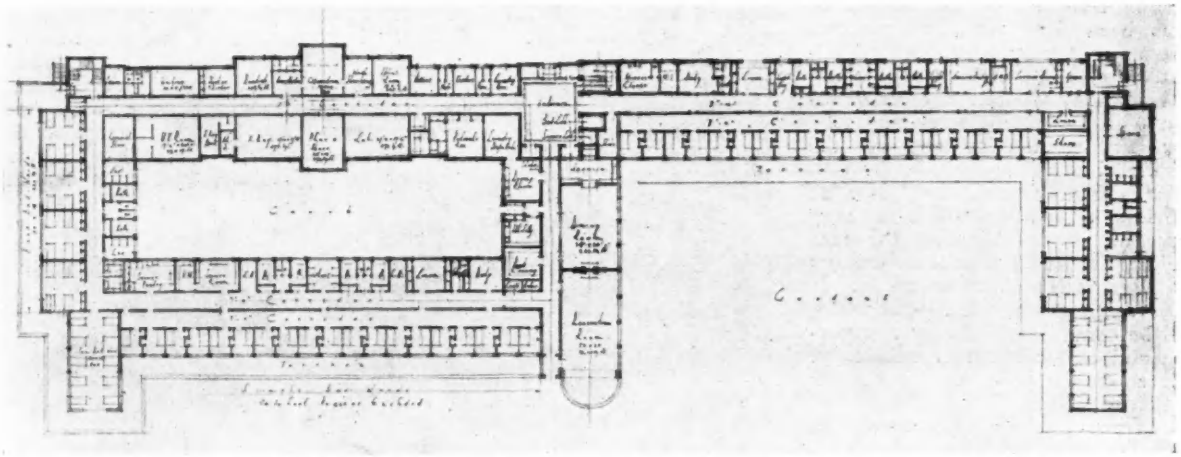
WHITEABBEY COMPETITION RESULT



Elevation of Hospital Block.



First floor plan of Hospital Block: female wards.



Ground floor plan of Hospital Block: male wards.

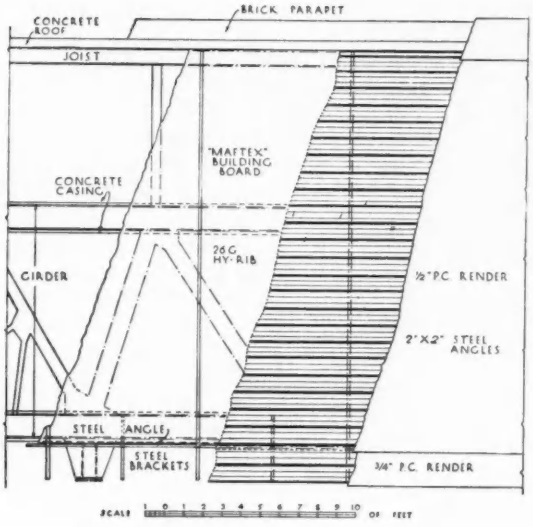
WINNING DESIGN BY R. H. GIBSON AND J. MacGEAGH

economical scheme submitted, but, considered on a common basis as regards building costs and engineering services, it does not show a very great saving on the scheme placed first.

The design placed third, No. 5, has a very compact lay-out of buildings, which are well arranged for supervision and administration, but the compactness of the scheme has the fault that the general result is rather crowded. The hospital unit is well planned and arranged, except for the position of the dining-room and recreation rooms, which are not too good, lacking any outlook. The theatre block is planned on the third floor and makes a satisfactory unit in itself, but the placing of this building up two flights of stairs is not so satisfactory as the solution made by the design placed first. The bed terracing is not fully solved, having projecting balconies. The placing of the boiler-house block is open to the objection of being too close to the other buildings. The cost of this scheme is estimated at £121,870.

WORKING DETAILS : 117

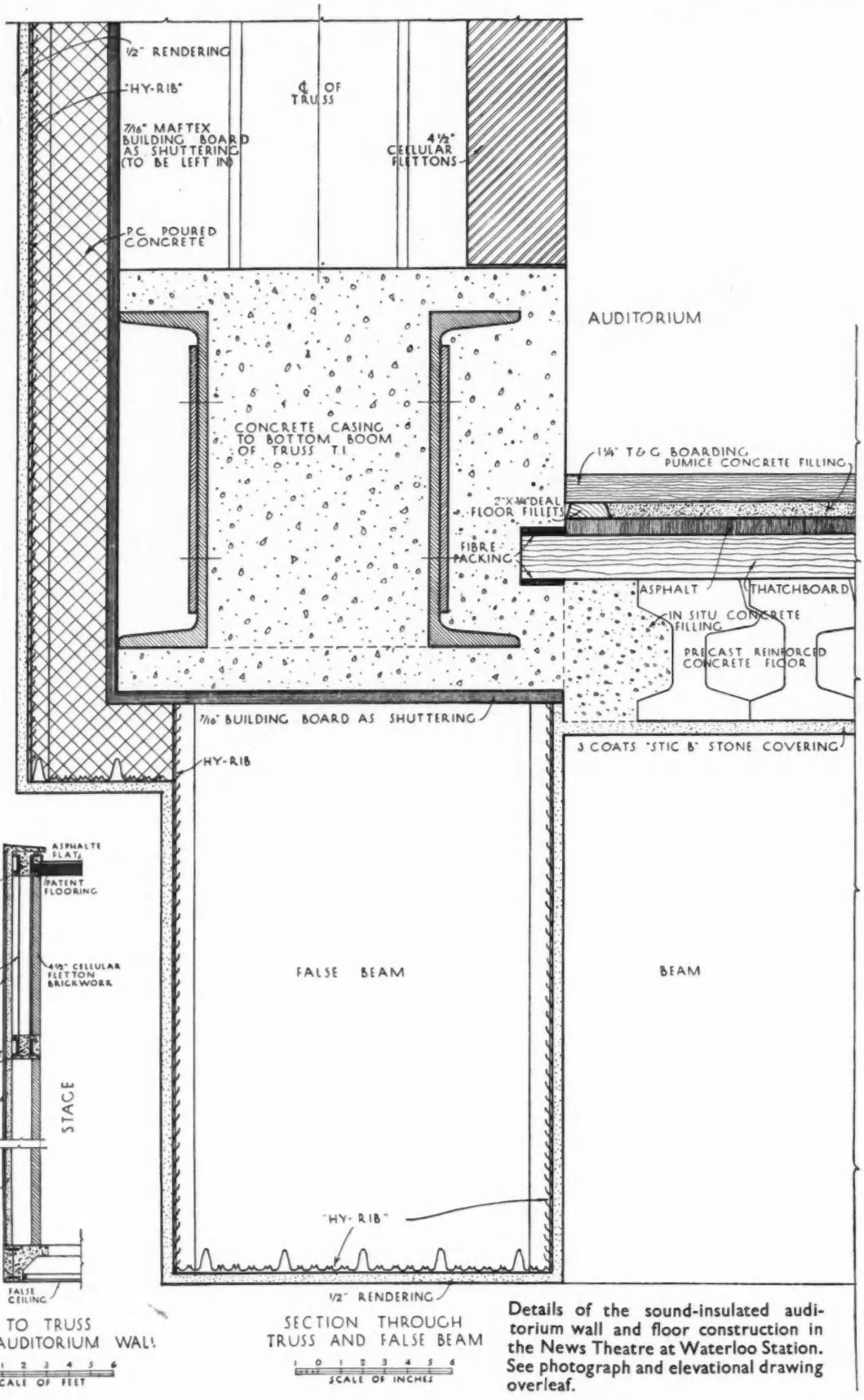
SOUND-PROOF WALLING • CINEMA AT WATERLOO • ALISTER G. MACDONALD



Above is a photograph of, under construction, the auditorium wall of the News Theatre at Waterloo, and on the left an elevational drawing of it. The insulation against sound of the walls of a cinema always presents an important problem and, when the building is situated inside a Railway Station, an unusually difficult one. The method of insulation is here shown, and illustrated in detail in the drawing overleaf.

WORKING DETAILS : 118

SOUND-PROOF WALLING • CINEMA AT WATERLOO • ALISTER G. MACDONALD



CASING TO TRUSS FORMING AUDITORIUM WALL

1 0 1 2 3 4 5 6

SCALE OF FEET

SECTION THROUGH TRUSS AND FALSE BEAM

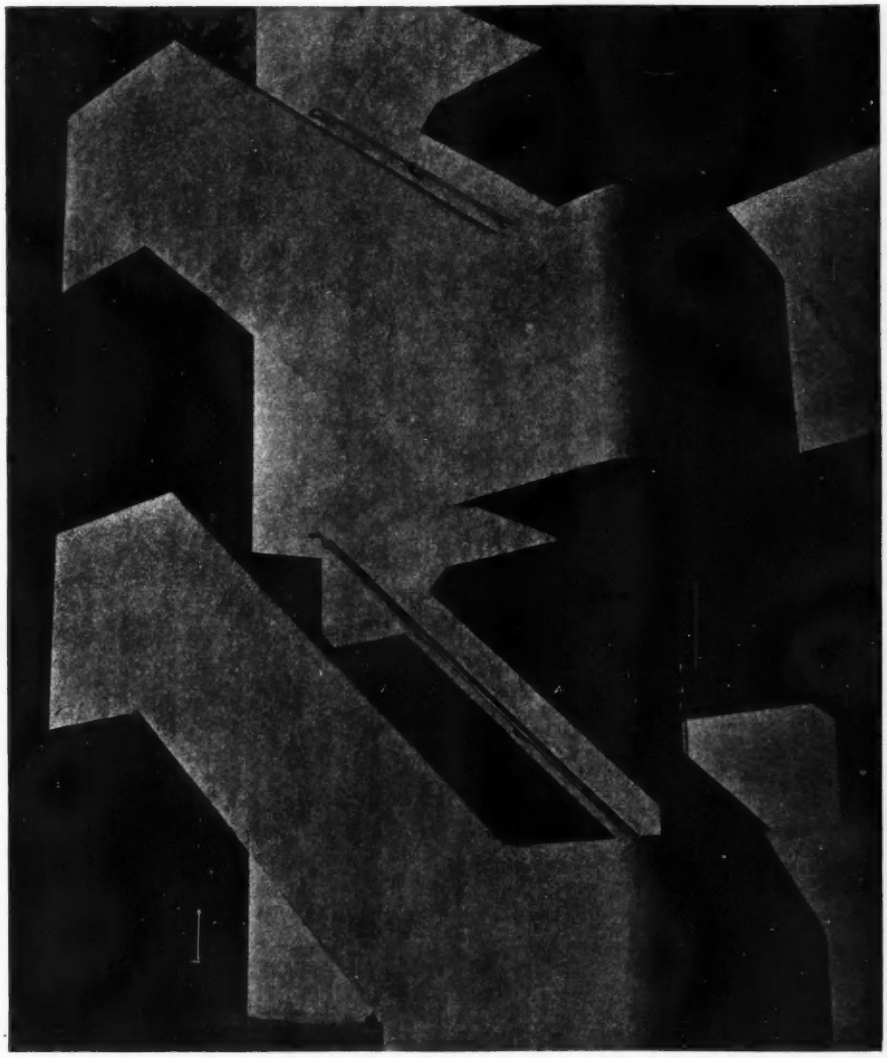
1 0 1 2 3 4 5 6

SCALE OF INCHES

Details of the sound-insulated auditorium wall and floor construction in the News Theatre at Waterloo Station. See photograph and elevational drawing overleaf.

WORKING DETAILS : 119

CONCRETE STAIRS • FLATS IN HAMPSTEAD • WELLS COATES

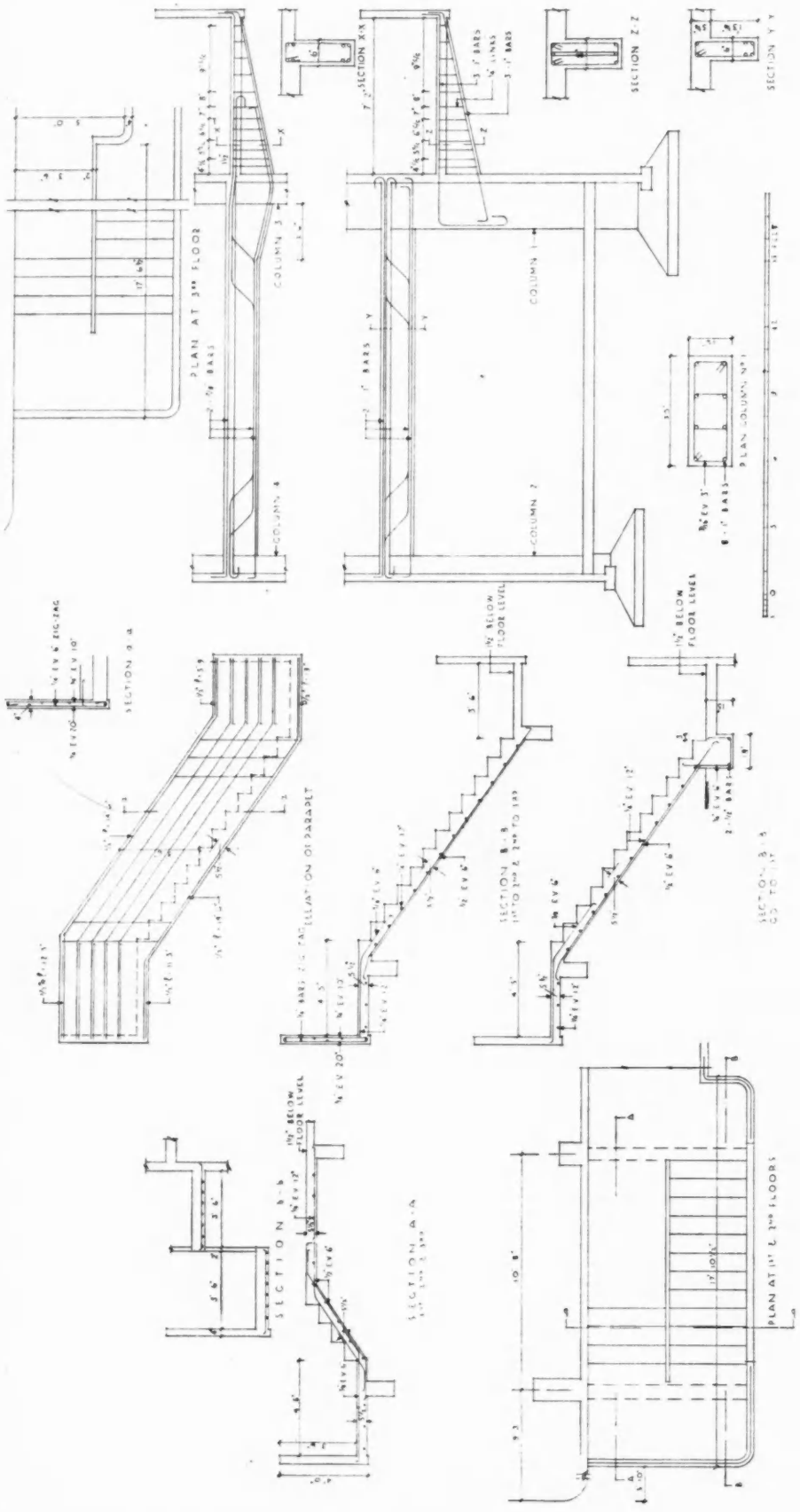


JOHN HAVINDEN

In this block of flats in Lawn Road, Hampstead, the access to each flat is from an open gallery running the length of the building. The gallery terminates in the open escape stair photographed above. It is in reinforced concrete, cantilevered out from the structural walling. The finish is a two-coat waterproofed and tinted cement wash, applied direct to the structural concrete. Reinforcement details of the staircase are given overleaf.

WORKING DETAILS : 120

CONCRETE STAIRS • FLATS IN HAMPSTEAD • WELLS COATES



Reinforcement details of an open staircase in concrete, cantilevered out from the structural walling of a block of flats. See photograph overleaf.

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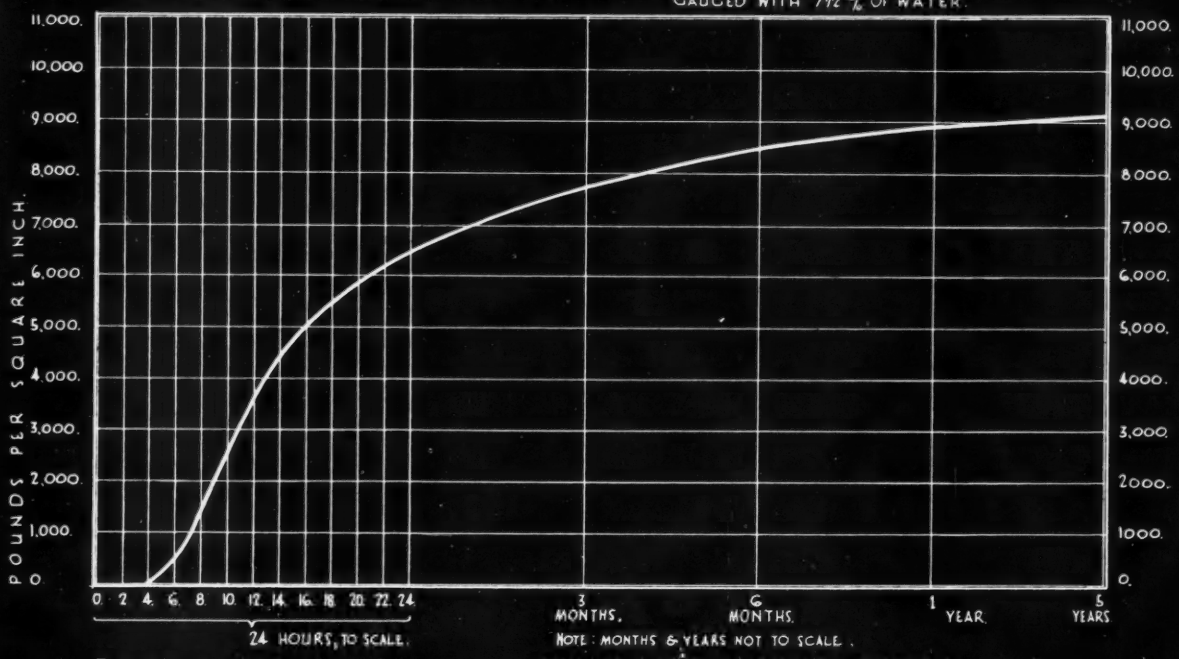
GRAPH SHOWING COMPRESSIVE STRENGTH OF 4 : 2 : 1 CONCRETE GAUGED WITH 7½ % OF WATER.



GENERAL DATA :

SETTING TIME,—
Initial, about 3 hrs 30 mins.
Final, about 4 hrs 30 mins.

FINENESS,—
About 8% on 170 sieve.

SOUNDNESS,—
Expansion,.....nil.

SPECIFIC GRAVITY,—
Approximately.....3·1.

WEIGHT,—
Average 90 lbs. per cub. ft.

MODULUS OF ELASTICITY,—

Age	lbs per sq. inch.
24 hours	3,800,000.
14 days.	4,770,000.
28 days.	4,850,000.

GENERAL CHARACTERISTICS :

1. Uniformity of Quality :
All Ciment Fondu in this country is made at the one works and submitted to the same tests.
All Ciment Fondu is tested independently by Messrs David Kirkaldy & Son and certified.
2. Rapid Hardening :
Concrete made with Ciment Fondu is ready to carry its full load 24 hours after placing.
Timbering may be stripped in from 10 to 18 hours.
3. Strength :
For ordinary 4 : 2 : 1 mix a strength of 5000 lbs per square inch at the age of 24 hours can be attained regularly by a contractor.
4. Resistance to Chemical attack :
Is not affected by sulphuretted soils, or sub-soil waters, nor by sea-water or moorland waters.
Is more resistant than Portland Cement to a wide variety of substances liable to cause erosion.

Information from Lafarge Aluminous Cement Co. Ltd.

INFORMATION SHEET : RAPID HARDENING CEMENTS : CIMENT FONDU.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1.

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 141 •

RAPID HARDENING CEMENT

Name of Product : Ciment Fondu

Manufacture :

The manufacture of Ciment Fondu is entirely different from that of Portland Cements. The raw materials are chalk and bauxite ; the latter material is an indurated clay with a very high alumina content.

The chalk and bauxite are mixed together in dry lump form and charged into reverberatory furnaces, where they are melted at an extremely high temperature. The molten material is cast into pigs, broken up and then ground into cement, without the addition of any other material whatsoever.

Chemical Analysis :

The predominant compound in Ciment Fondu is the mono-calcic aluminate (Al_2O_3, CaO).

The predominant compound in Portland Cement is the tri-calcic silicate ($3\ CaO\ SiO_2$). Hence, Ciment Fondu is known as an aluminous or high-alumina cement, in order to differentiate it from the Portland cements.

Gauging Water :

When gauging concrete for field use under practical conditions, the amount of water should be sufficient, but only just sufficient, to produce a mix which is readily workable according to the type of job being undertaken, but never less than 4½ gallons per cwt. of cement. It is better to use too much water (within reason) than too little. Too much water slightly delays the set and reduces the strength at twenty-four hours, but provided the excess water is not exaggerated, the ultimate strength is not seriously affected.

Professor Duff Abram's slump test is not accurate with Ciment Fondu since it does not produce a " fatty " lubricant for the aggregate

Porosity :

Ciment Fondu concrete is much less porous than Portland Cement concrete and is similar in this respect to rapid-hardening Portland Cement (vide Technical Paper No. 3, published by the Building Research Department of the Department of Scientific and Industrial Research). As Ciment Fondu combines with twice as much water during hydration as Portland Cement (the same amount of gauging water being used in the mix) it follows that the balance which evaporates and thus leaves the pores is proportionately less. Hence the very slight porosity of Ciment Fondu compared with Portland cement. The practical application of this feature is the use of Ciment Fondu concrete for underground work where an influx or pressure of water is met with.

Curing :

Whilst the advisability of damp curing all concrete is well known, it is nevertheless very frequently neglected. The surfaces must be prevented from becoming dry at any time within twenty-four hours of mixing the concrete.

Bonding and jointing properties :

New Fondu concrete can be jointed to old concrete (whether Fondu or Portland) and conversely, new Portland can be jointed to old Fondu, but it is advantageous to clean the surface of the old Fondu with a solution of washing soda before jointing. It must be borne in mind that under no circumstances must unhydrated Fondu come into contact with unhydrated Portland. Fondu must be twenty-four hours old before jointing to new Portland, and inversely, Portland must be seven days old before jointing to new Fondu. (In the case of Rapid-Hardening Portland Cement of good quality, two days old is sufficient.)

Waterproofing compounds :

None of the proprietary articles should be used without consulting the manufacturers of Ciment Fondu.

Cement hardeners :

The best cement hardener for Ciment Fondu concrete is copious watering during the first twenty-four hours after mixing. (See " Curing.")

The effect on colouring matter :

Ciment Fondu has no action on mineral colours, and may be painted with ordinary paints.

The ordinary cement colours obtainable from various suppliers can be used with Ciment Fondu with the exception of blacks, numbers of which have been shown to have the effect of reducing the strength.

Resistance to chemical attack :

Ciment Fondu is highly resistant to practically every known substance which attacks ordinary concrete, and is entirely immune to many of the causes of disintegration which are more commonly met with. This is due to the fact that Ciment Fondu does not liberate lime on hydration, also that the aluminate, of which it is principally composed, is an extremely stable compound.

In ground containing sulphate of lime, whether in the form of gas lime, gypsum, or anhydrite, Fondu can be used with absolute permanence.

Ciment Fondu is unaffected by tar or cotton-seed oils, beer and sugar juices, or by the sulphates formed during the combustion of coal or oil, and the effect of the lactic acid in sour milk is only slight.

Corrosion by sea water :

The chemical attack of ordinary Cement by sea water is due to the sulphate of magnesia which this water contains. The sulphate of magnesia first of all combines with the free lime to form calcium sulphate, and subsequently with the unstable aluminates to form sulpho-aluminate of lime. This latter compound expands on formation, and, if the concrete is at all porous, causes utter disintegration.

Ciment Fondu contains no free lime whatsoever and consists of a stable aluminate ; the disastrous formation of sulpho-aluminate of lime is therefore impossible.

Use of " Semi-dry " Mixes :

" Semi-dry " mixes of Ciment Fondu mortar and concrete can be used with success. It is necessary, however, to saturate the castings thoroughly immediately they are removed from the moulds, in order to supply the water necessary to complete the hydration of the cement.

Name of Manufacturers : Lafarge Aluminous Cement Co., Ltd.
Address : 296-302, High Holborn, London, W.C.1
Telephone : Holborn 6431
Works : West Thurrock, Essex

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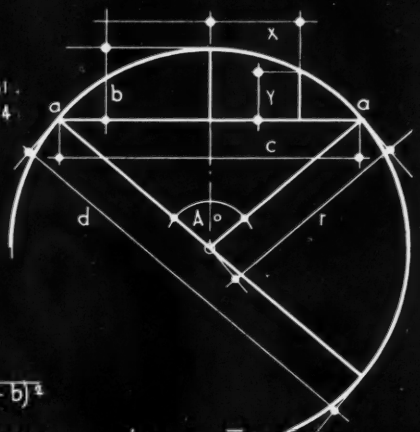
Properties of the circle :

Circumference of circle of dia. 1 = π = 3·14159265.
Circumference of circle = $2\pi r$. Dia. of circle = circumference x 0·31831.
Diameter of circle of equal periphery as square = side x 1·27324.
Side of square of equal periphery as circle = diameter x 0·78540.
Diameter of circle circumscribed about square = side x 1·41421.
Side of square inscribed in circle = diameter x 0·70711.

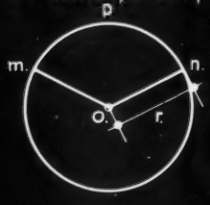


Arc, aa = $\frac{\pi r A^\circ}{180} = 0{\cdot}017453\ r A^\circ$
Angle, A = $\frac{180^\circ a}{\pi r} = 57{\cdot}29578\ \frac{a}{r}$
Radius, r = $\frac{4b^2+c^2}{8b}$ Diameter, d = $\frac{4b^2+c^2}{4b}$
Chord, c = $2\sqrt{2br-b^2} = 2r \sin\frac{A^\circ}{2}$
Rise, b = $r - \frac{1}{2}\sqrt{4r^2-c^2} = \frac{c}{2}\tan\frac{A^\circ}{4} = 2r\sin^2\frac{A}{4}$.
Rise, b = $r+y-\sqrt{r^2-x^2}$. $y = b-r+\sqrt{r^2-x^2}$. $x = \sqrt{r^2-(r+y-b)^2}$

π	= 3·14159265,	log	= 0·4971499.	$\frac{1}{\pi}$	= 0·3183099,	log	= $\bar{1}$·5028501.
π^2	= 9·8696044,	log	= 0·9942997.	$\frac{1}{\pi^2}$	= 0·1013212,	log	= $\bar{1}$·0057003.
$\sqrt{\pi}$	= 1·7724539,	log	= 0·2485749.	$\sqrt{1/\pi}$	= 0·5641896,	log	= $\bar{1}$·7514251.
$\frac{\pi}{180}$	= 0·0174533,	log	= $\bar{2}$·2418774.	$\frac{180}{\pi}$	= 57·2957795,	log	= 1·7581226.

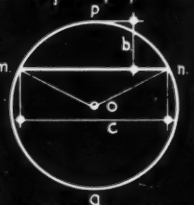
Area of circular sections :

(a) Circular Sector, m o n p.



Area
= ½ (length of arc, mpn x radius, r)
= area of circle x $\frac{\text{arc, mpn in degrees}}{360}$
= 0·00872665 x square of radius, r^2 x angle of arc, mpn, in degrees.

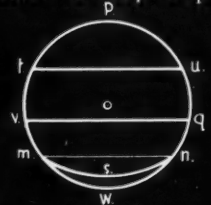
(b) Circular Segment, mpn less than ½ circle.



Area = area of sector, monp − area of triangle, mon.
= (length of arc, mpn x radius, r) − (r − b) x c

(b1) Circular segment, mqn, 2 greater than ½ circle.
Area = area of circle − area of segment, mnp.

(c) Circular Zone, t u q v.



Area
= area of circle − (area of segment, tpu + area of segment, vqw.)

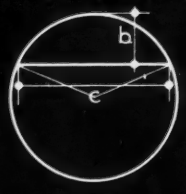
(c1) Circular lune, m w n s.
Area = segment, m w n − segment, m s n.

A°	Coeff!	b/c.	A°	Coeff!	b/c.
5	·0667	·0109	60	·6761	·1340
10	·0670	·0218	75	·6818	·1697
15	·0673	·0328	90	·6890	·2071
20	·0677	·0437	105	·6980	·2466
25	·0682	·0548	120	·7092	·2887
30	·0690	·0658	135	·7229	·3341
35	·0698	·0770	150	·7396	·3837
40	·0708	·0882	165	·7601	·4385
45	·0719	·0995	180	·7854	·5000

For full table see back. Table 1.

Method :
Area = product of rise and chord, b x c, multiplied by the coefficient given opposite the quotient of b/c in the table at left. Intermediate coefficients for values of b/c not given in the table are obtained by interpolation.
Example, given rise = 1·49, chord = 3·52.
b/c = 1·49/3·52 = 0·4233. Coefficient = 0·7542.
Area = b x c x c° = 1·49 x 3·52 x 0·7542 = 3·9556.

(d) Circular Segment, from table given.



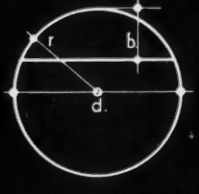
Given :
rise, b and chord, c.

b/d	Coeff!	b/d	Coeff!	b/d	Coeff!
·001	·000042	·085	·032186	·300	·198168
·005	·000471	·100	·040875	·325	·221341
·015	·001438	·125	·056664	·350	·244980
·025	·005231	·150	·073875	·375	·269014
·035	·008638	·175	·092314	·400	·293370
·045	·012555	·200	·111824	·425	·317981
·055	·016912	·225	·132273	·450	·342783
·065	·021660	·250	·153546	·475	·367710
·075	·026761	·275	·175542	·500	·392699

For full table see back. Table 2.

Method :
Area = Square of diam, d^2, multiplied by the coefficient given opposite the quotient of b/d. Intermediate coefficients for values of b/d not given in the table are obtained by interpolation.
Example : given rise = 2 7/16 and dia = 5 3/32.
b/d = 2 7/16 ÷ 5 3/32 = 0·478528.
Coef. by interpolation = 0·371233.
Area = d^2 x c° = 25·94629 x ·371233 = 9·6321.

(e) Circular Segment, from table given.



Given :
rise, b and diameter, d = 2r.

INFORMATION SHEET : PROPERTIES AND AREAS OF CIRCLES AND CIRCULAR SECTIONS.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1.

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INFORMATION SHEET

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PROPERTIES OF CIRCLES

THIS Sheet gives formulæ for finding the areas of circles and circular sections. The tables are used for the calculation of the areas of circular segments from given data.

TABLE 1

A°	Coefficient	b/C	A°	Coefficient	b/C	A°	Coefficient	b/C	A°	Coefficient	b/C
1	·6667	·0022	46	·6722	·1017	91	·6895	·2097	136	·7239	·3373
2	·6667	·0044	47	·6724	·1040	92	·6901	·2122	137	·7245	·3404
3	·6667	·0066	48	·6727	·1063	93	·6906	·2148	138	·7260	·3436
4	·6667	·0087	49	·6729	·1086	94	·6912	·2174	139	·7270	·3469
5	·6667	·0109	50	·6732	·1109	95	·6918	·2200	140	·7281	·3501
6	·6667	·0131	51	·6734	·1131	96	·6924	·2226	141	·7292	·3534
7	·6668	·0153	52	·6737	·1154	97	·6930	·2252	142	·7303	·3567
8	·6668	·0175	53	·6740	·1177	98	·6936	·2279	143	·7314	·3600
9	·6669	·0197	54	·6743	·1200	99	·6942	·2305	144	·7325	·3633
10	·6670	·0218	55	·6746	·1224	100	·6948	·2332	145	·7336	·3666
11	·6670	·0240	56	·6749	·1247	101	·6954	·2358	146	·7348	·3700
12	·6671	·0262	57	·6752	·1270	102	·6961	·2385	147	·7360	·3734
13	·6672	·0284	58	·6755	·1293	103	·6967	·2412	148	·7372	·3768
14	·6672	·0306	59	·6758	·1316	104	·6974	·2439	149	·7384	·3802
15	·6673	·0328	60	·6761	·1340	105	·6980	·2466	150	·7396	·3837
16	·6674	·0350	61	·6764	·1363	106	·6987	·2493	151	·7408	·3871
17	·6674	·0372	62	·6768	·1387	107	·6994	·2520	152	·7421	·3906
18	·6675	·0394	63	·6771	·1410	108	·7001	·2548	153	·7434	·3942
19	·6676	·0416	64	·6775	·1434	109	·7008	·2575	154	·7447	·3977
20	·6677	·0437	65	·6779	·1457	110	·7015	·2603	155	·7460	·4013
21	·6678	·0459	66	·6782	·1481	111	·7022	·2631	156	·7473	·4049
22	·6679	·0481	67	·6786	·1505	112	·7030	·2659	157	·7486	·4085
23	·6680	·0504	68	·6790	·1529	113	·7037	·2687	158	·7500	·4122
24	·6681	·0526	69	·6794	·1553	114	·7045	·2715	159	·7514	·4159
25	·6682	·0548	70	·6797	·1577	115	·7052	·2743	160	·7528	·4196
26	·6684	·0570	71	·6801	·1601	116	·7060	·2772	161	·7542	·4233
27	·6685	·0592	72	·6805	·1625	117	·7068	·2800	162	·7557	·4270
28	·6687	·0614	73	·6809	·1649	118	·7076	·2829	163	·7571	·4308
29	·6688	·0636	74	·6814	·1673	119	·7084	·2858	164	·7586	·4346
30	·6690	·0658	75	·6818	·1697	120	·7092	·2887	165	·7601	·4385
31	·6691	·0681	76	·6822	·1722	121	·7100	·2916	166	·7616	·4424
32	·6693	·0703	77	·6826	·1746	122	·7109	·2945	167	·7632	·4463
33	·6694	·0725	78	·6831	·1771	123	·7117	·2975	168	·7648	·4502
34	·6696	·0747	79	·6835	·1795	124	·7126	·3004	169	·7664	·4542
35	·6698	·0770	80	·6840	·1820	125	·7134	·3034	170	·7680	·4582
36	·6700	·0792	81	·6844	·1845	126	·7143	·3064	171	·7696	·4622
37	·6702	·0814	82	·6849	·1869	127	·7152	·3094	172	·7712	·4663
38	·6704	·0837	83	·6854	·1894	128	·7161	·3124	173	·7729	·4704
39	·6706	·0859	84	·6859	·1919	129	·7170	·3155	174	·7746	·4745
40	·6708	·0882	85	·6864	·1944	130	·7180	·3185	175	·7763	·4787
41	·6710	·0904	86	·6869	·1970	131	·7189	·3216	176	·7781	·4828
42	·6712	·0927	87	·6874	·1995	132	·7199	·3247	177	·7799	·4871
43	·6714	·0949	88	·6879	·2020	133	·7209	·3278	178	·7817	·4914
44	·6717	·0972	89	·6884	·2046	134	·7219	·3309	179	·7835	·4957
45	·6719	·0995	90	·6890	·2071	135	·7229	·3341	180	·7854	·5000

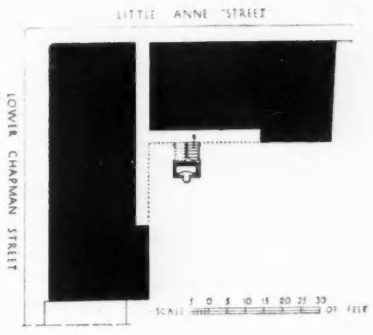
TABLE 2

b/d	Co-efficient	b/d	Co-efficient	b/d	Co-efficient	b/d	Co-efficient	b/d	Co-efficient
·001	·000042	·051	·015119	·101	·041477	·151	·074590	·201	·112625
·002	·000119	·052	·015561	·102	·042081	·152	·075307	·202	·113427
·003	·000219	·053	·016008	·103	·042687	·153	·076026	·203	·114231
·004	·000337	·054	·016458	·104	·043296	·154	·076747	·204	·115036
·005	·000471	·055	·016912	·105	·043908	·155	·077470	·205	·115842
·006	·000619	·056	·017369	·106	·044523	·156	·078194	·206	·116651
·007	·000779	·057	·017831	·107	·045140	·157	·078921	·207	·117460
·008	·000952	·058	·018297	·108	·045759	·158	·079650	·208	·118271
·009	·001135	·059	·018766	·109	·046381	·159	·080380	·209	·119084
·010	·001329	·060	·019239	·110	·047006	·160	·081112	·210	·119898
·011	·001533	·061	·019716	·111	·047633	·161	·081847	·211	·120713
·012	·001746	·062	·020197	·112	·048262	·162	·082582	·212	·121530
·013	·001969	·063	·020681	·113	·048894	·163	·083320	·213	·122348
·014	·002199	·064	·021168	·114	·049529	·164	·084060	·214	·123167
·015	·002438	·065	·021660	·115	·050165	·165	·084801	·215	·123988
·016	·002685	·066	·022155	·116	·050805	·166	·085545	·216	·124811
·017	·002940	·067	·022653	·117	·051446	·167	·086290	·217	·125634
·018	·003202	·068	·023155	·118	·052090	·168	·087037	·218	·126459
·019	·003472	·069	·023660	·119	·052737	·169	·087785	·219	·127286
·020	·003749	·070	·024168	·120	·053385	·170	·088536	·220	·128114
·021	·004032	·071	·024680	·121	·054037	·171	·089288	·221	·128943
·022	·004322	·072	·025196	·122	·054690	·172	·090042	·222	·129773
·023	·004619	·073	·025714	·123	·055346	·173	·090797	·223	·130605
·024	·004922	·074	·026236	·124	·056004	·174	·091555	·224	·131438
·025	·005231	·075	·026761	·125	·056664	·175	·092314	·225	·132273
·026	·005546	·076	·027290	·126	·057327	·176	·093074	·226	·133109
·027	·005867	·077	·027821	·127	·057991	·177	·093837	·227	·133946
·028	·006194	·078	·028356	·128	·058658	·178	·094601	·228	·134784
·029	·006527	·079	·028894	·129	·059328	·179	·095367	·229	·135624
·030	·006866	·080	·029435	·130	·059999	·180	·096135	·230	·136465
·031	·007209	·081	·029979	·131	·060673	·181	·096904	·231	·137307
·032	·007559	·082	·030526	·132	·061349	·182	·097675	·232	·138151
·033	·007913	·083	·031077	·133	·062027	·183	·098447	·233	·138996
·034	·008273	·084	·031630	·134	·062707	·184	·099221	·234	·139842
·035	·008638	·085	·032186	·135	·063389	·185	·099997	·235	·140689
·036	·009008	·086	·032746	·136	·064074	·186	·100774	·236	·141538
·037	·009383	·087	·033308	·137	·064761	·187	·101553	·237	·142388
·038	·009764	·088	·033873	·138	·065449	·188	·102334	·238	·143239
·039	·010148	·089	·034441	·139	·066140	·189	·103116	·239	·144091
·040	·010538	·090	·035012	·140	·066833	·190	·103900	·240	·144945
·041	·010932	·091	·035586	·141	·067528	·191	·104686	·241	·145800
·042	·011331	·092	·036162	·142	·068225	·192	·105472	·242	·146656
·043	·011734	·093	·036742	·143	·068924	·193	·106261	·243	·147513
·044	·012142	·094	·037324	·144	·069626	·194	·107051	·244	·148371
·045	·012555	·095	·037909	·145	·070329	·195	·107843	·245	·149231
·046	·012971	·096	·038497	·146	·071034	·196	·108636	·246	·150091
·047	·013393	·097	·039087	·147	·071741	·197	·109431	·247	·150953
·048	·013818	·098	·039681	·148	·072450	·198	·110227	·248	·151816
·049	·014248	·099	·040277	·149	·073162	·199	·111025	·249	·152681
·050	·014681	·100	·040875	·150	·073875	·200	·111824	·250	·153546
·251	·154413	·301	·199085	·351	·245935	·401	·294350	·451	·343778
·252	·155281	·302	·200003	·352	·246890	·402	·295330	·452	·344773
·253	·156149	·303	·200922	·353	·247845	·403	·296311	·453	·345768
·254	·157019	·304	·201841	·354	·248801	·404	·297292	·454	·346764
·255	·157891	·305	·202762	·355	·249758	·405	·298274	·455	·347760
·256	·158763	·306	·203683	·356	·250715	·406	·299256	·456	·348756
·257	·159636	·307	·204605	·357	·251673	·407	·300238	·457	·349752
·258	·160511	·308	·205528	·358	·252632	·408	·301221	·458	·350749
·259	·161386	·309	·206452	·359	·253591	·409	·302204	·459	·351745
·260	·162263	·310	·207376	·360	·254551	·410	·303187	·460	·352742
·261	·163141	·311	·208302	·361	·255511	·411	·304171	·461	·353739
·262	·164020	·312	·209228	·362	·256472	·412	·305156	·462	·354736
·263	·164900	·313	·210155	·363	·257433	·413	·306140	·463	·355733
·264	·165781	·314	·211083	·364	·258395	·414	·307125	·464	·356730
·265	·166663	·315	·212011	·365	·259358	·415	·308110	·465	·357728
·266	·167546	·316	·212941	·366	·260321	·416	·309096	·466	·358725
·267	·168431	·317	·213871	·367	·261285	·417	·310082	·467	·359723
·268	·169316	·318	·214802	·368	·262249	·418	·311068	·468	·360721
·269	·170202	·319	·215734	·369	·263214	·419	·312055	·469	·361719
·270	·171090	·320	·216666	·370	·264179	·420	·313042	·470	·362717
·271	·171978	·321	·217600	·371	·265145	·421	·314029	·471	·363715
·272	·172868	·322	·218534	·372	·266111	·422	·315017	·472	·364714
·273	·173758	·323	·219469	·373	·267078	·423	·316005	·473	·365712
·274	·174650	·324	·220404	·374	·268046	·424	·316993	·474	·366711
·275	·175542	·325	·221341	·375	·269014	·425	·317981	·475	·367710
·276	·176436	·326	·222278	·376	·269982	·426	·318970	·476	·368708
·277	·177330	·327	·223216	·377	·270951	·427	·319959	·477	·369707
·278	·178226	·328	·224154	·378	·271921	·428	·320949	·478	·370706
·279	·179122	·329	·225094	·379	·272891	·429	·321938	·479	·371705
·280	·180020	·330	·226034	·380	·273861	·430	·322928	·480	·372704
·281	·180918	·331	·226974	·381	·274832	·431	·323919	·481	·373704
·282	·181818	·332	·227916	·382	·275804	·432	·324909	·482	·374703
·283	·182718	·333	·228858	·383	·276776	·433	·325900	·483	·375702
·284	·183619	·334	·229801	·384	·277748	·434	·326891	·484	·376702
·285	·184522	·335	·230745	·385	·278721	·435	·327883	·485	·377701
·286	·185425	·336	·231689	·386	·279695	·436	·328874	·486	·378701
·287	·186329	·337	·232634	·387	·280669	·437	·329866	·487	·379701
·288	·187235	·338	·233580	·388	·281643	·438	·330858	·488	·380700
·289	·188141	·339	·234526	·389	·282618	·439	·331851	·489	·381700
·290	·189048	·340	·235473	·390	·283593	·440	·332843	·490	·382700
·291	·189956	·341	·236421	·391	·284569	·441	·333836	·491	·383700
·292	·190865	·342	·237369	·392	·285545	·442	·334829	·492	·384699
·293	·191774	·343	·238319	·393	·286521	·443	·335823	·493	·385699
·294	·192685	·344	·239268	·394	·287499	·444	·336816	·494	·386699
·295	·193597	·345	·240219	·395	·288476	·445	·337810	·495	·387699
·296	·194509	·346	·241170	·396	·289454	·446	·338804	·496	·388699
·297	·195423	·347	·242122	·397	·290432	·447	·339799	·497	·389699
·298	·196337	·348	·243074	·398	·291411	·448	·340793	·498	·390699
·299	·197252	·349	·244027	·399	·292390	·449	·341788	·499	·391699
·300	·198168	·350	·244980	·400	·293370	·450	·342783	·500	·392699

CHAPMAN HOUSE, STEPNEY

S. W. NEWBERY

Chapman House is a block of artisan flats, built for the Chapman Development Trust and intended to give the best accommodation that can be provided, under present building conditions, for people who can pay 16s. to £1 per week in rent, without help from a subsidy. The maximum accommodation had to be obtained from the site owing to the necessity of rehousing as many as possible of the tenants on the estate so that other parts of it could be rebuilt. It is in the form of an L-shaped block, facing south and west, containing 19 flats in four storeys. There are five flats in each of the three lower storeys and four in the top one, the rest of the space on that floor being occupied by a wired-in children's playground. The view above shows the internal elevation with the escape stair, which has at the end of it the communal rubbish-chute. Overleaf are shown the exterior from the street, a typical flat plan and the standard kitchen.



BY JOSEPH EMBERTON

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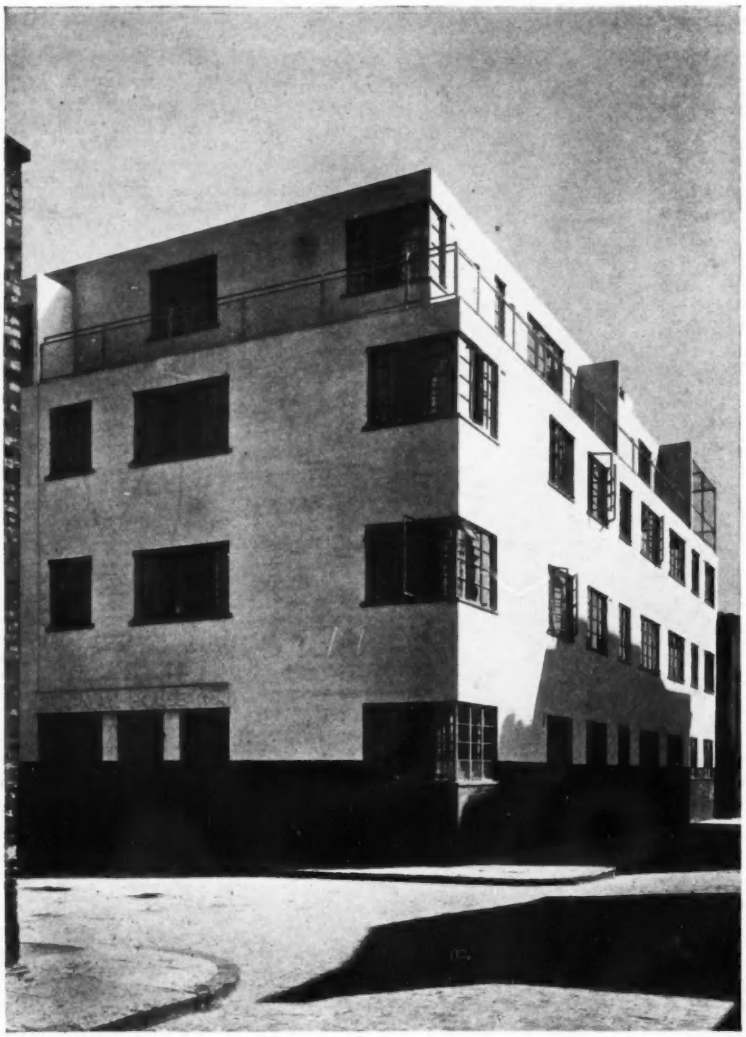
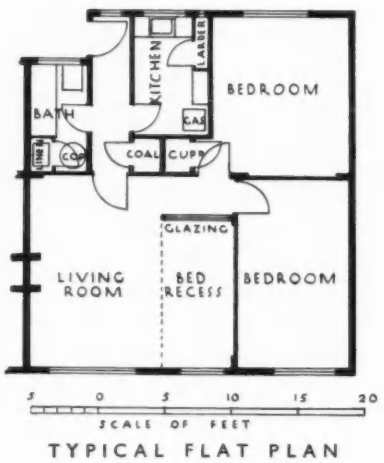
CHAPMAN HOUSE, STEPNEY



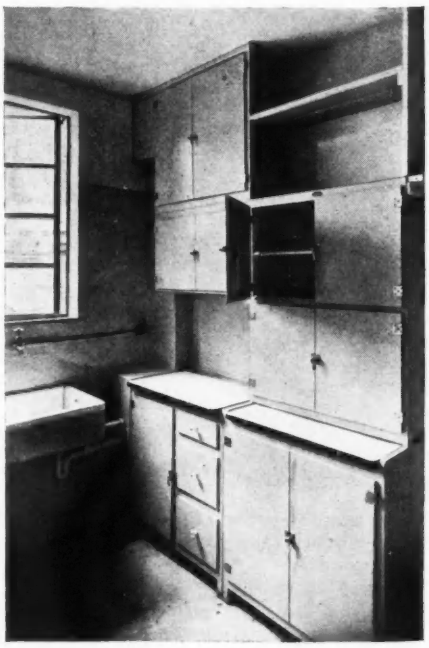
S. W. NEWBERY

The building is constructed with 4½ in. walls of reinforced concrete, painted externally with a waterproofing preparation and lined internally with ¾ in. building board with ⅛ in. plaster finish. The roof is flat, asphalted. Standard metal windows and composition floors are used throughout, and the balconies and external staircase have railings of galvanized iron and wire netting. In each flat there is a range in the living room and, as an alternative heating system, electric or gas coppers. These are provided with valves which in summer enable hot water to be obtained by syphoning from the copper into the bath and sink. Gas or electric cookers are provided. The kitchen has built-in equipment and coal cupboard; there is an airing cupboard in the bathroom and, in the principal bedroom, a deep built-in cupboard and gas or electric heating points. The external staircase, linking each floor of flats, has as its main support a rubbish chute, consisting of a vertical tube, with a self-closing trap at each floor level. *(See photograph overleaf.)*



TYPICAL FLAT PLAN

On this page are: above, a general view from the junction of Little Anne Street and Lower Chapman Street; left, a typical flat plan. This type is let at a rent of from 19s. 6d. to £1 per week. The standard living-room is 15 ft. by 14 ft.; right, the standard kitchen, a replica of which is on show in the "Contemporary Homes" section at this year's Building Exhibition.



DESIGNED BY JOSEPH EMBERTON

PERIODICALS

JULY-AUGUST ANTHOLOGY

AMERICA

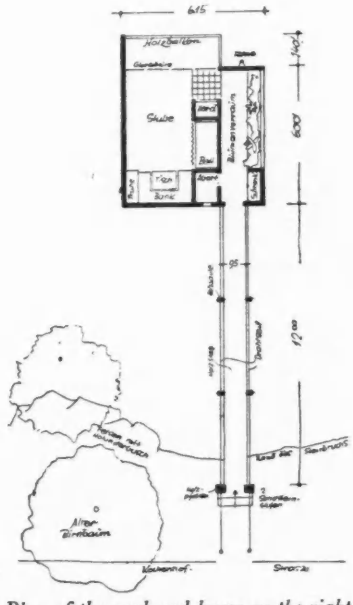
Architectural Forum
(Monthly, $1)

PHOTOGRAPHS of the Century of Progress Exhibition, Chicago, many of them of the Ford Exposition Building. Plans and photographs of an experimental prefabricated house. Illustrated article on a project for replanning a region of 488 acres in New York City.

Pencil Points
(Monthly, 35 c.)

July. Further notes on a development plan for New York and measured drawings of houses in America.

August. Measured drawings of early American architecture. A brief international bibliography of housing in America, Canada, England, Germany, Holland, etc.



Plan of the week-end house on the right.

Architectural Record
(Monthly, 50 c.)

July. Illustrations of sanatoriums and clinics by Alvar Aalto, William C. Hays and Ernest Weissman, and an interesting illustrated article on Rural Health stations. Article on "Planning the Funeral Home."

August. Article and portfolio of plans and photographs of schools in America. Description and illustrations of the Field Building, Chicago's newest skyscraper, designed by Graham, Anderson, Probst and White.

American Architect
(Bi-monthly, 50 c.)

July. Useful article on the Geometry of the Human Figure. Long and comprehensive article on "Heating, Cooling and Air Conditioning."

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BELGIUM

La Cité
(Monthly, 5 fr.)

July. Illustrated article describing the construction of the Palais Central at the Brussels Exhibition, 1935, also a note on the exhibit of the S.B.U.A.M.

L'Emulation
(Monthly, 10 fr.)

June. Extracts and illustrations from "Ladenbau," by Adolph Schumacher. The book deals with shops and their relationship to the streets of a town, the rational display of goods for sale, shop lighting, signs, etc.

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FRANCE

L'Architecture
(Monthly, 6 fr.)

July. Reconstruction and rearrangement of the Louvre. Park and garden lay-outs, by Jacques Gréber. Chemistry and natural sciences building at the École Normale Supérieure, by A. Guilbert. Technical article on fireproof construction.

La Technique des Travaux
(Monthly, 10 fr.)

July. School at Paris, by Henry Roger Expert and French Schools at Prague, by Jean Gillar. Project for a reinforced concrete tower, 2,000 metres high, for the aerial defence of Paris. A long illustrated article on the Boulder dam across the Black Canyon, U.S.A.

August. A water tower and administration buildings, by Wonter Hamdorff, at the side of the main road at Laren, Holland. Planned so that a terrace wall screens garages and workshops from the road. Illustrated articles on the township of Villeurbanne and the Mersey Tunnel, and a technical article on new applications of fire-resisting plaster.

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GERMANY

Baugilde
(Fortnightly, 1 m. 50)

No. 15. Results of a competition for a sports arena and congress hall at Hamburg.

Monatshefte für Baukunst und Städtebau
(Monthly, 1 m. 90)

July. The Hindenburghaus, a German School in Finland, by Runar Eklund. Plans and illustrations of modern and traditional houses.

August. Article and illustrations of an exhibition at Munich: "The Street."

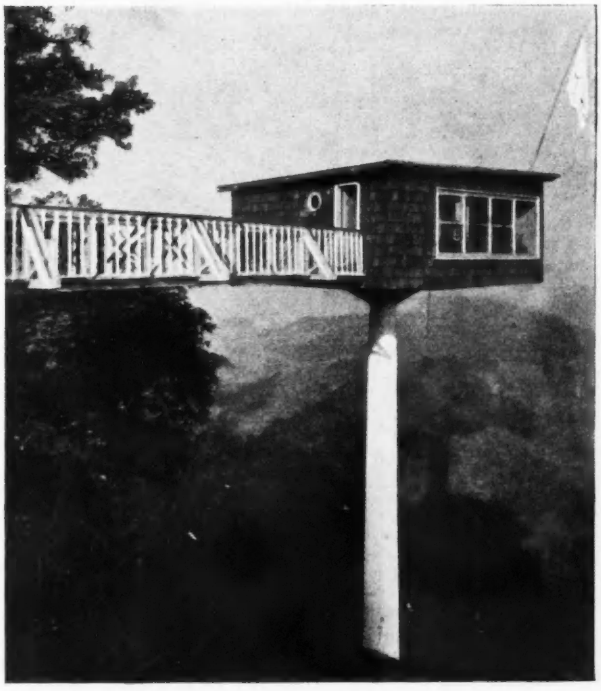
Der Baumeister
(Monthly, 3 m.)

July. New village churches in traditional style. Interesting week-end house near Stuttgart, by Dr.-Ing. Edouard Krüger.

August. Long illustrated article on town planning and housing schemes. Small houses with many constructional detail drawings.

Bauwelt
(Weekly, 2 m. 52 per month)

August 2. New university buildings at Athens, by Emanuel Kriësis.



A week-end house at Stuttgart, by Dr.-Ing. Edouard Krüger. [DER BAUMEISTER.]

August 9. Results of a competition for a workhouse, many plans and illustrations.
August 23. An illustrated article on stoves. New houses in Berlin and in the country.
August 30. An illustrated article on the history and development of the factories at Oberschlesien.

Moderne Bauformen
(Monthly 3 m.)

July. An issue devoted to small houses, small rooms and small gardens; interesting plans, drawings and photographs.

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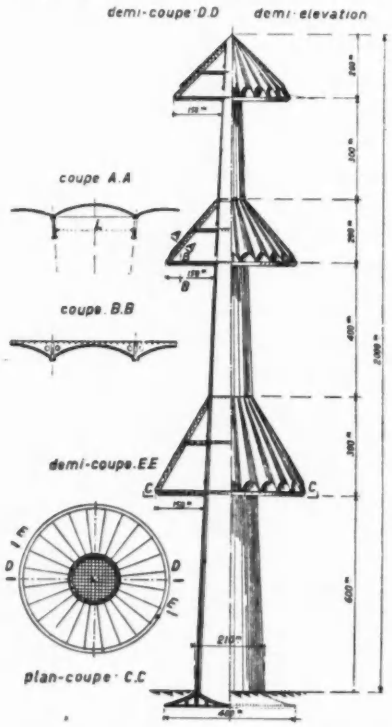
HOLLAND

Bouwkundig Weekblad Architectura
(Weekly, 15 florins per annum)

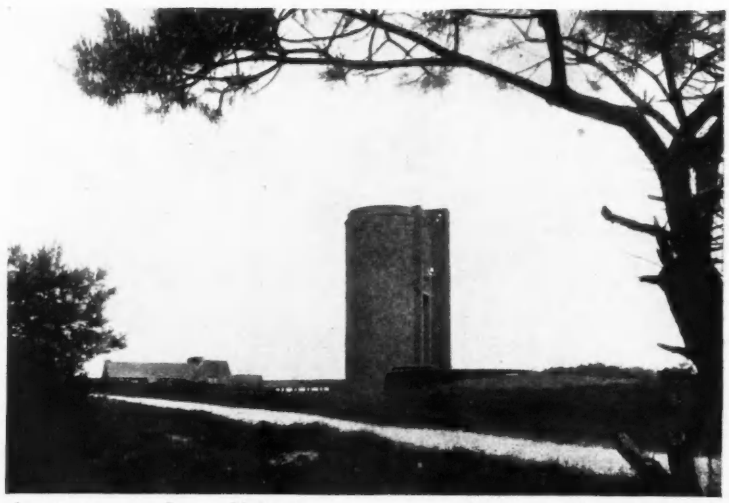
July 14. Plans and illustrations of waiting rooms, restaurants, etc., on the Rotterdam-Dordrecht electric railway.
July 27. A pithead tower, by Staatsmijn Hendrik.
August 25. Illustrations of the work of the late A. Stahlie, of Schiedam. Memorial home at Dordrecht, by B. Van Bilderbeek.



Plan, sections and part elevation of a reinforced concrete tower for the defence of Paris. Architect: Louis Faure-Dujarric. Engineer: Henry Lossier.
[LA TECHNIQUE DES TRAVAUX.]

Opbouw
(Weekly, 30 ct.)

August 18. An issue devoted to modern architecture in England; illustrations of work by Sir Reginald Blomfield, Joseph Emberton, Tecton, etc.



A water tower at Laren, Holland. *Architect: Wonter Hamdorff.*
[LA TECHNIQUE DES TRAVAUX.]

ITALY

Architettura
(Monthly, 15 lire)

July. Results of a competition for a hospital and clinic at Moderna; illustrations of prizewinning designs. Exhibition stands at Milan.

Rassegna di Architettuxa
(Monthly, 12 lire)

July. Photographs of aeronautical exhibition at Milan. Results of competitions for a school, a hospital and a government building.

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POLAND

Architektura i Budownictivo
(Monthly, 8 zl.)

No. 5. An issue on Warsaw, with photographs of architecture and plans of town-planning schemes, etc.

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SPAIN

Vivendas
(Monthly, 4 ptas.)

July-August. Special issue on the architecture of Ludwig Kozma. Modern houses and interiors.

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SWEDEN

Boet
(Monthly, 1.50 kr.)

July. An interesting article on travel architecture, with photographs of the interiors of restaurant cars on trains, railway carriages and aeroplanes. Article on interior decoration in Italy.

Byggmästaren
(Weekly, 10 kr. per annum)

July 25. An informative illustrated article on theatre planning. Week-end houses.

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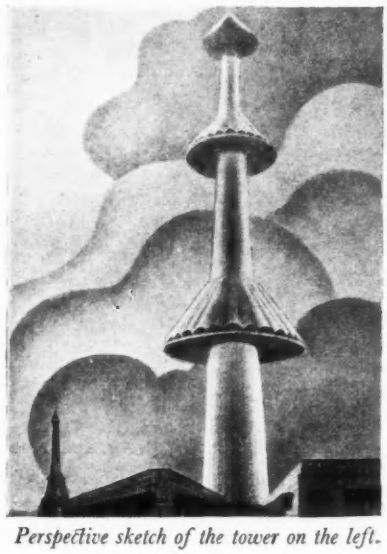
SWITZERLAND

Schweizerische Bauzeitung
(Weekly, 8 cts.)

July 7. Illustrated article on engineering laboratories.
July 14. Further article on engineering laboratories, drawings and photographs of a new boiler-house near Zürich.
July 28. New broadcasting studios at Zürich, by Otto Dürr.
August 25. Article describing the Corso-Theatre in Zürich.

Das Werk
(Monthly, 3 fr. 60)

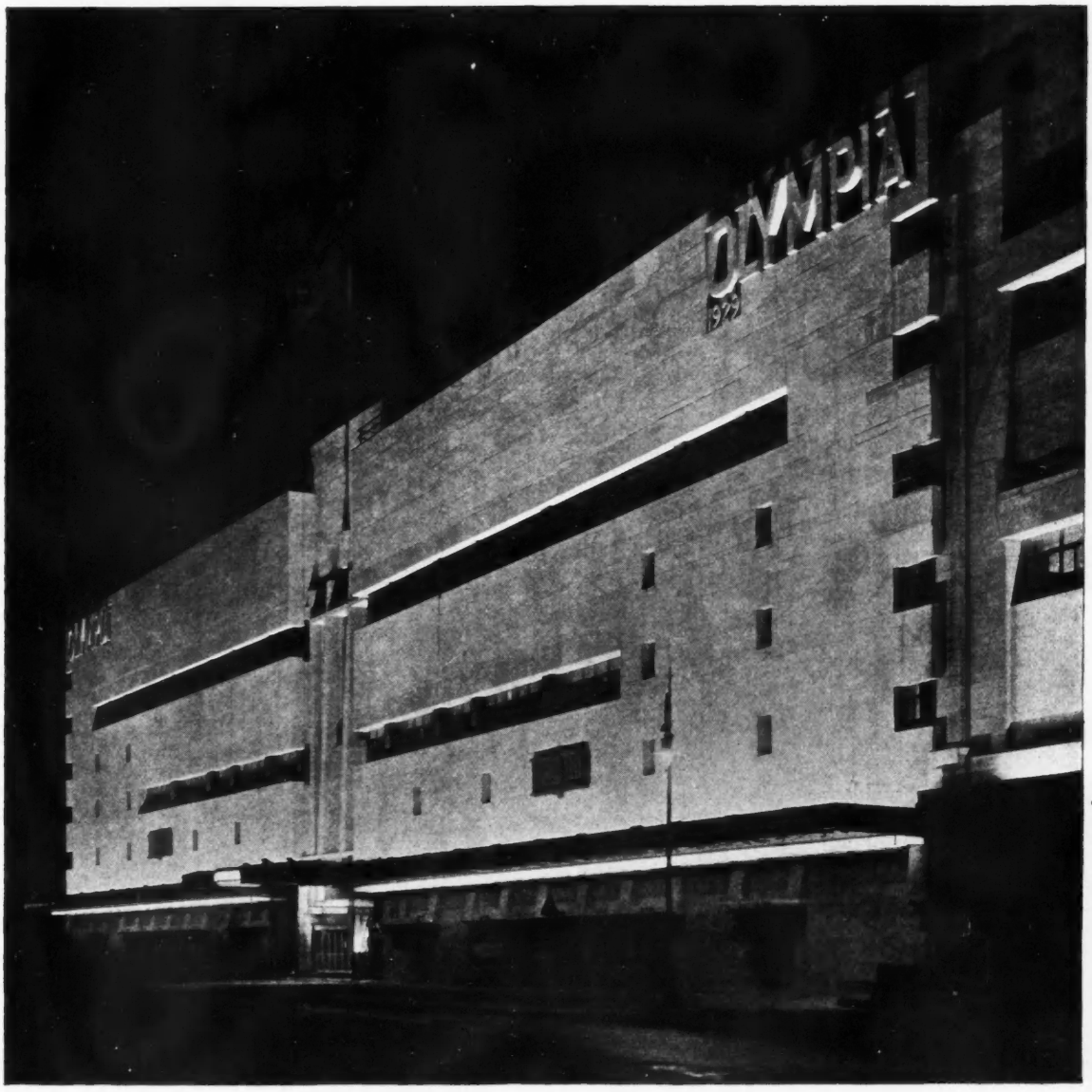
August. Flats at Winterthur by Fr. Scheibler. Hotels, a home for the aged, and small houses.



Perspective sketch of the tower on the left.

BUILDING EXHIBITION

SEPTEMBER 12—26



The 1934 Building Exhibition at Olympia was opened yesterday by Lord Balfour of Burleigh. In this, the second of our series of articles dealing with the exhibition, some of the special features are dealt with, including the "Contemporary Homes" exhibit, that of the Building Research Station and the housing exhibit arranged by the "New Homes for Old" committee. This issue also contains, in the form of a loose supplement, a plan of Olympia with a classified list of exhibitors. Next week the third Building Exhibition article will describe a tour of the exhibition, with accounts and sketches of the most interesting things to be found there.

SOME SPECIAL EXHIBITS

GALLERY: STANDS 4-9 and 55-61

THE "NEW HOMES FOR OLD" HOUSING EXHIBITION

THE Housing Exhibition, which was first organized in November, 1931 by the London Voluntary Housing Societies, has been reconstructed for the present occasion, and is now under the auspices of the Housing Centre. Two years ago the exhibition was given space in the Building Trades Exhibition, when its main object was to draw attention to the serious prevalence of overcrowding and of the occupation of unfit houses—evils due to the acute shortage of new dwellings at low rents. The present exhibition is framed to show that slum clearance should be considered only as a small part of a general policy for housing. The housing policy of the nation should include a survey of all related requirements, such as town planning, traffic regulation, the placing of industry and of schools, preservation of open spaces, and the organization of the building industry, etc. Only by means of such a completely comprehensive policy will the prevention of slums in the future be ensured.

The entrance to the exhibition is through the model of a Slum Alley, which has been erected to create a contrast between the conditions that have been allowed to exist for so long, and the review of new building shown in the other sections of the exhibition.

Section 2, dealing with slum clearance and rehousing, consists of a series of charts showing an outline survey of the nature and extent of the housing shortage and of the problems involved in rehousing the poorly paid worker. The first part of the series, the housing shortage, deals with unhealthy houses, overcrowding and extortionate rents. All these features create conditions which nothing but clearance and adequate rehousing will overcome. The Government figures for estimated clearances are given as a total for England and Wales, of 280,000 houses to be cleared, and of 1,300,000 persons to be rehoused; i.e., the Government proposals affect nearly one-thirtieth of the population. With such a large proposal in hand, it is essential that the right accommodation be provided, and the second part of the series deals with the right number of houses, in the right place, at the right rent. It is suggested that the ultimate goal should be about 2,000,000 houses. The rate of subsidy is shown to be more than adequate at present-day costs and attention is drawn to the danger of waste when a uniform system of rent differential is adopted.

The remainder of the section illustrates the development of standards in housing. Housing alone can be easily misguided if no thought is given to convenience and amenity in addition to actual accommodation. The building of housing accommodation cannot be regarded as a temporary matter or as an independent unit. It will last for sixty or eighty years at least, if not for a century or two; nothing but the best provision can stand up to the change of outlook and requirements of two or three generations. In the past the tendency has been to accommodate the working classes with bare minimum needs and as a problem apart. As educational facilities are increased, the outlook of the majority will change and there will be a demand for a better environment. It will clearly pay to build well now and avoid the erection of human cages, which are a mockery of housing and examples of which abound, left over from the nineteenth century.

This aspect of the question is being increasingly understood, and illustrations are given showing the evolution of imagination in schemes. Types of schemes originating at different dates during the period covered by the effort to achieve housing reforms are illustrated, and one whole wall is devoted to the work of the larger municipalities under the 1930 Act, showing the type of accommodation provided for the rehoused slum dweller. Further models and charts show work of rehousing by various private enterprises in London.

*Section 3** consists of an analysis of the existing conditions in Bethnal Green, carried out by the MARS Group. This display analyses densities, circulations and surface utilization as an essential preliminary to any adequate replanning scheme. The material in this section represents only the first stage of an investigation which is being continued.

Section 5. Town Planning. The need for the destruction and reconstruction of the slum areas is illustrated in the first section of the exhibition. The purpose of this Town Planning section is to show how lack of planning is the fundamental and unpardonable root of the growth of slums. Given adequate ground space on which to develop at a reasonable density, including open space for recreational purposes and space for the planting of trees and to provide for convenience and amenities, which Town Planning powers ensure, the next step is comparatively easy, given the necessary vision. It resolves into the problem of obtaining a good lay-out, good designs for the buildings and adequate public services, which are economically more possible in a properly planned area. There are illustrations proving that planning pays both financially and from a civic point of view; that industry in the past has been greatly to blame for the unsatisfactory conditions found throughout the country, but that some industrial undertakings have been among the first to appreciate the advantages planning provides, both economically and as a form of remunerative publicity. The continuance of unenlightened principles and practices connected with development is emphasized and the detrimental effects are pointed out.

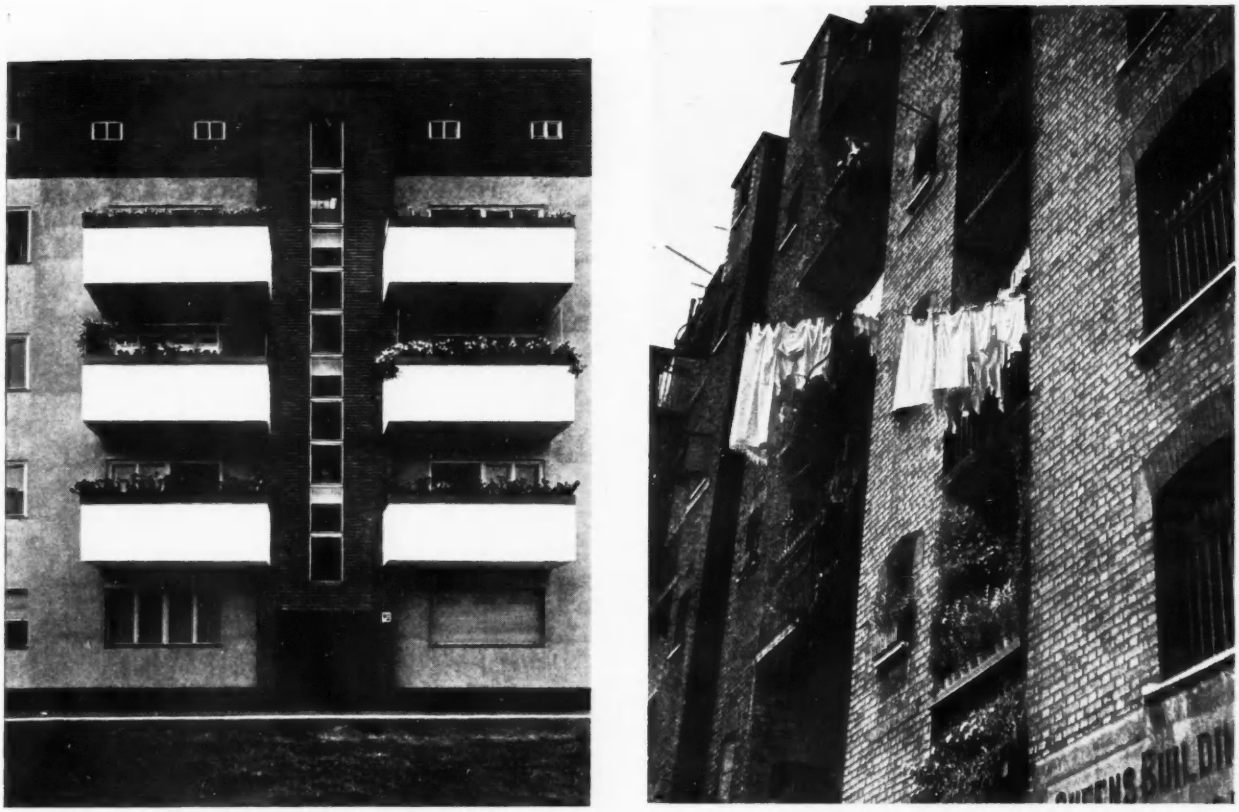
Examples of planning on proper lines, both by private enterprise and public authorities, including the Crown are shown. The need for the co-ordination of all the units that make up a plan is dealt with and the special new problems of today, occasioned by traffic and mass building development, are covered. Remedies are indicated for such problems as ribbon-development, by the provision of parkways, overcrowding by fixing reasonable densities for development, and protection of amenity by providing open spaces and grouping buildings for different purposes.

Foreign methods and schemes on a large scale, which give a lead to necessary planning activities and indicate the advantages to the general community are illustrated. The outstanding point it is intended to convey is that rehousing without planning may do more harm in the end than temporary good.

Section 6 deals with planning and equipment. As considerable attention has been given abroad to this side of the housing problem, comparative examples are given of Continental as well as British experience.

A three-bedroomed non-parlour dwelling has been taken as the unit required by a typical family of parents, boys and girls. Such should therefore constitute the majority of the dwellings provided, and, though the section has been arranged with due regard to its general applicability to flat or cottage development, the plans selected for display are of flats, these being more controversial in England than the traditional cottage design. For this reason some space is

* This section will be dealt with at greater length in our issue for September 20.



Balconies old and new. That on the left is from a contemporary flat block in Germany, on the right from a pre-war East London block.

also devoted to entrance halls, staircases and doorways in block dwellings.

Individual gardens are now an unquestioned part of all cottage rehousing estates; unfortunately it is not yet generally recognized that the equivalent is essential in flats, too, both for health and for recreation.

The advantages of a balcony extension to the living room are not fully appreciated. Few housing schemes yet provide a private and sunny place where the family may rest and possibly eat, a safe and airy place where the young baby may sleep under the mother's eye whilst she works, or permanent and adequate built-in flower boxes. A well-designed balcony can incorporate these three essentials and so be a direct means of contributing towards civilized and homely living. It has been said that, "... houses without some form of balcony upon which a child may sleep and move are responsible for 80 per cent. of rickets." Permanent workmanlike flower boxes, built in as part of the structure of the building, to be tended by the owners of the flat as a personal garden, would help not only to cheer those living in the flats, but would also go far to bring colour and brightness to the neighbourhood.

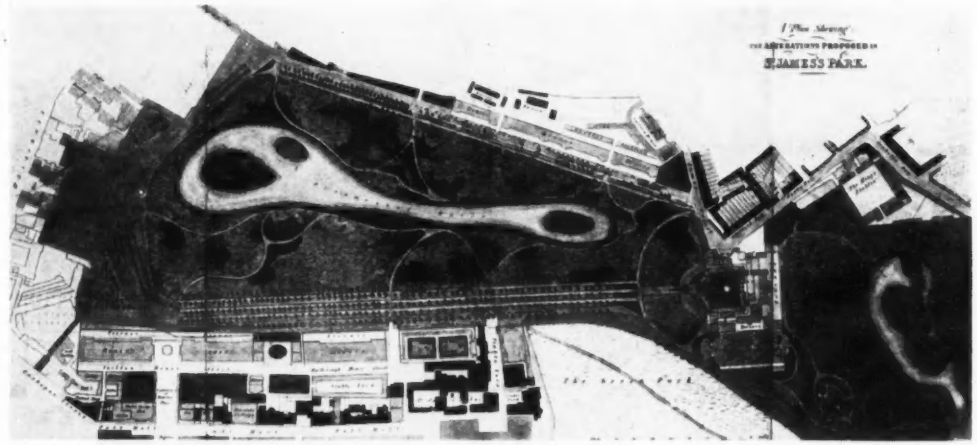
Amenities are considered in *Section 7*. The happy and healthy development of the child constitutes a primary need, and consequently, great importance is attached to the creation of Nursery Schools in connection with new housing schemes. The 1933 Report of the Board of Education on Infant and Nursery Schools says: "If all children could be given modern nursery school conditions in their infancy the nation would be transformed within a generation." The Nursery School helps to bridge the now deplorable and wasteful gap between the care given to children by the Welfare Centre (from 0 to 3 years) and the Infant Schools (from 5 to 7 years). It ensures organized nutrition and medical supervision, adequate rest and quiet during perhaps the most vital years in a child's life. In addition, it makes possible the valuable parent-teacher co-operation over such problems as personal hygiene and child care. A model is exhibited showing how—if a suitable ground area is not available—the flat roof space can be used as a playground extension to a Nursery School built on the top flat. The Model of the Nursery School is designed to accommodate a unit of 35 children.

The photograph of the mothers tying their children to the railings for safety is a reminder of the pressing need for playgrounds. It is desirable that all children should be within a quarter of an hour's walk of a playground where they may find security, space to play and things to do. Illustrations emphasise the importance of quiet access from the busy street, seclusion, the preservation of existing trees, wise new plantings, the restful character of turf and the careful disposition of flowers.

It seems likely that modern buildings may increasingly adopt the flat roof; the use of steel and concrete, the simplification of structure and a greater economy of space all tend to lead in this direction. Photographs illustrate the many uses to which a flat roof may be put, for communal or individual gardens, for sun bathing, for physical exercises, for children's playgrounds, etc. Experience shows that grass, flowers and shrubs will grow perfectly on a roof, provided the initial making is done with knowledge. It is suggested that space, adjacent to the flats, should be devoted to allotment plots where the tenants may grow vegetables and flowers for their families. Much valuable land in new estates that could have been employed for this purpose has already been wastefully covered over with concrete or has been unimaginatively planted with ugly privet and laurel. The allotments should be designed with avenues of trees, communal tool houses, etc., so that they may become areas of beauty and not the eyesore they so often are.

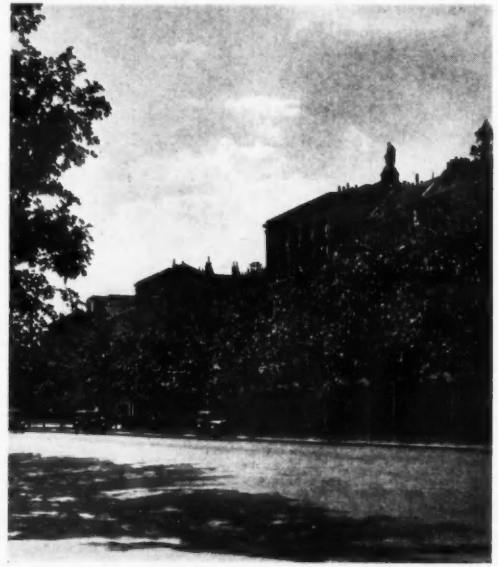
"NEW HOMES FOR OLD" EXHIBIT

TOWN PLANNING SECTION

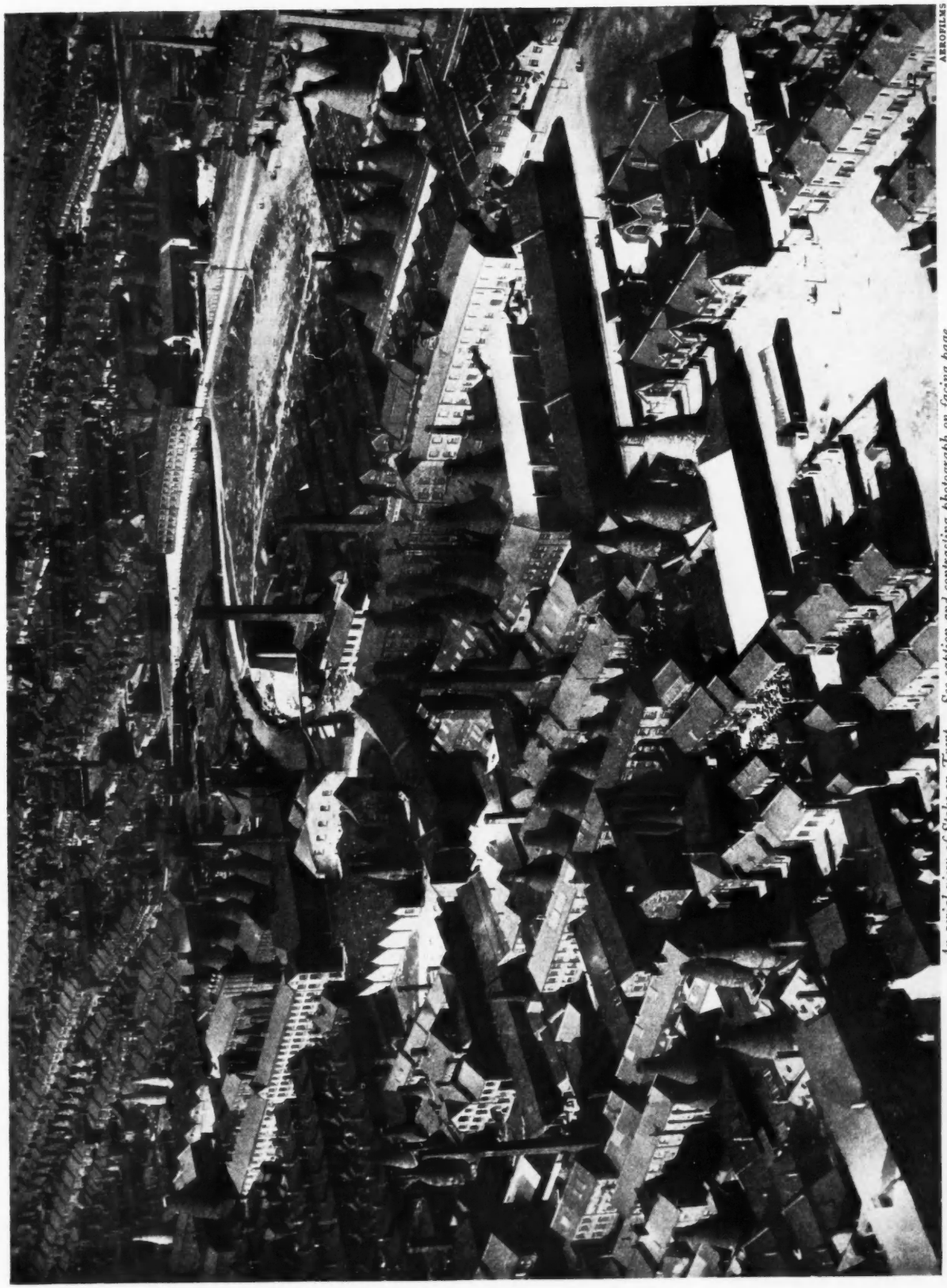


The illustrations on this and the facing page are taken from the town-planning section of the "New Homes for Old" exhibit at Olympia. Left: A town-planning scheme prepared in 1829, shortly after St. James's Park was presented to the Nation. Crown Lands to the north and south of the Park were suggested for development, and Carlton House Terrace was actually built, though the scheme for the south side of the Park was never completed. The photographs below the plan show the Terrace as built, and an aerial view of the Park with the Mall running diagonally across the photograph to the Admiralty Arch at the left.

The beginnings of proper planning are shown below in this aerial view of an East Kent works. The workers' dwellings are grouped separately, though they are not quite as far from the factory as one could wish. This is contrasted with the view of Stoke-on-Trent re-produced on the opposite page—pottery kilns inextricably mixed up with dwellings—confusion and squalor—no gardens.



AEROFILMS



An aerial view of Stoke-on-Trent. See caption and contrasting photograph on facing page.

GALLERY: STANDS 75-77

CONTEMPORARY HOMES

The big problems before the architectural profession at the moment are: the rehousing of industrial workers now living in overcrowded quarters, and the housing of the black-coated workers and the lower salaried professional men near their employment at rents which they can afford to pay.

That these problems are capable of solution is being proved by the number of buildings which are now in course of erection or in plan stage, in the London area. It is readily admitted that in London the difficulties are greater than in any of the provincial centres.

The "1935 flat," designed by Sir Aston Webb and Son, in conjunction with Felix Goldsmith and John Osburn, is a very adequate answer to this problem. This flat is a sample from a block to be erected shortly near Westminster Abbey, and contains a living room, bedroom with bathroom opening off it, kitchen, entrance hall, and w.c. The dimensions of the flat are 34 ft. by 17 ft., and the rents vary from £120 to £150 on a very costly site. Equipment is lavish, and includes a combined gas cooker and refrigerator. Two kitchens are also shown, one by Mr. Louis de Soissons, taken from the Duchy of Cornwall estate at Kennington, the other by Mr. Joseph Emberton, from the Chapman estate, Stepney. The whole of this exhibit has been arranged by Mr. G. E. W. Crowe.

Marsham Court. The living room is 12 ft. by 17 ft., the bedroom, 10 ft. by 17 ft. the kitchen, 5 ft. 7 in. by 11 ft., the bathroom, 5 ft. 8 in. by 7 ft. Built-in clocks and radio sets are included in the rent.

GALLERY: STANDS 82 and 84

THE EXHIBIT OF THE BUILDING RESEARCH STATION

IT is now becoming widely realized that the old traditional knowledge, which for hundreds of years has been the basis of the building industry, must be replaced by scientific knowledge. Modern conditions have resulted in craftsmen having to work far from the districts in which they received their training, and having to use, therefore, materials to which the traditional technique in which they were brought up no longer applies. At the same time, natural materials of construction are no longer used only in the districts of their origin but may be widely distributed all over the country, so that, again, traditional knowledge obtained locally is no safe guide. Perhaps in no industry does "time form the basis of the contract" to a greater extent than it does in the building industry. The need for speed in construction prevents traditional craftsmanship from being properly applied. These factors, together with the rapid introduction of new building materials and the new problems presented in achieving comfort in buildings originating in modern conditions of life, have definitely shown the need for the application of scientific research to be as great in the building industry as in other industries. The need for the application of science in this field was recognized by the Department of Scientific and Industrial Research by the establishment, some ten years ago, of the Building Research Station at Watford.

While most of the work is carried out at the Building Research Station itself, certain investigations are dealt with in close collaboration with the Station at the National Physical Laboratory, and in the laboratories of various Universities and Colleges, and the study of the many problems arising from the use of timber in building is one of the major tasks of the Forest Products Research Laboratory at Princes Risborough—another of the establishments of the Department of Scientific and Industrial Research. Realizing that the active co-operation of industry is essential for the efficient propagation of industrial research it has been the policy of the Department to make close contact whenever possible with the technical and manufacturing interests, and much of the work is carried out with the support and close collaboration of technical Societies and industrial associations. Examples of such co-operative work are illustrated.

The exhibit covers structural steel, plain and reinforced concrete, cement and cement products, natural stone, limes and plasters, brick and timber; codes of practice for the use of certain of these materials, and aspects of heating and lighting involved in securing comfortable conditions in a building. Several examples are included of researches carried out with the financial support and close co-operation of technical societies and industrial associations.

One of the chief of these co-operative researches is that dealing with steel frame buildings, carried out under the Steel Structures Research Committee, to which work the British Steelwork Association makes a substantial contribution. The work of the Committee has already led to savings amounting to as much as 20 per cent. in the cost of steel work in steel-frame buildings, and the Committee has issued recommendations for a new code of practice for the use of structural steel in buildings, which has been adopted by many building authorities. The exhibits on this subject illustrate the determination of stresses in complicated structures by the use of models, the measurement of stresses in full-size steel-frame structures, and investigations on riveted and bolted connections and on the uniformity in strength of welded joints.

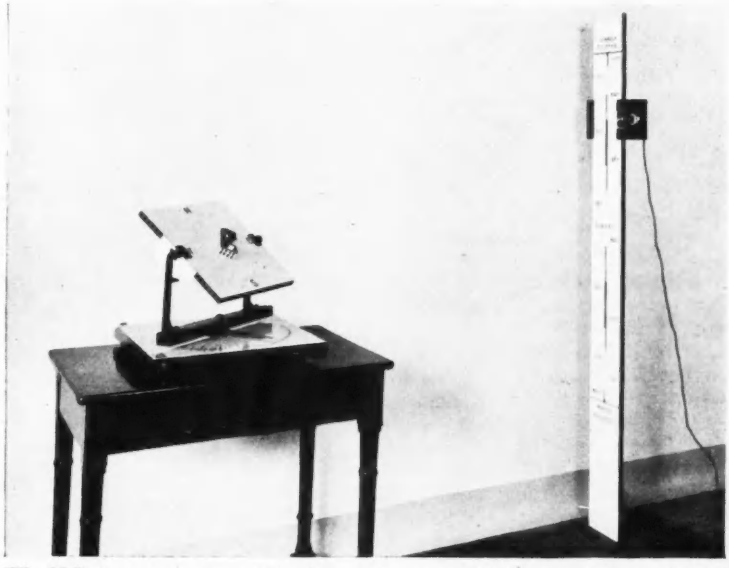
Various aspects of the work on reinforced concrete are represented by apparatus for measuring the creep of concrete in tension and for following shrinkage cracking in restrained concrete members as well as scale models for determining the redistribution of stresses in loaded members.

Other exhibits dealing with concrete demonstrate the evolution of heat and its influence on the development of strength in mass concrete, and the relationship between strength and the quantity of mixing water used.

A selection of examples are shown illustrating failures in concrete, investigated by the Building Research Station, resulting from the use of large proportions of fine sand, unstable aggregate or aggregate containing gypsum or a high proportion of organic matter. Further exhibits deal with light-weight concretes, including a test used to detect unsound clinker; the mechanism of surface changes in cast stone during natural exposure: and the choice of pigments for the production of coloured concrete.

A particularly striking exhibit concerns the measurement of the transitory forces set up in reinforced concrete piles during driving. These stresses, which are the highest likely to be encountered during the life of the pile, are measured by a very ingenious apparatus, of which a model is shown. Quartz crystals are embedded in the pile and translate the momentary mechanical stresses into electrical impulses, which are made to deflect a beam of electrons in a cathode ray oscillograph. This instrument is the most sensitive recorder yet known. Special interest attaching to this work is that apparatus developed in the first place in another establishment of the Department, for radio research on atmospherics, is being utilized in building research.

Other exhibits on the stand deal with



The Heliodon: an instrument for determining natural lighting conditions, exhibited on the Building Research Station's stand.

the action of sea water on reinforced concrete; pozzolanas; the resistance of cement and concrete products to chemical attack, and the constitution of cement clinker and set cement.

Turning to the work of natural building stones, various aspects of stone decay and the problems involved in the preservation, cleaning and restoration of stone structures are illustrated; methods of assessing the quality of samples of Portland stone by laboratory tests are also shown.

An exhibit on brick and brick-masonry illustrates the procedure used to determine the strength of individual bricks and brick-masonry walls, and the effect of soluble salts in producing both surface efflorescences and disruption of the brick. The method of test used to assess the liability to efflorescence is also shown, besides various researches in hand on sand-lime bricks. Other sections deal with plaster, plastering sands, and paint failures on plastered surfaces; with the cause and prevention of pattern staining of plasters; that is, the appearance of dark stains on plaster on lathing backings to ceiling and wall surfaces; and with problems concerning bituminous roofing materials.

The section dealing with heating, ventilation and natural lighting includes special instruments devised for comparing different methods of heating, the use of air spaces and metallic surfaces in providing thermal insulation and the problem of the exclusion of solar heat.

An interesting instrument known as the "Heliodon," developed at the Building Research Station, is shown. This instrument reproduces the apparent motion of the sun and, when used in conjunction with simple models of a proposed building, enables natural lighting conditions both around the building and within its several rooms to be easily predetermined.

In the timber section exhibits will be found illustrating the seasoning of timber, including a display of matched materials which demonstrates that timber does not become more stable with age but that the shrinkage of old timber is as great as that of new. Other exhibits in this section deal with woodworking, wood structure, wood preservation and the mechanical strength of timber. The destruction of timber by insects and its prevention is also covered, while a number of interesting exhibits deal with dry rot and other forms of fungal attack on wood. These include models illustrating various types of faulty construction and other conditions favourable to outbreak of dry rot, together with a drawing showing how these faulty conditions can be avoided.

SOME FURTHER STANDS

The "No-Mast" patent outdoor aerial, shown by CENTRAL EQUIPMENT, LTD., on Stand 87 (Gallery,) is an efficient outdoor aerial without the ugly cumbersome pole or mast and untidy wires. It is easier and less expensive to erect than the mast aerial and is neat and unobtrusive. Galvanized brackets are supplied for fixing the antennæ and as a stand-off guide for the lead-in wire.

*

Stand 129F, for G. R. SPEAKER & CO., LTD., is constructed with "Eonit" patent pumice partition blocks, showing the correct method of erection, and contains panels demonstrating the economical use of various types of plaster in one-coat work.

The outstanding feature of "Eonit" is its lightness, an 18 in. by 9 in. by 3 in. block weighing only 10½ lb., or 84 lb. per yard super. The weight of a finished partition of 3 in. blocks plastered each side one coat is 11½ lb. per sq. ft. The roof is covered with "Eternit" variegated Green Ladies slates.

*

WM. OLIVER AND SONS, LTD., are exhibiting again in their usual position at the Addison Road entrance of Olympia (Stands 2, 3 and 4A). Empire hardwoods will figure largely in their display—dry English oak, Australian walnut, teak (both Moulmein and African varieties), Honduras and African mahogany being specially prominent amongst the better known home and colonial woods. To these will be added specimens of the lesser-known Empire hardwoods, illustrated by prepared veneered plywood panels.

*

The numerous applications of pressed steel to modern building practice are shown by FREDERICK BRABY & CO., LTD., on Stand 309T. Pressed steel stairs, door frames, skirtings and balustrading are shown, and a feature is made of "Eclipse" metal-covered plywood. The stand is heated by the low-temperature electric panels which are manufactured by this firm.

*

Gas-operated water-heaters of all kinds are shown on Stand 193K by the HURRY WATER HEATER CO. "Ottawa" storage heaters with a capacity of from 15 to 50 gallons are available as all-metal units with a combined airing cupboard. Smaller types of heater are made for "boosting" existing hot water or heating systems or for use during the summer, when the load is not large enough to require a large boiler.

*

SMITH'S ENGLISH CLOCKS, LTD. (Stand 236M) are showing their usual large range of synchronous electric clocks, and the Bi-synchronous Master Clock system for large buildings will also be shown. This system normally runs from time-controlled A.C. mains supply, but in the event of a current failure there is an automatic change-over switch which cuts in a D.C. battery supply, operating the motor through an independent armature winding.

*

Recent improvements in the Aga cooker

Thomas Lawrence and Sons (Stand 102E), designed by Mr. Edgar Ranger.

will be shown on Stand 215L by AGA HEAT, LTD., and the larger model giving extra capacity over the standard type. This extra capacity makes only a slight difference to the fuel consumption of the cooker, and provides an extra area and a large plate-warming compartment.

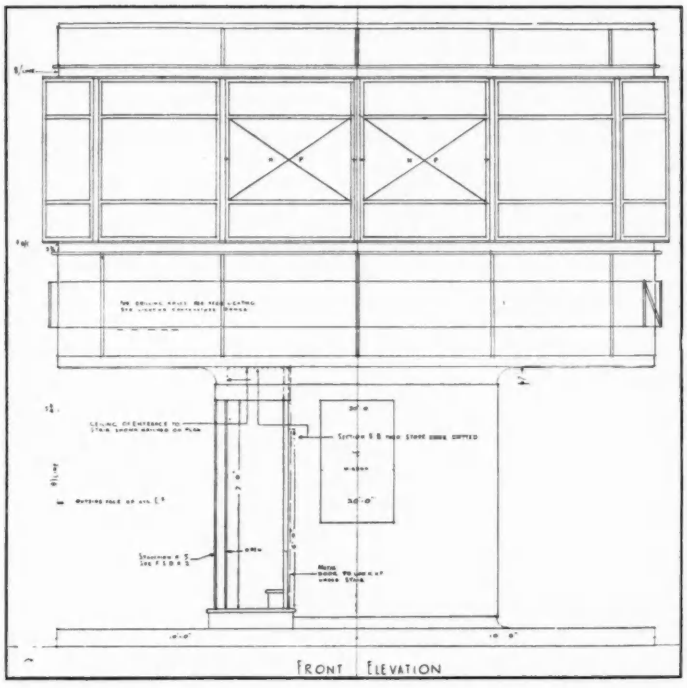
*

Stand 302S has been designed for PILKINGTON BROS., LTD., by Mr. Kenneth Cheesman, to show the possibilities for the architectural use of the more recent types of glass, and a special feature is to be made of the coloured wall lining material "Vitrolite." The usual ingenious machinery will demonstrate the toughness and resistance to shock of Armourplate glass. "Vita" glass and the more familiar types of rolled, wired and tinted glasses will also be shown.

*

Stand 276Q has been designed for Messrs. JOHN SADD AND SONS, LTD., by Mr. A. E. Wiseman, A.R.I.B.A. The "Ti-Foon" patent stormproof window is shown here, and further sections of the stand contain examples of panelling in oak, and the uses of black bean and macassar ebony.

*



The British Steelwork Association (Stand 271P), designed by Sir John Burnet, Tait and Lorne.

Stand No. 106E, for the LEEDS FIRECLAY CO., LTD., has been constructed largely of "Leftex" faience in a variety of colours; this material is also used for a range of gas and electric fireplaces. This firm is also showing a new design of sink and various types of washing troughs and fountains for factory use.

*

Door handles, locks and door furniture of all kinds is shown by NETTLEFOLD AND SONS, LTD., on Stand 153H. The "Guardian," a new tubular mortice lock, suitable for all types of door, is shown at this exhibition for the first time.

*

"Dulux" colour finishes, used by Sir E. Owen Williams at Messrs. Boots' Nottingham factory, are being shown on Stand 286R by NOBEL CHEMICAL FINISHES, LTD. The remainder of the exhibit will consist of "Petrumite" stone paint and "Frestex" plastic paint.

*

A new type of "Cheerio" boiler is being shown by the INTEROVEN STOVE CO., LTD. (Stand 123F), who are also making a large display of their other Interoven types, the "Superb" and "Selfix." The remainder of the exhibit will consist of barless grates and radiators.

*

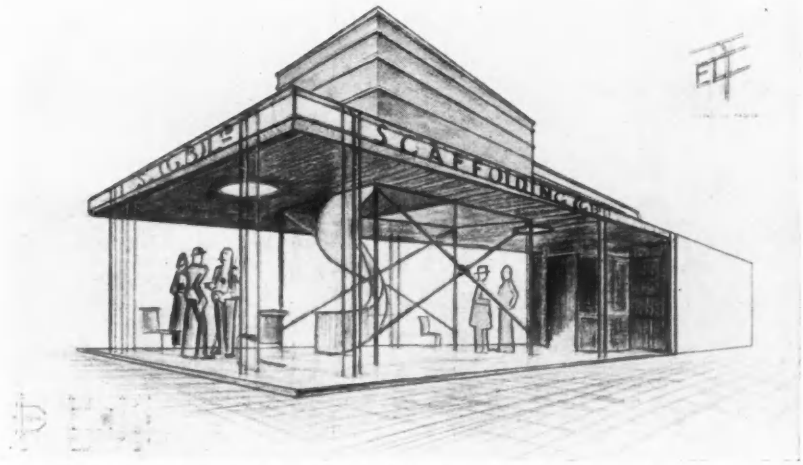
On Stand 35C Messrs. A. JOHNSON AND CO. (LONDON), LTD., are showing three standard examples of their combined sinks and draining boards made from stainless metal. Numerous advantages are claimed for this type of sink, amongst others, that breakages are reduced by the "softness" of the material as opposed to the hard unyielding glazed earthenware. "Savestane" table tops and coloured kitchen cabinets are also a feature of this stand, which has been designed by Oscar A. Bayne, A.R.I.B.A., and was illustrated in our issue of last week.

*

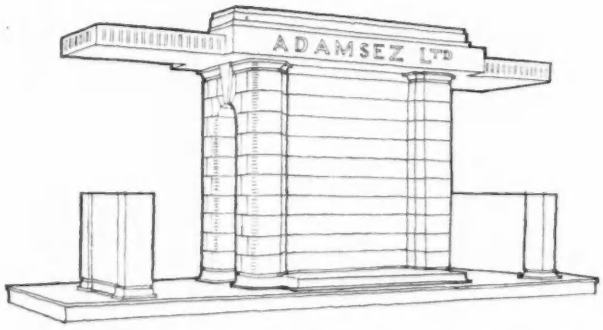
THE EXPANDED METAL CO., LTD. (Stand 148G), are showing "Exmet" expanded metal products of all types. The use of these products in welding is demonstrated by means of a model showing the construction of partitions and ceilings. "Exmet" brickwork reinforcement and "Ribmet" are also shown.

*

I.C.I. BUILDING PRODUCTS, LTD., (Stand 303S) have a full exhibit of "Pioneer" partition blocks with a variety of finishes. They are light in weight, and



Scaffolding (Great Britain) Ltd. (Stand 108E), designed by Mr. Ian Jeffcott. *See note on page 393.*



Adamsez Ltd., (Stand 178J), designed by Mr. Hubert Lidbetter.

amongst other virtues, do not harbour vermin, and it is claimed that they may be finished with one coat of plaster. "Limbux" hydrated lime and Pioneer plasters complete the exhibit.

*

CRANE, LTD., on Stand 307T, are showing a large range of boilers, both for domestic heating and for larger jobs. Numerous types of standard and special valve and pipe fittings will complete the exhibit.

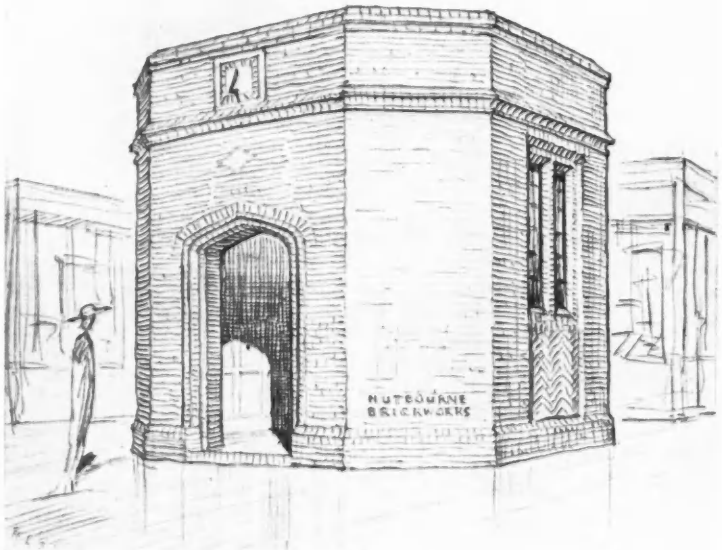
*

HASKINS ROLLING SHUTTERS, on Stand 150G, are showing fireproof and other types of rolling shutters, steel doors and gates, including an easily operated lightweight shutter known as the "Rolador Minor." HAMMOND BROTHERS AND CHAMPNERS, LTD., are also showing "H & C" lifts on this stand.

COLDAIR, LTD., are showing on Stands 82 and 83D a series of refrigerators which have been designed expressly for flats and domestic requirements, while hotels, restaurants and shops are catered for with special service cabinets. This firm also supplies compressors, air containers and guns for spray painting.

*

On Stand 239N CRAFTPLUGS, LTD., are showing rubber wall-plugs treated by a special process to ensure toughness and resiliency. "Craftplugs" are made to take all standard size screws, and the company's patents have also been applied to a new type of stud hold. The device consists of a steel core, over which are threaded two or more rubber collars, according to the length of the core, the collars being then expanded by a cone washer and nut.



Nutbourne Brickworks Ltd. (Stand 61D), designed by Howes and Jackman.

LAW REPORTS

CONSTRUCTION OF A COUNCIL ACT

Hornchurch Urban District Council v. *Standen.—King's Bench Divisional Court. Before the Lord Chief Justice and Justices Avory and Swift.*

THIS matter came before the Court on an appeal by the Hornchurch Urban District Council from a decision of the Romford Justices in favour of Mrs. Winifred Jane Standen.

It appeared that Mrs. Standen deposited with the Council plans for the erection of two houses in Sutton's Lane, Hornchurch. The Council thereupon, under the Essex County Council Act, 1933, served a notice upon Mrs. Standen that before the houses were "erected, sold, let or occupied," she should provide a means of communication from them to a highway to be repairable by the inhabitants at large. Mrs. Standen appealed to the Justices against the order, submitting that it was bad on the ground of ambiguity, in that it did not plainly state when the communication should be made, viz., when the house was occupied, let, sold or erected, and further that it failed to indicate the nature or means of communication or its exact location.

On behalf of the Council it was contended that the Act did not impose the obligation upon them to name which of the four things should happen before the communication was made. With regard to Mrs. Standen's second point, they set up that the nature and location of the communication had been clearly indicated in a specification which accompanied the notice showing the road required.

The Justices upheld Mrs. Standen's submission and held that the notice of the Council was bad.

From this the Council now appealed.

Mr. H. W. Wighturck argued the case for the Council, and Mr. H. A. Hill for Mrs. Standen.

The Court dismissed the appeal with costs.

The Lord Chief Justice, in giving judgment, said the statute meant what it said, viz., that the local authority must make up its mind and specify one of the four things mentioned, viz., erection, letting, sale or occupation—as being the time when the communicating street between the house and the highway should be made. In the present case the notice did not specify that and therefore it was bad. The appeal would be dismissed.

Justices Avory and Swift concurred.

FRONTAGERS SUCCESSFUL APPEAL

Audenshaw Urban District Council v. *Yarburg-Bateson and others—King's Bench Divisional Court. Before the Lord Chief Justice and Justices Avory and Swift.*

THIS was an appeal, by way of a special case stated by the Audenshaw U.D.C. against a decision of the local justices in favour of the defendants, who were the trustees of the Earl of Stamford and Warrington, the Planet Foundry Co., Ltd., Gas Appliances, Ltd., and the

Audenshaw Building & Investment Co., Ltd., on a point as to the liability of frontagers under the Private Street Works Act, 1892.

Mr. H. A. Hill, who appeared for the Council, said the matter applied to the frontagers in Corporation Road, who were the defendants. Proceeding, counsel explained that the Manchester Corporation, in 1875, when constructing waterworks, were allowed to divert Taylors Lane, Audenshaw, and to make a new road, which was called Corporation Road, an obligation being imposed on them to keep the road in repair. Through disrepair the road became in a bad condition shortly after 1914, with the result that there was litigation as to the work to be done to meet modern requirements. The Courts decided that all the corporation was liable for was the upkeep of the fabric with a surface of the character stipulated under the original obligation. That standard, however was lower than the one which would suit modern needs. The local authorities concerned held a conference and the upshot was that the Manchester Corporation paid the Audenshaw and Denton Councils a sum of £8,500 to take over their liability. The Audenshaw Council then served upon the frontagers of the road notices to execute the repairs under the Private Street Works Act, 1892, contending that the liability of the frontagers to do the work had never been superseded. The frontagers objected and their submission was that the money paid by the Manchester Corporation should be brought into account for the purpose of making up the road as required, and that the apportionment was therefore inaccurate and could not be enforced in law.

The Justices upheld the objection of the defendants and allowed it.

Counsel's submission was that in law the Justices had arrived at an erroneous conclusion.

The Court dismissed the appeal, with costs.

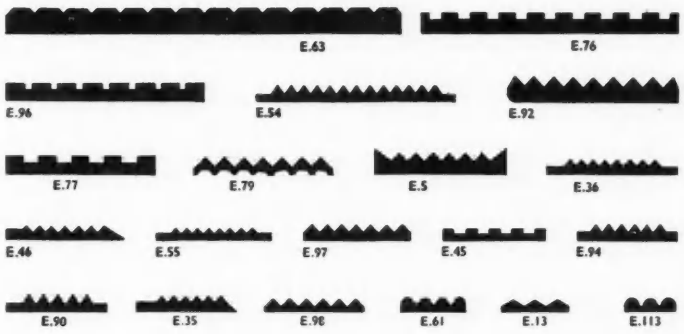
The Lord Chief Justice, in giving judgment, said the point here was that had the road been kept in good repair, as it should have been, the amount the frontagers would now have been called upon to pay to meet present-day standards would have been less than the amount they were now asked for. The case was not without difficulty; but in his view it could not be said that there was no evidence on which the Justices could decide as they had—that the apportionment of the expenses by the Council was inaccurate.

Justices Avory and Swift concurred.

Corrections

In our issue for September 6 the stand number of Smith's Fireproof Floors, Ltd., was wrongly given. The number of their stand is 86E.

Scaffolding (Great Britain) Ltd., point out that their stand (No. 108E), which we illustrated in last week's issue, was attributed to a rival manufacturer. We regret this error and have published the perspective of it again this week on page 391. The stand has been designed by Mr. Ian Jeffcott, F.I.A.A.



TRADE NOTES

[BY F. R. S. YORKE, A.R.I.B.A.]

Aluminium Settings

THE facility with which aluminium may be extruded in varied and sometimes intricate shapes, makes it a convenient and economical means of construction in a vast number of applications. This versatility is indicated by the fact that today the British Aluminium Co. has over three thousand dies, many of which are illustrated in the company's brochure entitled *Aluminium Sections.**

•

The weight of aluminium is approximately one-third of that of an equal section either in iron or bronze and extruded profiles which usually are fabricated in pure metal of soft temper show a strength of 5 to 6 tons per square inch, in which condition they may be shaped easily to the required form. If greater strength is required, smaller sections may be work-hardened by a subsequent drawing process, while both these and larger shapes usually can be supplied in one or other of the many light alloys of the metal.

•

Smaller sections customarily are despatched in straight random lengths of 8 to 12 ft., but if necessary bars can be cut to specified dimensions or in lengths greater than the latter measurement. As special requirements involve a slightly increased cost, it is recommended that standard material should be specified wherever possible, also if lengths of 18 ft. or over are required, it should be noted that additional transport charges are likely to be incurred.

•

The maximum lengths in which larger sections can be supplied generally will depend upon their sizes and the ease or otherwise with which they can be straightened. The selections of profiles illustrated here are shown half full size. The diagram at the head of these notes shows standardized tread plate sections.

* No. 358, 1934.

Dry Rot

From researches undertaken by the Linoleum and Floorcloth Manufacturers' Association,* I understand it has been shown, with various types of floor, that the problem of dry rot is fundamentally one of floor construction and not of the particular type of floor covering used.

•

The assumption, therefore, that linoleum *causes* dry rot is not correct, for, although dry rot is so insidious that it will penetrate brick walls and attack woodwork on the far side, or travel along long pieces of rope, it does not attack linoleum.

•

Some extracts from the conclusions drawn from the experiments follow :—

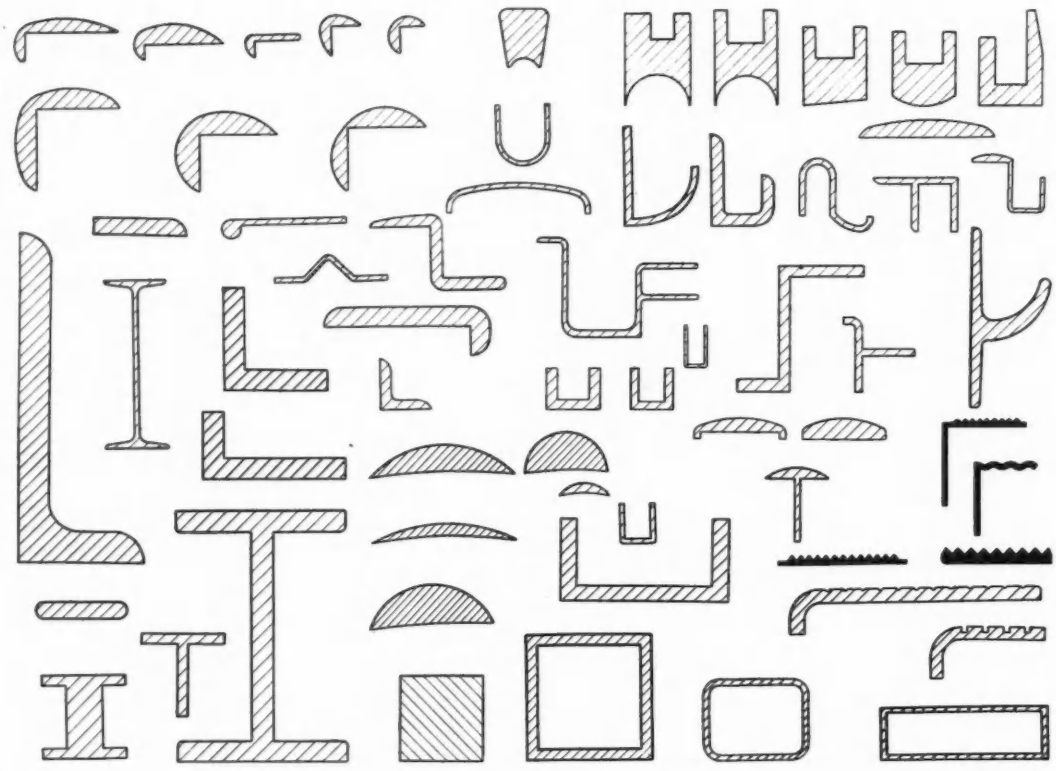
Floors. The best type of wood floor is hollow, ventilated, made of sound, seasoned wood and, preferably, treated with suitable fungicides. A floor laid and maintained under these conditions, no matter with what it is covered, will not develop dry rot, even though inoculated with dry rot fungus.

•

The worst type is the hollow floor which is neither ventilated nor treated. A badly ventilated wood floor, even though uncovered, is by no means immune. In such floors dry rot may develop at an alarming rate, quickly reducing the floors to a state of absolute decay.

Wood preservatives. In most cases where

* The Association issues a booklet, "The Development, Treatment and Eradication of Dry Rot in Floors," by the late Mr. Alex. H. Dewar, F.I.C., who conducted the researches, and this booklet will be supplied free on application to the Association, at Broadway Buildings, Westminster.



Some of the three thousand standardized sections available in aluminium, and several of its alloys. See note on previous page.

floors were treated the preservative was applied with a hand brush. It should be noted, however, that the application of any preservatives by brush treatment or dipping protects the surface only, and, if there are deep cracks in the wood, leaving a partly untreated place, a strong growth of merulium lachrymans (dry rot fungus) may seize on this and establish itself firmly, eating into the heart of the wood and breaking up the floor. Most preservatives tend to lose their efficiency with age. Reliance, therefore, should not be placed on them to the exclusion of the all-important factors of sound timber: proper construction and good ventilation.

•

In a hollow floor ventilation must be designed to eliminate air pockets. In a solid floor a damp-proof course should be provided between the floorboards and the concrete, preferably on the lines laid down under Method C by the Forest Products Research in their Bulletin No. 1 (first edition).

Floor coverings. Various floor coverings were used in the course of the experiment: linoleum, felt-base, felt, rubber, sheet-iron, glass and wood parquetry. Experiments were also conducted on floors with no covering.

Import Duties

The Import Duties Advisory Committee give notice of an application for the addition to the Free List of metal alloys, unwrought, in blocks, ingots, cakes, bars and slabs (whether broken or not), containing more than 20 per cent. by weight of tin.

•

The Committee announce they have decided not to make any recommendations in respect of the applications previously advertised for (*a*) *an increase of the import duty* on plaster of Paris, mineral white (ground gypsum) and calcium sulphate cements; (*b*) a variation of the duties on the following manufactures of cork: blocks, slabs, sheets, squares, boards and tiles; rings and washers; floats adapted for use on fishing nets; sheet cork shaped so as to be adapted for use in the manufacture of helmets; insulating pipe covering; and (*c*) *a reduction of the import duty* on shrimps in brine.

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

Following are the names of the general contractors and some of the sub-contractors for the buildings illustrated in this issue:—

Chapman House, Stepney (pages 379-380). General contractors, F. R. Hipperson and Son. Sub-contractors: British Reinforced Concrete Engineering Co., Ltd., reinforced concrete; Henry Hope and Sons, Ltd., windows; Joseph Sandell & Co., Ltd., internal doors; Haywards, Ltd., dust shoots; Easiwork, Ltd., kitchen fitments; Speiers and Co., sanitary fittings; Nettlefold and Sons, Ltd., ironmongery; Stonart Asbestos Flooring Co., Ltd., flooring; Shelvoke and Drewry, Ltd., dust containers.

Liverpool Orphanage, Woolton (pages 366-370). General Contractors, J. Jones and Sons (Woolton), Ltd. H. Tyson Smith, lettering to flag pole base; W. R. Burden, lockers, etc. Sub-contractors: The Brightside Foundry and Engineering Co., Ltd., heating and kitchen equipment; Bolton and Hayes, Ltd., asphalt; F. Brown and Son, Ltd., roof tiling; Educational Supply Association, Esavian windows; John Healey (London), Ltd., roof lights; Henshaw Bros., plumbing; T. Jones and Co., electrical installation; Francis Morton & Co., Ltd., roof steel work; Musgraves (Liverpool), Ltd., sanitary fittings; The Ravenhead Sanitary Pipe and Brick Co., Ltd., bricks; John Tanner and Son, fibrous plaster; The Trussed Concrete Steel Co., Ltd., concrete floors; Williams and Watson, Ltd., steel windows; H. G. Riddell, lightning conductors; Daniel Henderson, Ltd., laundry equipment; Quiggin Bros., Ltd., ironmongery; Geo. Lowe and Sons, Ltd., wrought iron grilles, etc.; Korkoid Decorative Floors, rubber flooring; Wm. Wadsworth and Sons, Ltd., lifts; H. D. Scott and Co., glazing; Jas. B. Robertson & Co., Ltd., stipplecrete; Pharaohs (Wallboards), Ltd., insulite; Jas. Gibbons, Ltd., cloakroom fittings; E. A. Clark, Ltd., fireplaces; The Synchromatic Time Recording Co., Ltd., electric clocks; Eric Munday, Ltd., metal lettering.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

WESTMINSTER. *Housing Estate.* The Housing and Finance Committees of the City Council have considered jointly the scheme for the extension of the Ebury Bridge estate, and recommend a revised scheme at a total cost of £232,986, as against £220,120 in respect of the original scheme, comprising 280 flats and nine shops. With regard to the first half of the scheme only, the revised estimated cost for this is £103,563, and this comprises the erection of 143 flats. Eleven tenders were received for the first half of the scheme, and the Housing Committee recommends the tender £77,801 of Messrs. Humphreys, Ltd., for the work.

SOUTHERN COUNTIES

EASTBOURNE. *Houses, Church, etc.* Plans passed by the Corporation: Six houses, Victoria Road, for Prospect Houses, Ltd.; shop fronts, Seaside, for Family Butchers, Ltd.; two houses, Park Close estate, for Messrs. P. D. Stonham and Son; two houses, Astaire Avenue, for Mr. A. Ford; two houses, South Lynn Drive, for Messrs. P. D. Stonham and Son, on behalf of Messrs. W. J. Martin and Robinson, Ltd. Plans submitted: Three houses, Command Road, for Prospect Houses, Ltd.; 247 houses, Hydneye estate, Hampden Park, for Messrs. Oliver and Leeson (architects); church, Victoria Drive, for Messrs. P. D. Stonham and Son, on behalf of exors. of the Watson Trust.

OXFORD. *Houses, Shops, etc.* Plans passed by the Corporation: Chapel extensions, Banbury Road, for Mr. R. F. Dodd; store, Rose Hill, for Mr. H. W. Smith; 12 houses, Coniston Avenue, for Messrs. Cripps and Stewart; 52 houses, Wolvercote (amended plans) for Mr. H. W. Smith; estate plan, Five Mile Drive, for Mr. W. A. Daft; amended lay-out, Quarry Field estate, for Mr. D. E. J. Knapp; two houses, Iffley, for Messrs. Nuttall Smith and David Booth; lay-out, Rose Hill, for Mr. J. E. Cammell; shop, Hollow Way, for Mr. M. Gumbrill; two houses, Quarry Fields estate, Headington, for Mr. A. G. Betts; eight houses, Quarry Fields estate, for Mr. J. J. Aston; nine houses, Cricket Road, for Mr. W. Day; house and shop, Garsington Road, for Mr. C. Harper; four houses, Cricket Road, for Mr. G. H. Simmonds; 12 houses, Coniston Avenue, Headington, for Gt. Headley Homesteads, Ltd.; 52 houses, off Godstow Road, Wolvercote, for Mr. P. J. Frewin, c/o Messrs. Hinkins and Frewin, Ltd.; two houses, Islip Road, for Urban Housing Co., Ltd.; two houses, Ferry Road, for Mr. R. Hedges; pump house, Garsington Road, Cowley, for Messrs. Morris Motors, Ltd.

SOUTH-WESTERN COUNTIES

CHELTENHAM. *Aerodrome.* The Corporation has obtained sanction for a loan of £7,750 in connection with the scheme for the provision of a joint aerodrome in association with the Gloucester Con.

CHELTENHAM. *Houses.* Plans passed by the Corporation: 132 houses, Tewkesbury Road, for Corporation; 62 houses, Arle Road, for Mr. F. Yeates; two houses, Bishop's Cleeve, for Miss E. V. Ballinger; two bungalows, Shurdington Road, for Mr. R. Bradbury.

TORQUAY. *Flats, Houses and Estate Lay-out.* Plans passed by the Corporation: Flats, Park Hill Road, for Mrs. B. I. Bays; two houses, Newton Road, for Messrs. H. Lloyd and Son; estate lay-out, Barton Hill Road, for Mr. B. J. Furness; four flats, Avoca Avenue, for Miss Leybourne; two houses, off Fore Street, for Mr. F. T. Stoneman; two houses, Teignmouth Road, for Mr. R. Bell; two houses, Trumlands Road, for Mr. E. G. Milford; estate lay-out, Barton Hill Road, for Mr. A. J. Colbourne; estate lay-out, Cadewell Lane, for Mr. J. W. Moore. Plans submitted: Shop, Cleveland Road, for Mr. W. H. Couch; lay-out for 16 houses, Wright's Lane, for Mr. P. D. Cavanna; estate lay-out, Claddon Lane, for Torquay Co-operative Society, Ltd.

TORQUAY. *Purchase of Estate.* The Corporation is to proceed with the purchase of the Cockington estate, comprising about 61 acres.

NORTHERN COUNTIES

ACCRINGTON. *Houses.* Plans passed by the Corporation: Two houses, Laund Grove, two houses, Lower Gate Road, and house, Ashworth Street, for Mr. Arthur Spencer; four houses, Woodfield Avenue, for Mr. M. Edmundson; two houses, Richmond Street, for Mr. M. Edmundson.

BOLTON. *Houses and Streets.* Plans passed by the Corporation: 14 houses, Florence Avenue, for Messrs. Haddock and Bowling; two houses, Weythorne Drive, for Mr. W. E. Yates; two houses, Seymour Road, for Mr. F. Merrison; six houses, Ashworth Lane, for Mr. L. Gibson; streets and levels, Ashworth Lane, for estate of the late Sir John Holden; 30 houses, Hulton Lane estate, for Mr. Frank Holmes; two houses, New Church Road, for Mr. H. Latham; two houses, Kingwood Avenue, for Mr. A. S. Woods; 102 houses and streets, Top-o'-th'-Brow estate, for Corporation Housing Committee; 12 houses, Tempest Road, for Mr. Frank Holmes. Plans submitted: Eight houses, Ashworth Lane, for Mr. L. Gibson; 12 houses, Somerville Street and McDonna Street, for Mr. J. Moss.

BOLTON. *Rehousing.* The Housing Committee of the Corporation has purchased land at Willows Lane, at the price of £4,242, for re-housing purposes.

BOLTON. *Market Hall Lay-out.* The Markets Committee of the Corporation has considered three alternative schemes prepared by the borough engineer for proposed alterations in the lay-out of the stalls at the market hall, and approved scheme "A" at an estimated cost of £15,000, including the provision of electric lighting.

MANCHESTER. *Houses.* The Corporation is to erect 141 houses at Lower Crumpsall and 169 at Moston.

MANCHESTER. *Cinema.* The Corporation has approved revised plans for a news reel cinema at Oxford Street.

MANCHESTER. *Road Works.* The Corporation has authorized the carrying out of road works in connection with the new cinema in Wythenshawe Road.

OSSETT. *Houses.* Plans passed by the Corporation: Four houses, South Parade, for Mr. J. Bentley; six houses, South Parade, for Mrs. Ruth Ingham.

SHEFFIELD. *New Streets.* The Corporation has approved the following plans for new streets, etc.: Newlands Grove, Newlands estate, for Messrs. J. H. Naylor and Son; four new streets off Crimicar Lane, for Mr. J. W. Sivil; new street at Sandygate (as amended), for Mrs. A. Wightman; five new streets, Norton House estate, for Mr. M. J. Gleeson; streets, Ecclesall Grange estate, for Mr. H. Andrews.

WAKEFIELD. *Offices and Houses.* Plans passed by the Corporation: Offices, Henry Street, for Mr. J. P. Firth; offices, Margaret Street, for Messrs. Dobson and Gighall, on behalf of the Ridings Trust, Ltd.; two houses, Denby Dale Road, for Mr. W. Wrigley; four houses, Cliff Street, for Mr. C. Armitage; two houses, Eden Avenue, for Mr. W. H. Ogden.

WAKEFIELD. *Housing.* The General Purposes Committee of the Corporation has adjourned consideration of the proposed purchase of land at Kirkgate for housing purposes.

SCOTLAND

GLASGOW. *Post Office.* H.M. Office of Works, Edinburgh, is to remodel the Springburn post office.

INVERNESS. *Church.* The Corporation has sold a site in the Merkinch district to the Rev. James Tolmie, for the erection of a church.

INVERNESS. The Corporation has informed Messrs. Anderson, Shaw and Gilbert that sewerage facilities will be provided if a proposed scheme for the erection of 34 houses in Drummond Crescent is proceeded with. The Corporation is to erect a block of apartment houses in Thornbush Road and has obtained sanction to proceed with the erection of a further 104 houses in the burgh.

WALES

CARDIFF. *Bridge and Road.* The Corporation has asked the city engineer to prepare a scheme for a new bridge and road diversion at Llandaff North.

CARDIFF. *Offices.* The Corporation has passed plans submitted by H.M. Office of Works for the erection of offices in Cathays Park for the Welsh Board of Health.

CARDIFF. *Warehouse.* The Corporation has leased a site in Frederick Street, to Messrs. S. C. Larkin and Sons, Ltd., drapers, of Birmingham, for the erection of a two-storey warehouse.

A model of Cranmer Court, Sloane Avenue: a block of flats shortly to be erected. It will contain 14 shops and 235 flats. Architect: Gordon Jeeves.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a spearate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A	Aberdeen ..	Scotland	1 6	1 1½
A_1	Abergavenny ..	S. Wales & M.	1 5	1 0½
A_3	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie ..	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B_3	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_3	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_3	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham ..	Mid Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton	N.W. Counties	1 5½	1 1½
A_3	Boston	Mid. Counties	1 4	1 0
A	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A	Brighton ..	S. Counties	1 4	1 0
A	Bristol	S.W. Counties	1 5½	1 1½
B_2	Brixham ..	S.W. Counties	1 2½	11
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B_3	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
	Burslem ..	Mid. Counties	1 5½	1 1½
	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury	N.W. Counties	1 5½	1 1½
A	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE ..	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A_3	Chelmsford ..	E. Counties	1 4	1 0
A	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A_3	Colchester ..	E. Counties	1 4	1 0
A	Colne	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_3	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorches ter ..	S.W. Counties	1 2½	11
A	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A_2	Dumfries ..	Scotland	1 5	1 0½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N.E. Coast	1 5½	1 1½
A_2	FASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B^*	Exmouth ..	S.W. Counties	1 3½	11½
A_3	FELIXSTOWE	E. Counties	1 4	1 0
A_3	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S. W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A	Glasgow ..	Scotland	1 6	1 1½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	Gosport ..	S. Counties	1 4½	1 0½
A_3	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln ..	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12–15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_3	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middlesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid Counties	1 5½	1 1½
A_3	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_3	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_3	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth	Scotland	*1 5½	1 1½
A_2	Peterborough	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	SALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	Slough	S. Counties	1 4½	1 0½
A_1	Solihull ..	Mid. Counties	1 5	1 0½
A_2	Southampton	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stirling ..	Scotland	1 6	1 1½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist ..	N.E. Counties	1 5½	1 1½
A_3	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay ..	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall ..	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick ..	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby ..	Yorkshire	1 4½	1 0½
A	Widnes ..	N.W. Counties	1 5½	1 1½
A	Wigan ..	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor ..	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_3	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A	Wycombe ..	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil ..	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 8
Mason (Banker) . . . . . ,,	1 7
,, (Fixer) . . . . . ,,	1 8
Plumber . . . . . ,,	1 7
Painter . . . . . ,,	1 6
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 7
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 3
Timberman . . . . . ,,	1 3
Navvy . . . . . ,,	1 2½
General Labourer . . . . . ,,	1 2½
Lorryman . . . . . ,,	1 5
Crane Driver . . . . . ,,	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . per ton	2 2 0
Blue Lias Lime . . . . ,,	1 16 6
Hydrated Lime . . . . ,,	3 0 9
Portland Cement, in 4-ton lots (d/d site, including Paper Bags) . ,,	1 18 0
Rapid Hardening Cement, in 4-ton lots (d/d site, including Paper Bags) . ,,	2 5 6
White Portland Cement, in 1-ton lots ,,	8 15 0
Thames Ballast . . . . per Y.C.	6 3
¾" Crushed Ballast . . . . ,,	6 9
Building Sand . . . . ,,	7 3
Washed Sand . . . . ,,	8 3
2" Broken Brick . . . . ,,	8 0
¾" ,, ,, ... ,,	10 3
Pan Breeze . . . . ,,	6 6
Coke Breeze . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . . per F.R.	0 9	1 1
Bends . . . each	1 9	2 6
Taper Bends . . ,,	3 6	5 3
Rest Bends . . ,,	4 3	6 3
Single junctions . ,,	3 6	5 3
Double . . . ,,	4 9	6 6
Straight channels . . per F.R.	1 6	2 6
¾" Channel bends . each	2 9	4 0
Channel junctions . ,,	4 6	6 6
Channel tapers . ,,	2 9	4 0
Yard gullies . ,,	6 9	8 9
Interceptors . ,,	16 0	19 6
IRON DRAINS:		
Iron drain pipe . . per F.R.	1 6	2 6
Bends . . . each	5 0	10 6
Inspection bends . ,,	9 0	15 0
Single junctions . ,,	8 9	18 0
Double junctions . ,,	13 6	30 0
Lead wool . . . lb.	6	—
Gaskin . . . ,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . . Per M.	2 18 0
Grooved do. . . . . ,,	3 0 0
Phorpres bricks . . . . ,,	2 17 3
,, Cellular bricks . . ,,	2 17 3
Stocks, 1st quality . . . ,,	4 11 0
,, 2nd ,, . . . ,,	4 2 6
Blue Bricks, Pressed . . ,,	8 17 6
,, Wirecuts . . ,,	7 17 6
,, Brindles . . ,,	7 0 0
,, Bullnose . . ,,	9 0 0
Red Sand-faced Facings . ,,	6 18 6
Red Rubbers for Arches . ,,	12 0 0
Multicoloured Facings . ,,	7 10 0
Luton Facings . . . ,,	7 10 0
Phorpres White Facings . ,,	3 17 3
,, Rustic Facings . ,,	3 12 3
Midhurst White Facings . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . . ,,	21 0 0
Headers . . . . . ,,	20 10 0
Bullnose . . . . . ,,	27 10 0
Double Stretchers . . . ,,	29 10 0
Double Headers . . . ,,	26 10 0
Glazed Second Quality, *Less* . ,,	1 0 0
,, Buffs and Creams, *Add* ,,	2 0 0
,, Other Colours . . ,,	5 10 0
2" Breeze Partition Blocks . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 10
3" ,, ,, ,, . . ,,	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

The following d/d F.O.R. at Nine Elms:	s. d.
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . . ,,	2 11
York stone . . . . . ,,	6 6
,, ,, Sawn templates . .	7 6
,, ,, Paving, 2" . . . F.S.	1 8
,, ,, ,, 3" . . .	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . per M.	28 17 6
22" × 12" Marchionesses . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . ,,	15 10 0
18" × 9" Ladies . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, ,, green ,, ,,	24 7 4
Best machine roofing tiles . ,,	4 10 0
Best hand-made do. . . ,,	5 0 0
Hips and valleys . . . each	9½
,, hand-made . . . ,,	10
Nails, compo . . . . lb.	1 4
,, copper . . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . F.C.	2 2
Birch . . . . . as 1" F.S.	9
Deal, Joiner's . . . . ,, ,,	5
,, ,, 2nds . . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban. . . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . ,, ,,	4
Teak, Moulmein . . ,, ,,	1 3
,, Burma . . . ,, ,,	1 2
Walnut, American . . ,, ,,	2 3
,, French . . . ,, ,,	2 3
Whitewood, American . ,, ,,	1 1
Deal floorings, ¾" . . . Sq.	18 6
,, 1" . . . ,,	1 1 6
,, 1¼" . . . ,,	1 2 0
,, 1½" . . . ,,	1 5 0
,, 1¾" . . . ,,	1 10 0
Deal matchings ¾" . . ,,	14 0
,, 1" . . . ,,	15 6
Rough boarding ¾" . . ,,	1 4 0
,, 1" . . . ,,	16 0
,, 1½" . . . ,,	18 0
Plywood, per ft. sup. —Thickness ⅛"	¼"	⅜"	½"
Qualities . AA. A. B.	AA. A. B.	AA. A. B.	AA. A. B.
	d. d. d.	d. d. d.	d. d. d.	d. d. d.
Birch. . 4 3 2	5 4 3	7½ 6 4½	8½ 7 6
Alder. . 3½ 3 2	5 4 3	6½ 5½ 4½	8 7 6
Gaboon Mahogany	4 3 3	6½ 5½ 4½	9½ 7½ –	1/0½ 10 –
Figured Oak 1 side	8½ 7 –	10 8 –	11½ – –	1/6 – –
Plain Oak . 1 side	6½ 6 –	7½ 7 –	9½ – –	1/– – –
Oregon P.ne	5 4 –	5½ 5 –	6 – –	– – –

	d.
Scotch glue . . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:
(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	¼"	½"	1"	1¼"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
,, 3"-11½" long ,,	7	9	1/3	1/8	3/–
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3
,, ,, 3"M-½" long ,,	8	10	1/5	1/11	3/6
Bends . . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . . ,,	1/–	1/3	1/10	2/6	5/1
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/–	2/–
Flanges . . . ,,	9	1/–	1/4	1/9	2/9
Caps . . . . ,,	3½	5	8	1/–	2/–
Backnuts . . . ,,	2	3	5	6	1/1
Iron main cocks . ,,	1/6	2/3	4/2	5/4	11/6
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–

Discounts:	TUBES. Per cent.		Per cent.
Gas . . .	65	Galvanized gas .	52½
Water . . .	61½	,, water	47½
Steam . . .	57½	,, steam	42½
	FITTINGS.		
Gas . . .	57½	Galvanized gas	47½
Water . .	52½	,, water	42½
Steam . .	47½	,, steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ⅜" . . ,,	8 6
,, ,, ½" . . ,,	8 3
,, ,, ⅝" . . ,,	8 0
,, ,, ¾" . . ,,	7 6
,, ,, ⅞" . . ,,	7 6
,, ,, 1" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1½" . . ,,	7 6

Cast-iron rain-water pipes of ordinary thickness metal .	3" s. d. F.R. 8	4" s. d. 10
Shoes	each 2 0	3 0
Anti-splash shoes . .	,, 4 6	8 0
Boots	,, 3 0	4 0
Bends	,, 2 7	3 9
,, with access door . .	,, —	6 3
Heads	,, 4 0	5 0
Swan-necks up to 9" offsets .	,, 3 9	6 0
Plinth bends, 4½" to 6" .	,, 3 9	5 3
Half-round rain-water gutters of ordinary thickness metal .	F.R. 5	6
Stop ends	each 6	6
Angles	,, 1 7	1 11
Obtuse angles . . .	,, 2 0	2 6
Outlets	,, 1 9	2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	18 6
,, drawn pipes . . . ,,	17 0
,, soil pipe . . . ,,	18 6
,, scrap . . . ,,	10 6
Solder, plumbers' . . . lb.	9½
,, fine do. . . . ,,	1 0
Copper, sheet . . . ,,	8½
,, tubes . . . ,,	11

L.C.C. soil and waste pipes:	3"	4"	6"
Plain cast . . F.R.	1 0	1 2	2 6
Coated . . ,,	1 1	1 3	2 8
Galvanized . ,,	2 0	2 6	4 6
Holderbats . each	3 10	4 0	4 9
Bends . . ,,	3 9	5 3	10 3
Shoes . . ,,	2 10	4 4	9 6
Heads . . ,,	4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . per ton	2 5 0
Plaster, coarse . . . ,,	2 10 0
,, fine . . . ,,	4 15 0
Hydrated lime . . . ,,	3 0 9
Sirapite . . . . ,,	3 6 0
Keene's cement . . . ,,	5 0 0
Gothite Plaster . . . ,,	3 6 0
Thistle Plaster . . . ,,	3 6 0
Sand, washed . . . Y.C.	11 6
Hair . . . . lb.	6
Laths, sawn . . . bundle	2 4
,, rent . . . ,,	3 9
Lath nails . . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft.	s. F.S.	2½
,, ,, 26 oz. ,, ,, ,,	,,	3
Flemish, Arctic, Figured (white)*	,,	7
Blazoned glasses . .	,,	2 6
Reeded; Cross Reeded	,,	11
Cathedral glass, white, double-rolled, plain, hammered, rimpled, waterwite		6½
Crown sheet glass (n/e 12 in. x 10 in.)	,,	2 0
Flashed opals (white and coloured)	,, 1 0 and	2 0
¼" rough cast; rolled plate .	,,	5½
¼" wired cast; wired rolled .	,,	9½
¼" Georgian wired cast. .	,,	11
¼" Polished plate, n/e 1 ft. .	,, † 10 to	‡1 1
,, ,, 2 .	,, †1 2 ,,	‡1 4
,, ,, 4 .	,, †2 3 ,,	‡2 6
,, ,, 8 .	,, †2 9 ,,	‡3 2
,, ,, 20 .	,, †3 7 ,,	‡4 2
,, ,, 45 .	,, †3 11 ,,	‡4 7
,, ,, 100 .	,, †5 0 ,,	‡5 7
Vita glass, sheet, n/e 2 ft. .	,,	1 3
,, ,, ,, over 2 .	,,	1 9
,, ,, plate, n/e 2 ft. .	,,	3 0
,, ,, ,, 7 .	,,	5 0
,, ,, ,, 15 .	,,	6 0
,, ,, ,, over 15 .	,,	7 6
"Calorex" sheet 21 oz., and 32 oz.	,, 2 6 and	3 6
,, rough cast ¼" and ½"	,, 8½ ,,	1 0
Putty, linseed oil . .	lb.	3

* *Colours, 1d. F.S. extra.*
†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s d.
White lead in 1 cwt. casks . . cwt.	2 6 0
Linseed oil . . . . gall.	2 2½
Boiled oil . . . . ,,	2 4½
Turpentine . . . . ,,	4 1½
Patent knotting . . . ,,	14 0
Distemper, washable . . . cwt.	2 6 0
,, ordinary . . ,,	2 0 0
Whitening . . . . ,,	4 0
Size, double . . . . firkin	3 0
Copal varnish . . . . gall.	13 0
Flat varnish . . . . ,,	14 0
Outside varnish . . . ,,	16 0
White enamel . . . ,,	1 15 0
Ready mixed paint . . ,,	13 6
Brunswick black . . . ,,	7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR

		£	s.	d.
Digging over surface n/e 12" deep and cart away	Y.S.		2	9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.		8	6
" to form basement n/e 5' 0" deep and cart away	"		9	0
" " 10' 0" deep and cart away	"		9	6
" " 15' 0" deep and cart away	"		10	0
If in stiff clay	add "			6
If in underpinning	"		4	6
Planking and strutting to sides of excavation	F.S.		1	0
" " to pier holes	"			5
" " to trenches	"			5
" " extra, only if left in	"			3
Hardcore, filled in and rammed	Y.C.		10	0
Portland cement concrete in foundations (6-1)	"	1	6	0
" " (4-2-1)	"	1	12	6
" " underpinning	"	1	16	0
Finishing surface of concrete, spade face	Y.S.			7

DRAINLAYER

		4" s.	d.	6" s.	d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1	6	2	3
Extra, only for bends	Each	2	8	3	9
" junctions	"	3	9	4	6
Gullies and gratings	"	16	6	18	0
Cast iron drains, and laying and jointing	F.R.	4	9	6	9
Extra, only for bends	Each	10	6	15	6

BRICKLAYER

		£	s.	d.
Brickwork, Flettons in lime mortar	Per Rod	27	10	0
" " in cement	"	28	15	0
" Stocks in cement	"	35	0	0
" Blues in cement	"	52	0	0
Extra only for circular on plan	"	2	0	0
" backing to masonry	"	1	10	0
" raising on old walls	"	2	0	0
" underpinning	"	5	10	0½
Fair Face and pointing internally	F.S.			1½
Extra over fletton brickwork for picked stock facings and pointing	"			8
" " " red brick facings and pointing	"			11
" " " blue brick facing and pointing	"	1	4	
" " " glazed brick facings and pointing	"	3	6	
Tuck pointing	"			7½
Weather pointing in cement	"			3
Slate dampcourse	"			10
Vertical dampcourse	"	1	1	

ASPHALTER

		s.	d.
½" Horizontal dampcourse	Y.S.	4	6
½" Vertical dampcourse	"	6	9
½" paving or flat	"	4	0
1" paving or flat	"	5	6
1" × 6" skirting	F.R.	1	0
Angle fillet	"		2
Rounded angle	"		2
Cesspools	Each	5	0

MASON

		s.	d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17	9
Bath stone and do., all as last	"	13	6
Artificial stone and do.	"	13	0
York stone templates, fixed complete	"	10	6
" thresholds	"	13	6
" sills	"	1	0	6

SLATER AND TILER

		£	s.	d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr.	3	10	0
Do., 18" × 9"	"	3	7	0
Do., 24" × 12"	"	3	17	0
Westmorland slating, laid with diminished courses	"	6	0	0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3	0	0
Do., all as last, but of machine-made tiles	"	2	16	0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	"	4	6	0
" " " " " " (green)	"	4	15	0

CARPENTER AND JOINER

		£	s.	d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2	5	0
Shuttering to sides and soffits of beams	F.S.			8
" to stanchions	"			8
" to staircases	"		1	8
Fir and fixing in wall plates, lintols, etc.	F.C.		3	9
Fir framed in floors	"		4	6
" " roofs	"		6	6
" " trusses	"		7	6
" " partitions	"		8	6
⅞" deal sawn boarding and fixing to joists	Sqr.	1	14	6
1" " " " " "	"	1	17	6
1½" " " " " "	"	2	3	0
4" × 2" fir battening for Countess slating	"		9	6
Do. for 4" gauge tiling	"		12	0
Stout feather-edged tilting fillet	F.R.			4½
Patent inodorous felt, 1 ply	Y.S.		2	3
" " " 2 "	"		2	9
" " " 3 "	"		3	3
Stout herringbone strutting to 9" joists	F.R.			10½
1" deal gutter boards and bearers	F.S.		1	2
1½" " " "	"		1	6
2" deal wrought rounded roll	F.R.			8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2	1	0
1½" do.	"	2	10	0
1¾" do.	"	2	17	0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S.		1	6
1¼" do.	"		1	9

CARPENTER AND JOINER—*continued*

		s.	d.
1½" deal moulded sashes of average size	F.S.	1	9½
2" " " " "	"	1	11½
1½" deal cased frames double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ⅜" parting beads, and with brass faced axle pulleys, etc., fixed complete	"	3	7
2" " " " "	"	3	10
Extra only for moulded horns	Each		6
1¼" deal four-panel square, both sides, door	F.S.	2	0
2" " " " "	"	2	8
1¾" " but moulded both sides	"	2	4
2" " " " "	"	3	0
4" × 3" deal, rebated and moulded frames	F.R.	1	0
4½" × 3½" " " "	"	1	4
1¼" deal tongued and moulded window board, on and including deal bearers	F.S.	1	9
1¼" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2	6
1¼" deal moulded wall strings	"	2	1
1¼" " outer strings	"	2	4
Ends of treads and risers housed to string	Each	1	9
3" × 2" deal moulded handrail	F.R.	1	3
1" × 1" deal balusters and housing each end	Each	2	0
1½" × 1½" " " " "	"	2	9
3" × 3" deal wrought framed newels	F.R.	1	3
Extra only for newel caps	Each	6	0
Do., pendants	"	6	0

SMITH AND FOUNDER

		£	s.	d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.		15	6
Riveted plate or compound girders, and hoisting and fixing in position	"		19	6
Do. stanchions with riveted caps and bases and do.	"		19	0
Mild steel bar reinforcement, ¼" and up, bent and fixed complete	"		17	6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.			11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1	10	0

PLUMBER

		£	s.	d.
Milled lead and labour in flats	cwt.	1	12	0
Do. in flashings	"	1	15	6
Do. in covering to turrets	"	2	3	0
Do. in soakers	"	1	7	6
Labour to welted edge	F.R.			3½
Open copper nailing	"			3
Close " "	"			4

		½" s.	d.	¾" s.	d.	1" s.	d.	1¼" s.	d.	2" s.	d.	4" s.	d.
Lead service pipe and fixing with pipe hooks	F.R.	10		1	0	1	3	2	0	2	10	—	
Do. soil pipe and fixing with cast lead tacks	"	—		—		—		—		—		5	
Extra, only to bends	Each	—		—		—		—		2	0	6	
Do. to stop ends	"	6½		8		9		11		1	0	—	
Boiler screws and unions	"	3	3	3	9	5	0	8	0	—		—	
Lead traps	"	—		—		—		6	3	8	9	—	
Screw down bib valves	"	6	9	9	6	11	0	—		—		—	
Do. stop cocks	"	7	0	9	6	12	6	—		—		—	

		£	s.	d.
4" cast-iron ½-rd. gutter and fixing	F.R.		1	0
Extra, only stop ends	Each		1	0
Do. angles	"		1	6
Do. outlets	"		2	9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.		1	2
Extra, only for shoes	Each		1	3
Do. for plain heads	"		5	6

PLASTERER AND TILING

		s.	d.
Expanded metal lathing, small mesh	Y.S.	2	0
Do. in n/w to beams, stanchions, etc.	"	2	9
Lathing with sawn laths to ceilings	"	1	3
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	"	1	5
Do. vertical	"	1	7
Rough render on walls	"	1	2½
Render, float and set in lime and hair	"	1	9
Render and set in Sirapite	"	1	11
Render, backing in cement and sand, and set in Keene's cement	"	2	9
Extra, only if on lathing	"		4
Keene's cement, angle and arris	F.R.		6
Arris	"		1¾
Rounded angle, small	"		3
Plain cornices in plaster, including dubbing out, per 1" girth	"		1½
1" granolithic pavings	Y.S.	3	6
1½" "	"	4	6
6" × 6" white glazed wall tiling and fixing on prepared screed	"	17	6
9" × 3" " " " "	"	1	2	6
Extra, only for small quadrant angle	F.R.			8

GLAZIER

		s.	d.
21 oz. sheet glass and glazing with putty	F.S.		7½
26 oz. do and do.	"		8½
Flemish, Arctic Figured (white) and glazing with putty	"	1	1
Cathedral glass and do.	"	1	2
Glazing only, British polished plate	"		7
Extra, only if in beads	"		2
Washleather	F.R.		4

PAINTER

		s.	d.
Clearcolle and whiten ceilings	Y.S.		6
Do. and distemper walls	"		9
Do. with washable distemper	"	1	1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	"	3	3
Do. on woodwork	"	3	6
Do. on steelwork	"	3	0
Do. and brush grain and twice varnish	"	5	6
Stain and twice varnish woodwork	"	1	11
Stain and wax-polish woodwork	"	4	6
French polishing	F.S.	1	2
Stripping off old paper	Piece	2	0
Hanging ordinary paper	from	2	9

BUILDING EXHIBITION GUIDE

A CLASSIFIED LIST OF EXHIBITORS

ACOUSTIC LININGS, SOUNDPROOFERS, ETC.

Chance Bros. & Co., Ltd. (159H)
Honeywill and Stein, Ltd. (277Q)

ASBESTOS-CEMENT PRODUCTS

Cellactite and British Uralite, Ltd. (125F)
Glazed Cement Co., Ltd. (74Gal.)
Speaker & Co., Ltd., G. R. (129F)
Turner's Asbestos Cement Co. (143G)
Universal Asbestos Manufacturing Co., Ltd. (299S)

ASPHALTE

Highways Construction, Ltd. (91E)
Limmer and Trinidad Lake Asphalt Co., Ltd. (120F)
National Association of Master Asphalters (70 and 71 Gal.)

BRICKS, TILES AND CLAY PRODUCTS

Basildon Brick Works, Ltd. (169 and 170J)
Claygate Brickfields, Ltd. (304 and 305S)
Collier, Ltd., S. and E. (104E)
Colthurst, Symons & Co., Ltd. (157H)
Coronet Brick Co., Ltd. (109F)
Dechaine, E. & Co. (65 Gal.)
Downing & Co., (1933), Ltd., G. H. (155H)
Everlasting Tile, Concrete Products and Granite Supplies, Ltd. (135G)
Hemel Hempstead Patent Brick Co., Ltd. (109F)
Iffley Brick Fireplaces Co., Ltd. (191K)
Langley London, Ltd. and Courtrai-du-Nord Tile Co., Ltd. (93E)
Lawrence and Sons, Thos. (102E)
London Brick Co. and Forders, Ltd. (158H)
Major, H. J. and C. (181J)
Marley Tile Co., Ltd. (62D)
Milton Hall (Southend) Brick Co., Ltd. (176J)
Neolite, Ltd. (56D)
Nutbourne Brickworks, Ltd. (61D)
Pomeranian Factories (24B)
Priest End Brickworks (89 Gal.)
Redhill Tile Co., Ltd. (121F)
Sevenoaks Brick Works, Ltd. (163H)
Skey & Co., Ltd., Geo. (247N)
Somerset Trading Co., Ltd. (101E)
Stock Brick Manufacturers' Association (110F)
Straffon & Co., Ltd. (33C)
Sussex Brick Co., Ltd. (184J)
Turner's Asbestos Cement Co. (143G)
Yorkshire Brick Co., Ltd. (117F)

CEMENT AND CEMENT PRODUCTS, REINFORCEMENTS AND AGGREGATES

Adamite Co., Ltd. (146G)
Byrd & Co., A. A. (64D)
Cement Marketing Co., Ltd. (118F)
Freeman, Sons & Co., Ltd., J. (46C)
Glazed Cement Co., Ltd. (74 Gal.)
Kerner-Greenwood & Co., Ltd. (49C)
McCall & Co. (Sheffield) Ltd. (175J)
Phoenix Cartage and Contracting Co., Ltd. (49 Gal.)
Redalon, Ltd. (146aG)
Trussed Concrete Steel Co., Ltd. (130 and 131F)
Twisteel Reinforcement, Ltd. (37C)

COOKING, HEATING AND HOT WATER

Aga Heat, Ltd. (215L)
Ascot Gas Water Heaters, Ltd. (264P)
Clarkhills, Ltd. (242N)
Crane Ltd. (307T)
Eagle Range and Grate Co., Ltd. (14B)
Ewart and Son, Ltd. (189K)
Fenlon and Son, Ltd. (72D)
Flavel & Co., Ltd. S. (214L)
Gas Light and Coke Co., (283Q)
Halliday Boilers, Ltd. (160H)
Hopes Heating and Lighting (152H)
"Hurry" Water Heater Co. (193K and 223L)
Ideal Boiler and Radiators (268P)
Interoven Stove Co., Ltd. (123F)
Jones and Attwood, Ltd. (185J)
London Warming Co., Ltd. (216L)
Morris Heating Appliances, Ltd. (231M)
National Gas Water Heater Co., Ltd. (60D)
Nautilus Fire Co., Ltd. (287R)
New Geysers (1931), Ltd. (284Q)
Parkinson Stove Co., Ltd. (266P)
Portway and Son, C. (226L)
Potterton, T. (Heating Engineers), Ltd. (19, 20, 21B)
Robbins & Co. (214L)
Sankey & Sons, Ltd., Joseph (253O)
Smith and Sons, Ltd., Samuel (224 L)
Smith and Wellstood, Ltd. (222L)
South Metropolitan Gas Co., Ltd. (15B)
Standard Range and Foundry Co., Ltd. (219L)
Triplex Foundry Ltd. (13B and 221L)
Turbine Furnace Co., Ltd. (306S)
Ure & Co., Ltd., Allan, (12B)
Vono Co. (274 Q)

DOMESTIC EQUIPMENT AND ELECTRICAL SUPPLIES

Abbott Bros. (Southall) Ltd. (88 Gal.)
Acme Wringers, Ltd. (134G)
Aquamellis Engineering Co., Ltd. (39C)
Belling & Co. (50C)
Berry's Electric, Ltd. (88 and 89E)
Brockhouse & Co., Ltd., J. (220L)
Cable Makers' Association (288R)
Candy & Co., Ltd. (181J)
Coldair Ltd. (82 and 83D)
Easiwork Ltd. (217L)
Electrolux Ltd. (290R)
Flavel & Co., Ltd., S. (214L)
Frigidaire, Ltd. (270P)
General Electric Co., Ltd. (311T)
Guiterman & Co., Ltd., S. (241N)
Hawkins, L. G. & Co., Ltd. (10B)
"Hygena" Cabinets Co., Ltd. (166H)
International Time Recording Co., Ltd. (230M)
Johnson, A. & Co. (London), Ltd. (35C)
Kandya, Ltd. (310T)
Kelvinator, Ltd. (256O)
Lusty and Sons, Ltd., W. (259O)
Modern Washways (78 and 79 Gal.)
Peerless Kitchen Cabinets, Ltd. (291R)
Pentesales (285R, 22 and 23 B)
Present-Day Kitchens, Ltd. (34C)
Pressed Steel Co., of Great Britain, Ltd. (275Q)
Reliance Telephone Co., Ltd. (140G)
Smith's English Clocks, Ltd. (236M)
Staines Kitchen Equipment Co., Ltd (203K)
Triumph Cabinet Works, Ltd. (78D)
Vernon, Ltd., R. (218L)
Watson's Water Softeners, Ltd. (10 and 11 Gal.)

DOORS—DOOR FURNITURE

Adams and Son, Ltd., James (69D)
Adams, Robert (58D)
Aldam & Co., Ltd., E. Hill (95E)
Bryce, White & Co., Ltd. (151H)
Elliott & Sons (Reading) Ltd., S. (180J)
Evos Doorways, Ltd. (279Q)
Gerver, N. (229M)
Gliksten and Son, Ltd., J. (97E)
King, Geo. W. (64 Gal.)
Metal Gravure Co., Ltd. (174J)
Merchant Trading Co., Ltd. (133G)
Nettlefold and Sons, Ltd. (153H)
Parker, Winder and Achurch, Ltd. (227M)
Renold and Coventry Chain Co., Ltd. (246N)
Ruberoid Co., Ltd. (267P)
Sadd & Sons, Ltd., John (276Q)
Soole and Sons, Ltd. (188J)

FAIENCE, GLAZED BRICKS AND TILES

Doulton & Co., Ltd. (243N)
Leeds Fireclay Co., Ltd. (106E)
Pickup, Ltd., W. R. (298S)
Shaws Glazed Brick Co., Ltd. (177J)

FIREPROOF FLOORS AND STAIRCASES

Braby & Co., Ltd., Fredk (309T)
King & Co., Ltd., J. A. (113F)
Rapid Floor Co., Ltd. (122F)
Smith's Fireproof Floors (86E)
Trussed Concrete Steel Co., Ltd., The (130 and 131F)

FLOOR FINISHES

Adamite Co., Ltd. (146G)
Cork Insulation Co., Ltd. (47C)
Glazed Cement Co., Ltd. (74 Gal.)
Mallinson and Sons, Ltd., W. (156H)
National Flooring Co., Ltd. (211L)
Redalon, Ltd. (146aG)
Vigers, Sons & Co., Ltd., A. (15 Gal.)
Venesta, Ltd. (114F)

GLASS AND PATENT GLAZING

Chance Bros. & Co., Ltd. (159H)
Healey (London) Ltd., J. (74D)
King & Co., Ltd., J. A. (113F)
London Sand Blast Decorative Glass Works (100E)
Marb-Panels, Ltd. (44 Gal.)
Pilkington Bros., Ltd. (302S)

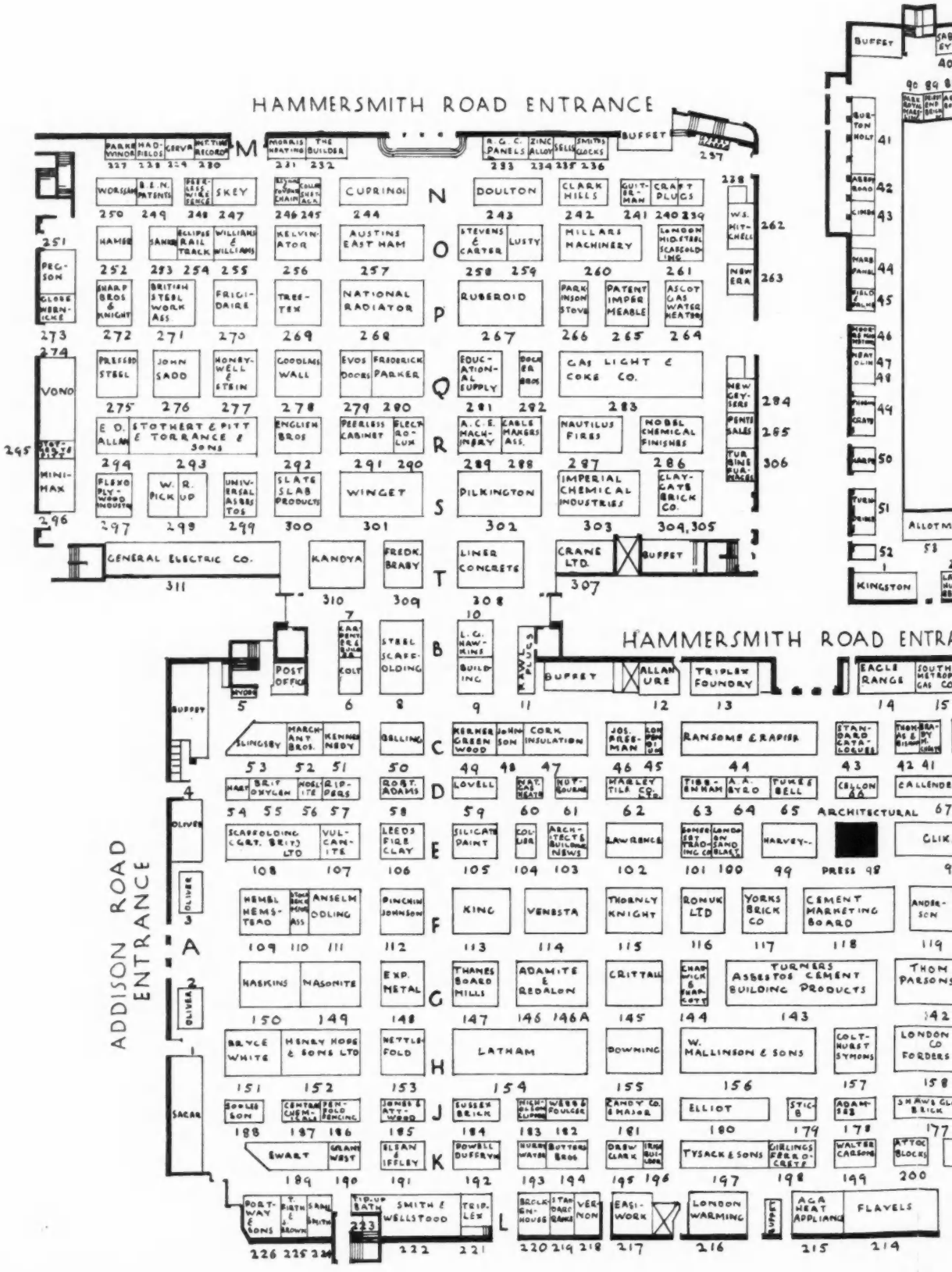
JOINERY AND FURNITURE

Betty Joel, Ltd. (81D)
Bryce, White & Co., Ltd. (151H)
Elliott and Sons (Reading), Ltd., S. (180J)
Lovell & Son, Y. J. (59D)
Sadd and Sons, Ltd., John (276Q)
Soole & Sons, Ltd. (188J)
Tibbenham, Ltd., Fredk. (63D)

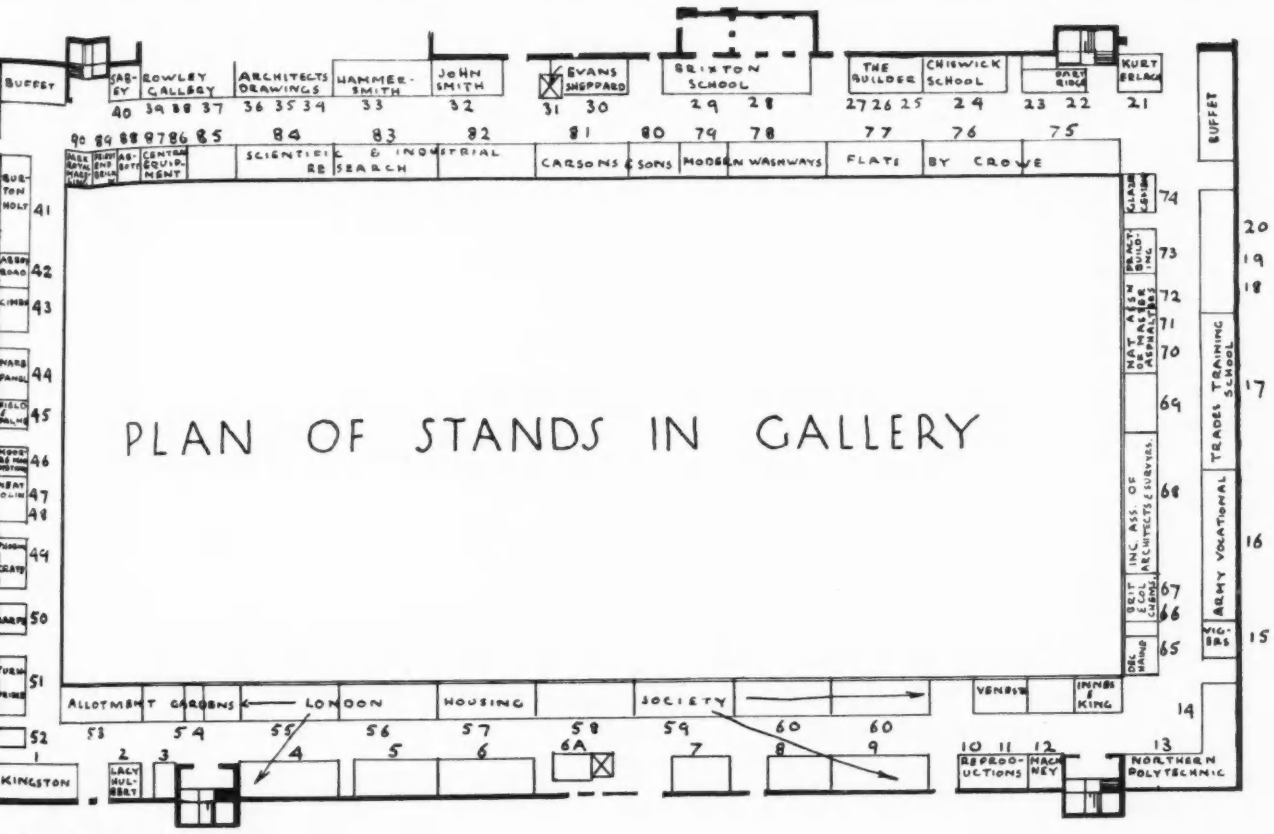
METALWORK AND STRUCTURAL STEEL

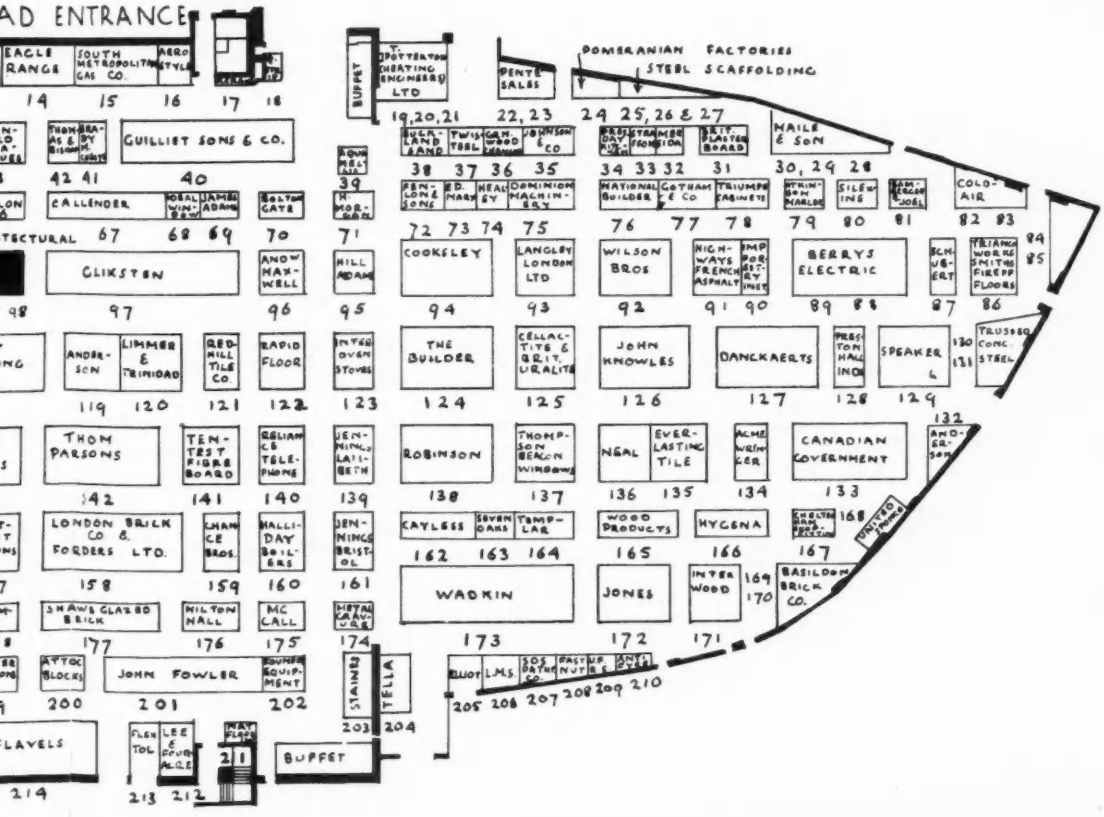
Bolton Gate Co. (70D)
Braby & Co., Ltd., Frdk. (309T)
Brady & Co., G. (41C)
British Steelwork Association (271P)
Cheltenham Shopfitting Co., Ltd. (167H)
Expanded Metal Co., Ltd. (148 G)
Firth Thos. and John Brown, Ltd. (225 L)
Harvey & Co. (London), Ltd., G. A. (99 E)
Haskins Rolling Shutters (150 G)
Hyder and Sons (5 B)

PLAN OF THE BUIL



UILDING EXHIBITION





Johnson Bros. G. (48 C)
Morgan, Henry (71 D)
Peerless Wire Fence Co., Ltd. (248 N)
Penfold Fencing, Ltd. (186 J)
Redalon, Ltd. (146A G)
Sankey and Sons, Ltd., Joseph (253 O)

MISCELLANEOUS

Abbey Road Building Society (42 Gal.)
Antifyre, Ltd. (210 K)
Atkinson and Marler (79 D)
British and Colonial Chemicals (67 Gal.)
Building Research Station (82 & 84 Gal.)
Burton Holt (Chelsea) Ltd. (41 Gal.)
Business Dictionaries, Ltd. (235 M)
Central Chemicals, Ltd. (187 J)
Cimex, Ltd. (43 Gal.)
Compendium Publishing Co., Ltd. (45 C)
Craftplugs, Ltd. (239 N)
Ellison, A. (72 Gal.)
Evans, F. H. (31 Gal.)
Globe Wernicke Co., Ltd. (273 P)
Grant and West, Ltd. (190 K)
Harper & Co., Ltd., D. (50 Gal.)
Innes Sons and King, Ltd. (64 Gal.)
London Midland and Scottish Railway (206 K)
Lovell and Son, Y. J. (59 D)
Mackney, J. J. (12 Gal.)
Marx, Edward (73 D)
Minimax, Ltd. (296 S)
Mitchell & Co., Ltd., W. T. (262 O)
Moore's Modern Methods (46 Gal.)
Neatolin, Ltd. (47 and 48 Gal.)
New Era Publishing Co., Ltd. (263 P)
Nicholson and Clipper & Co., Ltd. (183 J)
Partridges Models, Ltd. (22 Gal.)
Practical Building Publishing Co., Ltd. (73 Gal.)
Preston Hall Industries (128 F)
Rawlplug Co., Ltd. (11 B)
Reproductions (10 and 11 Gal.)
Sabey, Miss E. B. (40 Gal.)
Sheppard, Albert E. (30 Gal.)
Slate Slab Products, Ltd. (300 S)
Standard Catalogue Co., Ltd. (43 C)
Stonite, Ltd. (298 S)
Tella Co., Ltd. (204 K)
Templer & Co. (164H)
Thomas and Bishop, Ltd. (42 C)
United Sponge Co. (168 H)
Universal Farm Requisite Stores (209 K)

PAINTS—STAINS—PRESERVATIVES AND PAINT MACHINERY

Aerostyle, Ltd. (16 B)
B. E. N. Patents, Ltd. (249 N)
Carson, Walter and Sons, Ltd. (199 K)
Cellon, Ltd. (66 D)
Cuprinol, Ltd. (244 N)
Docker Bros. (282 Q)
Freeman, Sons & Co., Ltd. J. (46 C)
Goodlass, Wall & Co., Ltd. (278 Q)
Hadfields (Merton), Ltd. (228 M)
Kirkwood, Craig & Co., Ltd. (17 B)
Kurt Erlach, Ltd. (21 Gal.)
Lacy-Hulbert & Co., Ltd. (2 Gal.)
Marchant Bros., Ltd. (52 C)
Nobel Chemical Finishes, Ltd. (286 R)
Park Royal Marbling Co., Ltd. (90 Gal.)
Parsons and Sons, Ltd. Thos. (142 G)
Pinchin, Johnson & Co., Ltd. (112 F)
Quickstryp Chemical Co., Ltd. (18 B)
Ronuk, Ltd. (116 F)
S. O. S. Patents Co., Ltd. (207 K)
Silexine, Ltd. (80 D)
Silicate Paint Co. (J. B. Orr & Co., Ltd.) (105 E)
Stephenson Clarke and Associated Companies, Ltd. (192 K)
Stic B. Paint Sales, Ltd. (179 J)
Thornley and Knight, Ltd. (115 F)
Torrance and Sons (293 R)
Turnbridge Manufacturing and Supply Co., Ltd. (51 Gal.)
Worssam and Son, Ltd. G. J. (250 N)
Zinc-Alloy Rust-Proofing Co., Ltd.(234 M)

PERIODICALS

ARCHITECTURAL PRESS, LTD. (98 E)
The Architects' Journal
The Architectural Review
Architect and Building News (103 E)
Builder, The (124 F and 232 M)
Building (9 B)
Illustrated Carpenter and Builder (7 B)
Irish Builder (196 K)
National Builder (76 D)

PLANT AND MACHINERY

A. C. E. Machinery, Ltd. (289 R)
Allam & Co., Ltd., E. P. (294 R)
British Oxygen Co., Ltd. (55 D)
Butters Bros. & Co. (194 K)
Cayless Bros. (Battersea) (162 H)
Chadwick and Shapcott, Ltd. (144 G)
Cooksley, A. (94 E)
Danckaerts Woodworking Machinery, Ltd. (127 F)
Dominion Machinery Co., Ltd. (75 D)
Drew, Clark & Co. (195 K)
Eclipse Rail-Track Ladder Co. (254 O)
Fastnut (208 K)
Felco Hoists, Ltd. (202 K)
Flextol Engineering Co., Ltd. (213 L)
Fowler & Co., (Leeds) Ltd., J. (201 K)
Guilliet Sons & Co., Ltd. (40 C)
Hart, H. (54 D)
Interwood, Ltd. (171 J)
Jones & Co., Ltd., T. C. (172 J)
Kennedy, Wm. (51 C)
Lee and Fouracre (212L)
Liner Concrete Machinery Co. (308T)
London and Midland Steel Scaffolding Co., Ltd. (261O)
Millars Machinery Co., Ltd. (260O)
Neal & Co., Ltd., R. H. (136G)
Parker, Ltd., Fredk. (280Q)
Pegson, Ltd. (251O)
Ransomes and Rapier, Ltd. (44C)
Robinson and Son, Ltd., Thos. (138G)
Sagar & Co., Ltd., J. (1A)
Scaffolding (Gt. Britain), Ltd. (108E)
Schubert H., Ltd. (87E)
Shetack Tool Works (245N)
Slingsby, H. C. (53C)
Smith & Co. (London, E.), Ltd., John (32 Gal.)
Steel Scaffolding Co., Ltd. (8B)
Stephens and Carter, Ltd. (258O)
Stothert and Pitt, Ltd. (293R)
Tyzack and Son, Ltd., S. (197K)
Wadkin & Co. (173J)
Webb and Foulger (Brush Mfrs.), Ltd. (182J)
Wilson Bros. (Leeds), Ltd. (92E)
Winget, Ltd. (301S)

PLASTER, PARTITION BLOCKS AND PLASTER REINFORCEMENT

Adamite Co., Ltd. (146G)
Attoc Blocks, Ltd. (200K)
British Plaster Board, Ltd. (31C)
Expanded Metal Co., Ltd. (148G)
Gotham Co., Ltd. The (77D)
Imperial Chemical Industries, Ltd. (303S)
King & Co., Ltd., J. A. (113F)
London Brick Co. and Forders, Ltd. (158H)
Nautilus Fire Co., Ltd. (287 R)
Speaker & Co., Ltd., G. R. (129F)
Trianco Works (W. H. Smith) (86E)
Trussed Concrete Steel Co., Ltd., The (130 and 131F)

ROOFING AND DAMPCOURSES

See also "Asbestos-Cement," and "Bricks and Tiles"

Anderson and Son, Ltd., D. (119F)
Callender & Co., Ltd., George M. (67D)
Field and Palmer, Ltd. (45 Gal.)
Langley London, Ltd. and Courtrai-du-Nord Tile Co., Ltd. (93E)
Maxwell Andrew (96E)
Ruberoid Co., Ltd. (267P)
Vulcanite, Ltd. (107E)

SANITARY FITTINGS

Adamsez, Ltd. (178J)
Doulton & Co., Ltd. (243N)
Elsan Mfg. Co. (191K)
Greenwood and Hanson (36C)
Jennings (Lambeth), Ltd., George (139G)
Knowles & Co. (London), Ltd., John (126F)
Leeds Fireclay Co., Ltd. (106E)
Pickup, Ltd., W. R. (298S)
Shaws Glazed Brick Co., Ltd. (177J)
Tuke and Bell, Ltd. (65D)
Unisan Works (209K)

SCHOOLS AND SOCIETIES

Army Vocational Training Centre (16 Gal.)
Chiswick Polytechnic (24 Gal.)
Incorporated Association of Architects and Surveyors (68 Gal.)
Kingston Technical College (1 Gal.)
L.C.C. Hammersmith School of Building (33 Gal.)
L.C.C. School of Building, Brixton (28 and 29 Gal.)
"New Homes for Old" (4-9 and 55-61 Gal.)
Northern Polytechnic (13 and 14 Gal.)
Trades Training Schools (17 Gal.)

STONE, MARBLE AND ARTIFICIAL STONE

Buckland Sand and Silica Co., Ltd. (38C)
Girlings Ferro Concrete Co., Ltd. (198K)
Maile, G., and Son, Ltd. (28, 29, 30C)
Odling, Anselm and Sons, Ltd. (111F)

TIMBERS, VENEERS AND PLY-WOODS

Bamberger, Louis and Sons (81D)
Canadian Government Commission (133G)
Colt (London), Ltd., W. H. (6B)
Flexo Plywood Industries, Ltd. (297S)
Gabriel, Wade and English, Ltd. (292R)
Gerver, N. (229M)
Gliksten and Son, Ltd., J. (97E)
Latham, Ltd., James (154H)
Mallinson and Sons, Ltd., W. (156H)
Mersida Veneers, Ltd. (32C)
Oliver and Sons, Ltd., Wm. (2, 3 and 4A)
R.G.C. Panels, Ltd. (233M)
Rippers, Ltd. (57D)
Uganda Protectorate Forest Dept. (90 E)
Venesta, Ltd. (114F)

WINDOWS, FOLDING PARTITIONS AND WINDOW GEAR

Adams and Son, Ltd., James (69D)
Adams, Robert (58D)
Austins of East Ham, Ltd. (257O)
Crittall Manufacturing Co., Ltd. (145G)
Educational Supply Association, Ltd. (281Q)
Hamer, Ltd., A. H. (252O)
Hope and Sons, Ltd., Henry (152H)
Ideal Window Co., Ltd. (68D)
Jennings (Bristol), Ltd. (161H)
Parker, Winder & Achurch, Ltd. (227M)
Sharp Bros and Knight, Ltd. (272P)
Thompson Beacon Windows, Ltd., John (137G)
Williams and Williams, Ltd. (255O)

WALLBOARDS

Anderson, C. F. and Son, Ltd. (132G)
British Plaster Board, Ltd. (31C)
Masonite, Ltd. (149G)
Merchant Trading Co., Ltd. (133G)
Patent Impermeable Millboard Co., Ltd. (265P)
TenTest Fibre Board Co. (1929), Ltd. (133 and 141G)
Thames Board Mills, Ltd. (147G)
"Treetex" (269P)
Wood Products, Ltd. (165H)

Su

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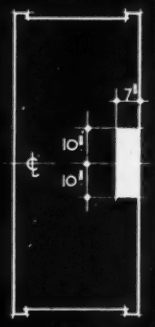
DOORS: Stock sizes of flush plywood Type 'A', hollow construction:

6'0" x 2'0" x 1¼"	TIMBERS AVAILABLE: Alder, figured Oak, Sapele Mahogany, French, American & Australian Walnut, Oregon Pine & Columbian Pine.
6'6" x 2'0" x 1¾"	
6'4" x 2'4" x 1¾"	
6'6" x 2'4" x 1¾"	
6'6" x 2'6" x 1¾"	
6'6" x 2'8" x 1¾"	
6'8" x 2'8" x 1¾"	
6'8" x 2'6" x 1¾"	

REMARKS: Maximum light for any door 24" x 18". Hinge edge is veneered if desired. Non-standard sizes at extra rates, to maximum size of 7'0" x 3'0". All doors can be made with the same or different timbers on either side.

Types 'B1' (solid blockboard construction) and 'B2' (solid laminboard construction) are made to any required size. Doors may be lipped on one or both long edges, glazed as desired, and with the same or different timbers on either side as for type 'A' above.

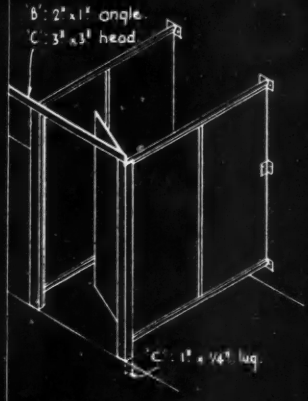
Type 'A' door lock fixing, diagrammatic elevation:



The lock may be fixed in the veneered edge within any part of the area shown in white. Door hung either way up, except Fr. Walnut (in combination with other timbers) when right or left opening should be stated.
Standard door includes thin hardwood strip on lock edge.

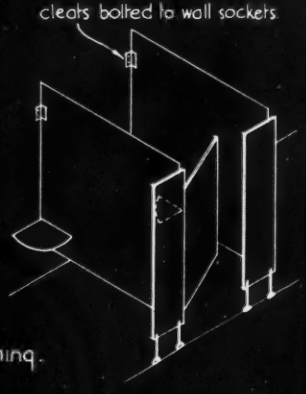
PLYMAX STANDARD FLUSH DOORS, type 'M', with galvanized steel on both sides, are made in sizes to suit requirements. The standard finish is plain galvanized, but doors can also be cellulosed in plain colours or imitation marble if desired.

STANDARD PLYMAX LAVATORY COMPARTMENTS: with wood or metal door-frames, types 'B' and 'C':



Type 'B', metal doorframes: partitions of medium ¼" plymax, galvanized steel both sides with special capping top and bottom. Doors ½" double-sided plymax with hinges & bronze indicator lock. Partition 3/8" if W.W.P. attached. Standard finish plain galvanized, special, cellulose colours or imitation marble. Sizes: 5'0" x 3'0" x 6'0" high, + 6" clearance. Type 'C', wood door frames: partitions, doors & finishes as above, frames of Columbian Pine attached by 1" x 1" angles. Sizes, height & width as above, depth 4'6" for doors opening out, 5'0" for doors opening in.

PLYMAX COLLAPSIBLE DRESSING CUBICLES: with edges sealed, type 'D':



Partitions of ¼" medium plymax galvanized both sides. Front panels & doors ½" plymax galvanized both sides. Teak seat, shelf, & two collapsible coat-hangers per cubicle. End clearance of ⅛" to front & back of partitions. Erection on five tapped blocks in floor & wall. Standard finish as for 'B'. Sizes 3'6" deep x 3'0" x 5'3" high + 6" floor clearance. Door 4'0" high with brass hinges & bolt, no framing.

PLYWOOD PANELLING AND PARTITIONS: Timbers available, graded into several rigidly standardised groups according to the natural variations of the timber on the face veneers.

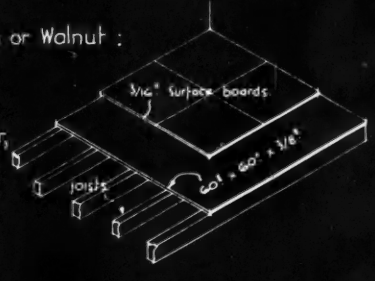
Empire timbers: Almondwood (Indian), Australian Black Bean, Tasmanian Blackwood, Indian Greywood, English Lacewood, Indian Laurel, Mahogany (Burma, Honduras, Lagos, Nigerian Blistered, Sapele), English Oak, Silky Australian Oak, Padauk (Andaman & Burma), Oregon Pine (V.L), Satinwood (East Indian), Sycamore (Figured or Plain), Teak, Walnut (Australian & English Figured).

Other timbers: Siberian Ash, Avodire, Birch, Macassar Ebony, Gaboon, figured Oak, Swedish Pine, Rosewood, Walnut (Black American and French), Zebrano.

Fixing notes:

Panelling to dry existing walls may be applied direct, with butt, chamfered or cover-battened joints. On damp walls wall-battening is necessary, with bituminous back painting to panels & battens. For better finish panelling should be delivered to the site in built-up sections. To reduce transmission of sound Plywood should be fixed to staggered studding and used in conjunction with insulating board. For single board method Venesta Cork Blockboard or Laminboard from ¾" to 1" thick, may be fixed top and bottom only to a height of 11'0", with joints butted or cover-fillетted.

PLYWOOD FLOORS: Laid in standard 3/16" thick boards 18" x 18" or 36" x 36", Birch or Walnut:
Laying: (a), Over existing floors: it is necessary only to fix loose boards and remove gross irregularities in levels. Plywood boards are laid without glue & pinned at say, 6" c/rs. Pattern may be obtained by placing grain of each board alternately. Finish: glasspaper, stain and polish.
(b), Direct to joists: use Mornot grade 3/8" thick boards, 60" x 60", fixed to joists as shown for underfloor, and 3/16" surface boards as above. Insulate with Treetex between underfloor and joists if desired.



PLYWOOD CEILINGS: in 3/16" or ¼" Birch, are fixed direct to joists, joints counter-battened or butted for paper and distemper. Level ceilings are obtained, free from cracks, contraction or expansion.
BENT BIRCH PLYWOOD: perforated or plain, is used for wall coves, furniture, seats, etc in standard lengths and radii.

Information from Venesta Limited.

INFORMATION SHEET: PLYWOOD: VENESTA DOORS, PARTITIONS, FLOORS, CEILINGS, ETC.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1

Supplement to THE ARCHITECTS' JOURNAL for September 13, 1934

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INFORMATION SHEET
• 143 •
PLYWOOD AND PLYMAX

Name of Product :

Venesta Plywood Flush Doors
Venesta Plywood Panelling and Partitions
Venesta Plywood Floors
Venesta Plywood Ceilings
Standard Plymax Lavatory Compartments
Standard Plymax Collapsible Dressing Cubicles

Venesta Birch Plywood :

Venesta Birch Plywood is sorted into groups according to the natural variations of the timber on the face veneers. These groups form rigidly standardised grades : Notless, Nilnot, Specnot, Sumnot, Mornot, and Bignot, and these grades never vary. Before Venesta grading, many different marks were employed to indicate different grades ; they were unstandardised and consequently unreliable, but the grading system has made plywood reliable for specification.

All grades adhere strictly to their specification, are made by the same methods, and tested in the Venesta factories. "Nilnot," for example, ordered in six months' time, will match "Nilnot" erected six months ago.

Venesta Ornamental (Veneered) Plywood :

All Venesta Plywood is made by exactly the same methods, and the grading system also applies to Venesta Ornamental Plywood.

For example :

Venesta oak is made from first-choice veneers, and is richly figured.

Silven oak is made from second choice with rather less figuring, but in the same way and tested by the same methods. Similar grading applies to the other decorative plywoods, including walnut, mahogany, teak and Venesta Gaboon. The latter is sorted into four groups : Grandex, Nildex, Sumdex, and Mordex. In addition to these graded plywoods, there are special ornamental types of veneer available for panelling and partitions.

Plymax :

For full details of metal-faced plywood (i.e., Plymax) and details of finishing edges, see Information Sheet No. 116.

There is a Building Uses Department of Venesta, Ltd., which exists to give advice on the solution of any problem raised by the use or fixing of Plymax or Plywood.

Name of Manufacturers : Venesta, Ltd.
Address : Vintry House, Queen Street Place, E.C.4
Telephone : Central 6580

THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION

GLAZED WALL-TILE FITTINGS:

- **CAPPINGS**
  - **SANITARY**
    - **BULLNOSED**
      - **SINGLE**
        - 6": Ordinary: 6"×6", 6"×4", 6"×3", 6"×2"
        - 6": With upward extension: 6"×2"
        - 4": 4"×4¼", 4"×4"
      - **DOUBLE** — "Kerb-top" capping: 6"×3", 6"×2", 6"×1½"
    - **ROUND-EDGED**
      - 6": 6"×6", 6"×3", 6"×2"
      - 4": 4"×4"
  - **MOULDED**
    - 6" × 3"
    - 6" × 2"
    - 6" × 1½"
    - 6" × 1"
  - **EMBOSSED**
    - 6" × 3"
    - 6" × 2"
- **SKIRTINGS, ETC.**
  - **SKIRTINGS** (having shaped top)
    - **COVE-BASED**: "Bullnosed" or "Sanitary": 6"×6", 6"×4"; Moulded: 6"×6"
    - **PLAIN-BASED**: "Bullnosed" or "Sanitary": 6"×6"; Moulded: 6"×6"; Embossed: 6"×6"
  - **COVE BASES** (plain tile plus cove)
    - 6": with 1½" cove: 6"×6", 6"×4", 6"×3", 6"×2"; with 2" cove: 6"×6"; with 3" cove: 6"×6"
    - 4": with 1" cove: 4" × 4"; with 1½" cove: 4" × 4¼"
  - **COVES** (cove—i.e. internal angle bead—only): with 1½" cove: 6" × 1½"; with 2" cove: 6" × 2"; with 3" cove: 6" × 3"
- **ANGLES**
  - **ANGLE TILES** (consisting of plain tile plus angle)
    - **BEADED**
      - **SINGLE** (i.e. "combination angles")
        - For use with 6" × 6" tiles: External Angle: angle part 6" long by 1½" : 6" × 6"; Internal Angle: " " " " " " : "
        - " " " 6" × 6" or 6" × 3": External " " " " " " " : 6" × 4¼", 6" × 5", 6" × 6"; Internal " " " " " " " : 6" × 4¼", 6" × 5", 6" × 6"
        - " " " 6" × 3" or 3" × 3": External " " 3" " " 1½" : 3" × 4¼"; " " " " " " 2" : 3" × 5"; " " " " " " 3" : 3" × 6"; Internal " " " " " " 1½" : 3" × 4¼"; " " " " " " 2" : 3" × 5"; " " " " " " 3" : 3" × 6"
        - " " " 4" × 4": External " " 4" " " 1" : 4" × 4"; " " " " " " 1½" : 4" × 4¼"; Internal " " " " " " 1" : 4" × 4"; " " " " " " 1½" : 4" × 4¼"
      - **DOUBLE**: with angle (external) on two opposite edges ("Double-bullnose tiles"): To span 5" wall: 5" × 4"; " " 4" " : 4" × 4" — Angle parts 4" long, by 1½"
    - **ROUND-EDGED**
      - **SINGLE**: For use with 6" × 6" tiles: 6" edge rounded: 6" × 6", 6" × 3", 6" × 2"; " " " 6" × 3" " : 3" " " : 6" × 3", 3" × 3"; " " " 4" × 4" " : 4" " " : 4" × 4", 4" × 2"
      - **DOUBLE**: (two opposite edges rounded): 4" × 4"
  - **ANGLE BEADS** (angle only)
    - **EXTERNAL**: 6": 6" × 1", 6" × 1½", 6 × 2", 6" × 3"; 4": 4" × 1", 4" × 1½", 4" × 2"
    - **INTERNAL**: 6": 6" × 1", 6" × 1½", 6" × 2", 6" × 3"; 4": 4" × 1", 4" × 1½", 4" × 2"
- **SUNDRIES**
  - Swimming pool sundries: Scum Troughs, Ladder Treads, etc. See Swimming Pool Booklet
  - Plinth blocks: 6" × 5" (used with 6" × 4½" capping as architrave moulding for doorways); 6" × 3½" (" " 6" × 3" " " " " " " ")
  - Ventilators: sizes: 9" × 6", 9" × 3", 6" × 6", 6" × 3", 8" × 4"
  - Channel Tile or Gutter: 6" × 3", 6" × 2"

ANGLES, ETC. TO FITTINGS:

For all the above Fittings—one or two Sundries excepted—auxiliary fittings are made. Cappings and skirtings, for example, require external and internal angles—square and of different radii—stop ends, reveal corners, etc. For particulars of these see detailed Information Sheets.

FOR DEFINITIONS AND NOTES SEE BACK HEREOF.

INFORMATION SHEET: CLASSIFICATION OF GLAZED WALL-TILE FITTINGS

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1

THE ARCHITECTS' JOURNAL
LIBRARY OF PLANNED INFORMATION

INFORMATION SHEET

• 144 •

TILES

Type of Product: Tile Fittings

General :

This Sheet is a classification of all the varieties of shaped tile fittings in general use.

Stock Fittings :

All the fittings classified are stocked in large quantities in "biscuit" form (i.e., unglazed) ready for glazing in any colour according to the demand.

Special Fittings :

Shaped fittings for special purposes are made to order as required.

Cappings

Cappings form the top tile course in wall work where the tiling is not carried up to the ceiling. Certain types are also used as decorative strips, others as architrave moulding for doorways, etc. "*Sanitary*" *Cappings* are so-called as being free from the corrugations and other irregularities of surface which characterize the moulded and embossed cappings. There are three types in common use :—

Single-Bullnosed (commonly known simply as bullnose cappings).

Double-Bullnosed, or kerb-top cappings.

Round edged.

A special form of single-bullnosed capping with an upward extension is known as a "*set-back*" or *hospital* capping. In this section, thus it is particularly useful for hospital dados where the upper wall is not tiled. Its one-inch band of glazed surface *above* the capping proper prevents the marking of the upper wall by the duster used in wiping the projecting ledge.

Double-bullnosed Cappings, apart from being used on walls, serve also, in kitchens, etc., to form a border to tiled draining-boards, and for sink tiling generally.

Round-edged Cappings are sometimes used on the score of cheapness. Though neat, they are not equal in appearance to the more usual bullnose cappings.

Moulded Cappings (which are usually of ogee or similar section), though still popular for certain classes of work, are not so universally used as formerly.

Embossed Cappings—i.e., those bearing a pattern (leaf, egg, dog-tooth, etc.) in relief—are but little in demand. The present greater appreciation of cleanliness and of simplicity of design has lead to a preference for cappings of the "sanitary" type.

Skirtings, etc.

Skirtings, Cove Bases and Independent Coves.—These terms are often used indiscriminately. The firm apply *Skirtings* only to that type of wall-base which has some distinctive feature (bullnose or moulding) at its upper edge :—

Cove Bases to that made up of a flat tile plus a quarter-round internal sweep where it meets the floor :—

and *Coves* to that which consists of the internal sweep just mentioned and nothing more :—

A skirting—as defined above—may, of course, finish floorwards in a cove, in which case it is a *Cove Skirting*.

"*Sanitary*," "*Moulded*" and "*Embossed*" have the same meaning when applied to skirtings as when applied to cappings.

Angles

A tile intended for turning corners may be either a flat tile with an angle (which we may call an angle tile) or an angle only, known as an angle bead.

Angle Tiles are of two classes :—

A : Those in which the angular part consists of what may be called an extension, in the form of an angle bead, of the flat tile. These are :—

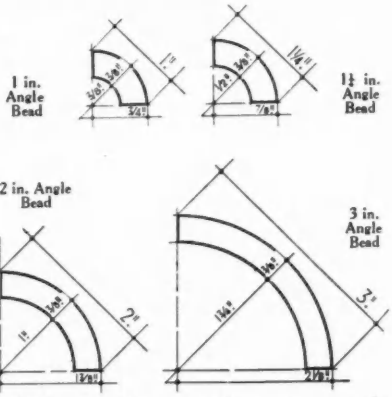
(1) *Combination angles*, with a bead on one side only ( ), used for all internal and external wall angles, window reveal and sill angles, door jamb angles, etc.

(2) *Double-bullnosed tiles*, with a bead (external) on two opposite sides ( ), used to span the free end of a partition wall or to form the top of a kerb—e.g., at the entrance to a bathroom shower recess.

B : Those in which the angle is formed merely by the rounding-off of the edge of the flat tile itself. These *round-edged angles* naturally give a somewhat sharp corner, the radius of the angle being necessarily that of the tile's thickness—i.e., $\frac{3}{8}$ in. They have, therefore, not so satisfactory an appearance as combination angles, than which, however, they are slightly cheaper. Whether with one edge—or with two opposite edges—rounded ( ), they are used in much the same way as the corresponding beaded angle tiles just described.

Angle Beads are either internal or external. For better-class work the combination angle is to be preferred to the independent bead, as having a better appearance, and also, in the case of external corners, a more secure hold on the wall.

Note on angle measurements.—The accepted angular measurement of a tile angle is not that of its radius (though the word radius is often used in this connection) but that of its *width*, measured across from point to point in a straight line. This holds good for every tile angle, whether an angle bead, a bead forming part of a combination angle, sanitary capping, or cove base, or the angle part of an angle to a capping or skirting. Moreover, it applies equally to internal and external angles—the only difference between these being, of course, that the former are glazed on the inner, and the latter on the outer, surface. The diagrams below, illustrating angles of different sizes, will make the matter clear.

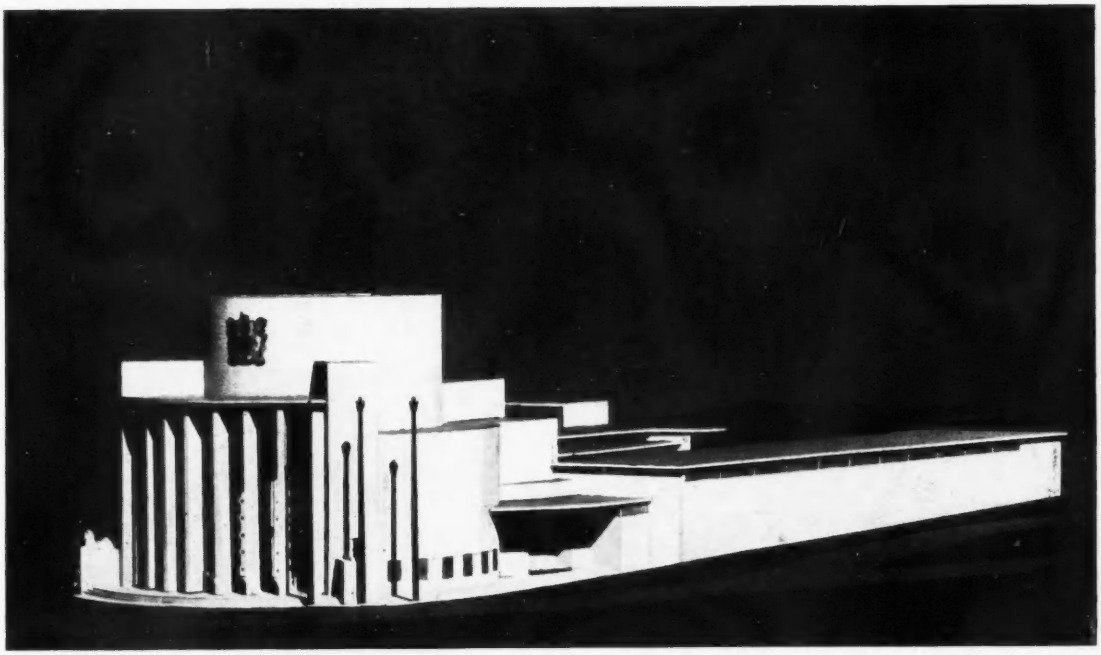


Although the manufacturers supply angles in all these sizes, their standard angle is the 1¼ in., that having proved the most satisfactory for all ordinary purposes.

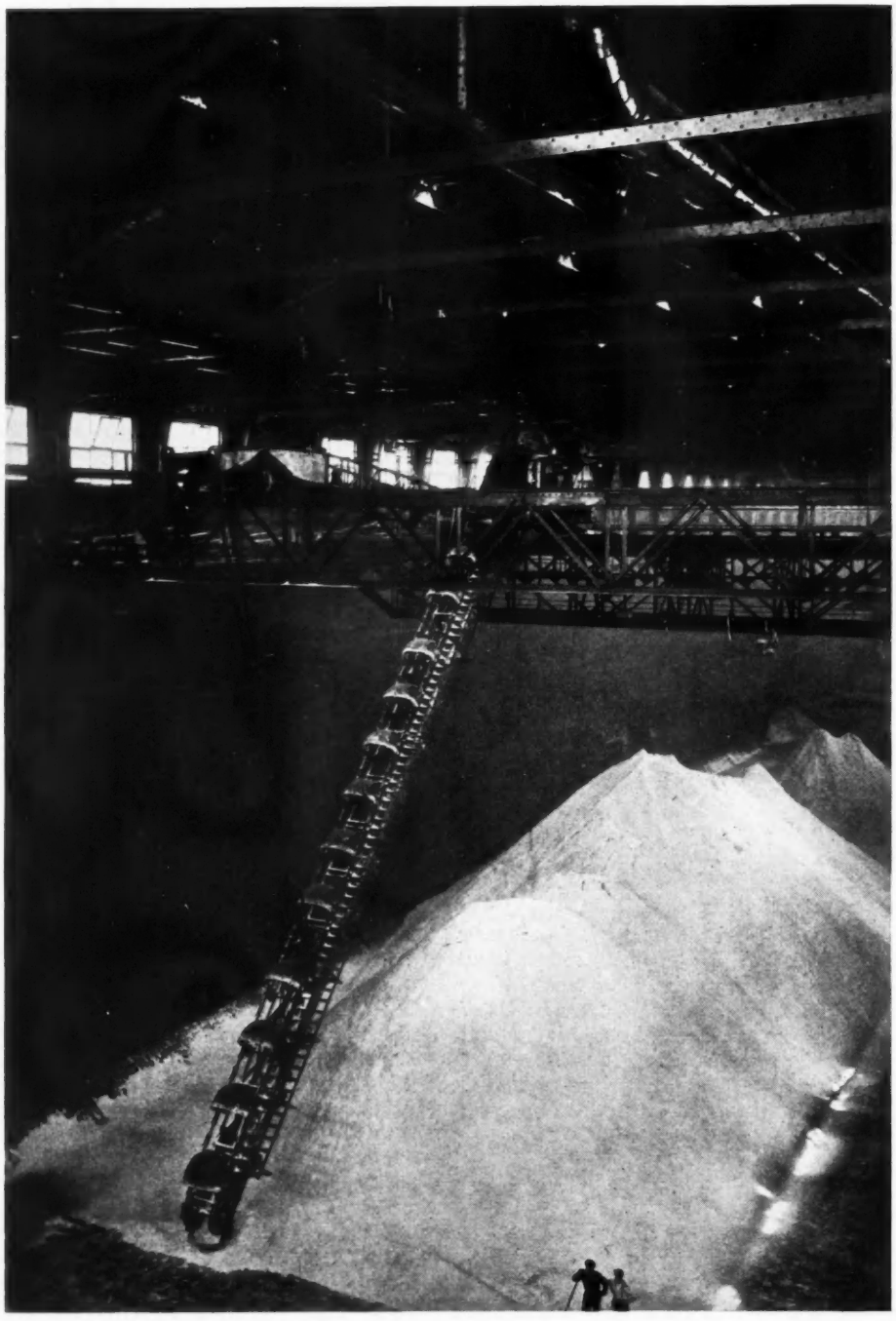
Name of Manufacturers: Richards Tiles, Limited
Address : Tunstall, Stoke-on-Trent
Telephone : Hanley 7215-8
London Office: 25 Victoria Street, S.W.1
Telephone : Victoria 9128
Glasgow Office : 53 Bothwell Street, Glasgow, C.2
Telephone : Central 1768

THE BRITISH PAVILION

FOR NEXT YEAR'S BRUSSELS EXHIBITION

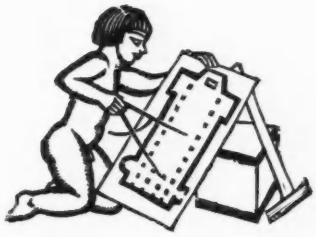


"A GREAT globe of glass, 20 ft. in diameter and illuminated from within and without revolving slowly upon its axis in the centre of the British Pavilion, will teach the famous lesson: 'The sun never sets upon the British Empire.' This old but true saying may be said to be the key-note of the British display at the great International Exhibition which will open in Brussels in May next." So says the Department of Overseas Trade's preliminary announcement regarding British participation in the Exhibition to be held in Brussels next year. Above is a model of the British Pavilion, which contains (besides the revolving globe beneath the main drum, which is 80 ft. in height) two segmental exhibition halls, a Royal Gallery and one-storey exhibition galleries. It has been designed by Howard Robertson.



INDOOR ALPS

Only the two minute figures at the bottom of the picture indicate the gigantic scale of this industrial interior, in which man-handled mountains suffer accelerated denudation and redistribution by man-controlled machinery which travels about the steelwork in the roof. The photograph was taken inside one of the nitrogen silos at the Oppau works of the I. G. Farbenindustrie at Ludwigshafen.



WHAT PLANNING WOULD MEAN AT OLYMPIA

THE Zoo belongs not to the public, but to the Royal Zoological Society, for whom it provides the material for serious study. Its function as a public entertainment is only secondary, though, particularly on Bank Holidays, it is as an amusing and slightly juvenile spectacle that the public chiefly regards it. It is the same with the Building Exhibition ; some visitors may go in a spirit of aimless and unscientific curiosity, but its real function is to present the building industry, as the Zoo's is to present zoology, as a serious progressive science. It gives an opportunity, offered only for a fortnight biennially, instead of daily, except Sundays (but for that reason all the more valuable) to examine the individual specimens of the particular science it deals with under the most informative conditions in a state detached for purposes of observation from their natural working existence. For that reason it is as a scientific demonstration that it should be arranged : a tour of Olympia should be in effect a survey of building as a tour of Regent's Park is of zoological evolution. At present, of course, it is nothing of the sort. The Zoo has here become a menagerie, whose exhibits aim to catch the eye of the passing visitor rather than the attention of the serious seeker after information, though it is the latter for whom it really exists, and whose interest will justify it in the long run.

These remarks are occasioned by a number of letters we have received (and print on another page) about the arrangement of the Building Exhibition, in reply to a question we circulated among exhibitors. We had previously given the opinion that the Exhibition ought to be *planned*, and these are the exhibitors' responses to the idea. A large proportion of exhibitors' replies follow the same lines : an expression of approval of the idea of greater order and control in exhibitions generally, followed by cautious reservations as to its suitability in this particular case. These reservations in many cases, it appears, arise from a misconception of what is meant by planning, a misconception which must be removed before any agreement can be reached as to the steps that should be taken to improve the exhibition in future years.

Planning is simply the natural outcome of that scientific approach we have already referred to. It consists in admitting that an exhibition of building progress has a serious and useful function responsibly to fulfil, and designing it to serve that purpose conveniently, attractively, and with dignity. Planning does not, as some correspondents seem to imagine, imply standardization or restriction of any but actively anti-social enterprise ; it enlarges rather than reduces the field of intelligent advertisement. Employment of a supervizing architect would not mean forcing each exhibitor to accept a pre-designed stand. The architect is merely the person who is accustomed to manipulating a number of units into a working organization—who practises, in fact, the *technique of planning*. He is the curator who, rather than try to suppress or standardize the varying habits of the animals, tries to display them in the most informative way—(we must excuse our persistence in the zoological analogy by saying that it seems to us one way in which our views can be made clear. Further pursuit of the analogy into greater detail or closer comparison is not, of course, intended).

Many correspondents point out that a type of stand designed for one product would not be found suitable for another. With that we, of course, agree. A giraffe would be unhappy in an aquarium, and a fish out of water is proverbially uncomfortable. But there is plenty of room within the framework of a designed scheme of display for each exhibitor to employ his own product ; functionally on his own stand, and also as one unit in a connected and coherent whole, giving it an added point and value over and above that of a simple enquiry or sample bureau. Improved circulation, a more emphatically defined ground plan, more practical lighting and a more systematic arrangement of the widely varying trades would all contribute to the convenience of serious study, and therefore to the popularity of the exhibition as a place for study. An orderly classification on the lines of an architect's specification is the only sensible form to give to a display which is in effect itself an amplified, fully illustrated specification to be collated in exactly the same way. Rodents are housed together in the rodent house, not because they enjoy being together, but because they need the same services, can there be easily found, and are convenient for comparative observation. The juxtaposition of unexpected specimens might have a certain piquancy suitable for a menagerie or fun-fair, but that kind of appeal will hardly compensate for the loss of the lucidity found in a more sanely conceived exhibition, and the loss of business which the menagerie atmosphere entails.

Superficial noticeability may be an apparent advantage, but, in practice, it is an advantage that defeats its own purpose. Where all compete for notice, none are noticeable. The purpose of the exhibition is, as we began by saying, to provide a planned exhibit for genuine buyers, and to cultivate over a long period serious interest in scientific progress, rather than to present a row of side-shows that make no contact for the architect with the working methods to which he is accustomed. The best exhibitions are more important as a whole than the sum of their parts, and that extra usefulness can only be acquired by the concerted action of the personification of the parts—the exhibitors.

The Architects' Journal
Westminster, S.W.1
Telephones: Victoria
9212-7
Telegrams:
Buildable
Part
London

NOTES & TOPICS

OLYMPIA

SIR GILES GILBERT SCOTT'S opening speech at the Building Exhibition might have been taken for the most masterly feat of oblique admonishment. Speaking with guileless simplicity, he confessed that he had not yet seen the Exhibition, but that what he would look for would be first the lay-out, next the individual stands of merit, and finally the goods themselves.

*

Having rather a long memory, I was not free of some apprehension as I went in to see the exhibition for myself. In spite of many visits to Building Exhibitions in past years, I am not by any means inured to the shocks which I have been accustomed to receive.

*

This year I was gently let down; the Main Hall, at least, was far less horrifying than I had expected. So, for that matter, was the smaller one.

*

There is, of course, no sort of organized, or even considered, cohesion in the Exhibition. A creditable number of exhibitors have put up quite good stands; a few, very good ones indeed. There are not very many really bad ones, and the average is high-medium.

*

As I see it, there has already grown up a consciousness of what "Exhibition Stand Design" means, and everybody tries, acording to his own ideas, to live up to a standard. But there is no co-ordinating brain to determine what that standard should be.

*

I believe that the vast majority of the exhibitors have got so far already towards homogeneity of thought that only a little tact is needed to make a really fine show of Olympia in 1936. I shall be interested to see what the exhibitors themselves have to say.

*

It was the same last year when Miss Elizabeth Denby organized the first New Homes for Old Exhibition in the gallery of Olympia, as it is this: the crowds went upstairs to see what a really well-designed lay-out looks like.

*

The contrast between the individualism down below and the spacious, articulated, vitally displayed propaganda of the New Homes for Old Exhibition is little short of miraculous.

*

I was touring the show with a director of an advertising firm of world-wide repute, who told me that only the best of German exhibitions surpassed it in point of lay-out, and that the MARS Group section might stand anywhere as a first-rate example of dynamic propagandist display. He seemed rather surprised to know that we could do this sort of thing really well, our tradition being, as it were, dead against it.

CHIPPERFIELD

The Chipperfield case* appears to me to offer the appearance of a cast-iron test case; flat roof or pitched *tout court*. Maxwell Fry, whom I met soon after the first Press reports in *The Evening Standard*, seemed to me to be a trifle bewildered at the sudden rush of interest in the house.

*

"Well, you know that council meetings are reported," I said, "and that I, for one, am glad they are in this case." He said that it wasn't that so much, but rather the suddenness of action coming after so long a spell of constantly renewed hope that one day (and without too serious accident to the design itself) a house might arise out of drawings that were now becoming well travelled in a search for the fool-proof site, and a trifle dog-eared with office handling. The way of the modern architect is pretty hard, is it not?

STREETS CAUGHT UNAWARES

I see that the buses and trams of the London Passenger Transport Board are displaying a new poster with a wide open eye as its central motif. The wording is brisk and to the point: "Alert to-day. Alive to-morrow."

*

I remember, quite a long time before the war, 1908 or thereabouts, the increasing motor traffic gave some bright young person the opportunity of saying that in London there were two classes: the quick and the dead, and those who weren't quick were darned soon dead.

*

Twenty-six years ago the traffic problem was appreciated, but save for sporadic street widening, what has been done? It is the old story of the broad gauge on the railways over again; a disbelief in progress, a disbelief in plan, manifest in such monstrous stupidities as the making of the Kingsway tunnel, which only took single-decked trams, and had to be rebuilt recently to take double-deckers.

*

Even now we are only restricting the action of the vehicles that use the streets of London. We are not thinking

* See pages 406-407 of this issue.

Buckfast Abbey, with the extension of the tower shown under construction. See Astragal's note on this page.

boldly of underground and overground ways, of remodelling with courage. The victims of modern traffic might justly claim for their epitaph : Where there is no vision the people perish.

" DIGNITY AND MODERNITY "

The lay Press explains that Mr. Howard Robertson has "created a pavilion striking in its dignity and modernity" for the exposure of British taste, industry and whatnot at the Brussels Exhibition next May.

*

A good many architects must get irritated by the sententious twaddle that the popular Press hands out about their work ; but I can picture Mr. Robertson's quiet amusement. I can almost hear him saying : " Well, they could just see it wasn't Tudor, so they called it modern."

STEEL HOUSES

When Sir Charles Wright at the luncheon given by the British Steelwork Association in connection with the Building Exhibition mentioned that new manufacturing technique opened up vast possibilities for the use of sheet metal in building, an architect reminded him that it was the problem of this generation to find an æsthetic treatment for steel.

*

The architect was Mr. Francis Lorne. He isolated a vitally significant problem, and one that is difficult of solution because experiment and research work are obstructed by the tiresome love of disguise that influences patronage and afflicts design.

*

Still, in spite of archaic sentimentality, that problem will probably be solved by the architectural profession. Only architects seem to be aware that it exists.

MIDNIGHT AT STONEHENGE—

A few weeks ago I travelled all night by road for pleasure into the west country. There were two of us, and we arrived at Stonehenge at midnight.

*

The official in charge had left his post, so we climbed in through the barbed wire, and sat admiring the sleek, sinister shadows cast by the temple in the moonlight. It was like being in a cathedral, until a particularly noisy lorry arrived from the direction of Amesbury, and halted by the enclosure.

*

A rich Lancashire voice said : " Ee, that'll be Stone'-enge ! " The lorry then decanted about twenty Boy Scouts who immediately climbed through the barbed wire, and over-ran the enclosure in an orderly manner.

*

As they left I saw three of them pick up bits of paper that were visible in that intense moonlight. With nervous haste I wiped from the altar stone some drops of the hot coffee that we were imbibing from a thermos. B.P.'s pets had prevented me from thoughtlessly staining an ancient monument. . . .

—AND NOON AT BUCKFAST

Being " historically minded " we decided to travel further west and visit Buckfast Abbey, the home of the Benedictine monks, which was consecrated in 1932. We arrived somewhere in the region of noon, and were shown round the building by one of the monks.

*

The history of the abbey, as told by our guide, seems more like a romance than cold facts.

*

Founded in remote Saxon times as a Benedictine House, it passed into the hands of the Cistercians, and was rebuilt by them in the twelfth century. The abbey was surrendered to the Royal Commissioner in 1539, and was eventually left to ruin and decay, and became a stone quarry for the countryside. In 1806 what remained standing of the church and most of the other buildings were razed to the ground. Seventy-seven years later it was determined to discover, if possible, the old foundations : this was successfully accomplished.

*

At the end of 1906 the rebuilding of the abbey church was commenced, and the whole work has been carried out by *six* monks, under the direction of the late Frederick A. Walters, who also superintended the tracing and uncovering of the foundations of the whole of the original buildings.

*

Work is still in progress. The photograph reproduced on this page shows the monks at work on the tower, which is being raised another 40 ft., making a total height of 140 ft.

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

The first annual general meeting of the Institute of Official Architects is to be held on October 1 414

"*We should quite concur in the desirability of the Building Exhibition being laid out in accordance with the architect's idea of order and plan*" 424

"*We regret we do not approve of the suggestion that the Exhibition should be planned out by an architect according to his ideas of order and planning*" 424

Overcrowding in London, revealed in figures and symbolized in sardine tins 426

THE ARCHITECTS' DIARY

Thursday, September 20

R.I.B.A. *Architects' Unemployment Committee. At 7 Bedford Square, W.C.1. Exhibition of work done under the Architects' Emergency Scheme. Open until further notice.*

BUILDING EXHIBITION, *Olympia. Until September 26.* (11 *a.m. to 9 p.m.*) *Also, Lecture on "Modern Gardens." By Mr. G. A. Jellicoe, A.R.I.B.A., A.I.L.A. Illustrated with lantern slides.* 6 *p.m.*

Friday, September 21

ARCHITECTS' BALL. *At Olympia. From 8.30 p.m. until 1 a.m.*

Saturday, September 22

BUILDING EXHIBITION, *Olympia. Lecture on "How A Building Goes Up." By Mr. G. W. Harris, Ex-President of the Incorporated Clerks of Works Association of Great Britain. Illustrated by cinematograph film. Chair will be taken at 6 p.m. by Mr. W. H. Hamlyn, A.R.I.B.A.*

Monday, September 24

ROYAL PHOTOGRAPHIC SOCIETY. *At 35 Russell Square, W.C.1. Annual Exhibition. Open until October 6.*

Tuesday, September 25

LONDON SOCIETY. *Coach drive to Stoke Poges Church and Churchyard.* 2 *p.m.*

BUILDING EXHIBITION, *Olympia. Lecture on "The City of the Future." By Mr. R. A. Duncan, A.R.I.B.A. Illustrated with lantern slides.* 6 *p.m.*

TOO MODERN

The following paragraph appeared in *The Evening Standard* for September 17 :—

"Epping is having a little tussle with the London Transport Board.

"It is all about a coach shelter.

"When the Board first suggested that a shelter was needed the council agreed.

"The Board sent along a photograph of the last word in coach shelter design.

"Epping councillors took a look at it.

"They thought it a little *too* modern.

"So the Board are to be informed that Epping require a shelter with a little more old-world charm about it, something that will tone with the atmosphere of the town."

BUILDINGS OF THE FUTURE

Mr. Francis Lorne, F.R.I.B.A., speaking at a luncheon at Olympia last week, said : "Most of our buildings today are constructed to last for much too long. The average lifetime of a building in London is approximately 100 years and the change in 100 years in both the social and economic life of our people is far too great for any architect to be able to visualize the form of life a hundred years hence, with the result that for at least half of the lifetime of the building it is a misfit.

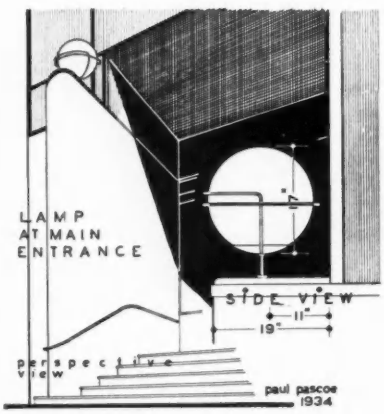
"I am afraid that we must develop the attitude in the future towards our buildings which we have grown in our generation to accept, for the clothes we wear, the cars which we drive upon the land, the ships we sail upon the sea and the aeroplanes with which we fly in the air. In other words, we must develop the habit of building buildings to suit the requirements of our own generation and leave our children to design buildings to suit themselves. The advantage of a steel building is that it can be taken down and re-erected far more easily than the usual building."

PROGRESS IN BUILDING RESEARCH

The Building Research Board, in their report for the year 1933, issued on September 17 by the Department of Scientific and Industrial Research, state that "there is evidence that the general research work is now steadily advancing to a stage when there is a definite scientific basis for the utilisation of building materials and methods of construction." Furthermore, the ever-growing volume of special investigations and enquiry work (over 1,500 enquiries were dealt with during the year) indicates that the activities of the Building Research Station are becoming increasingly known, and that the facilities offered are coming into regular demand. "We can, therefore, congratulate the building industry," the Board state, "on the readiness it is beginning to display to benefit from advancing knowledge, and express our gratification that our efforts to promote a science of building are now bearing some fruit."

The report reviews in detail the work in progress at the Building Research Station on the weathering of building stones, building materials of all kinds, the structure and strength of these materials, and the efficiency of buildings from the point of view of the user. Special interest attaches to the present report since many of the researches described are illustrated in the Building Research exhibit of the Department of Scientific and Industrial Research at the Building Trades Exhibition now in progress at Olympia.

The report is obtainable from H.M. Stationary Office, price 2s. 6d. net.



From Universal House, Southwark Bridge. Designer : Joseph Emberton.

ANNUAL CONFERENCE OF THE C.P.R.E.

The seventh national conference for the Preservation of the Countryside will take place at Southampton from October 25-27 inclusive, under the Presidency of the Earl of Crawford and Balcarres, K.T. The conference will be held in the Conference Chamber at the Civic Centre.

There will be three Sessions—Friday morning at 10.0, Friday afternoon at 2.30 and Saturday morning at 10.0, and papers will be read dealing with the following subjects : 1 : Ribbon Development ; 2 : The Use and Abuse of the Countryside, with special reference to Countryside Wardens ; and 3 : The Protection of Parks and Houses of Historic or Artistic interest, with special reference to the Protection of Trees and Woodlands.

The meeting is not confined to delegates and members of the C.P.R.E. All societies and organizations desiring to send delegates, and all individuals who desire to attend, should apply to Mr. H. G. Griffin, Secretary of the C.P.R.E., 17 Great Marlborough Street, London, W.1.

ROYAL SOCIETY OF ARTS

The closing date for sending in essays for "Training Art Students for Industry and Commerce" for the travelling scholarship and money prizes of £50, £10 and £5, offered to art teachers by the Council of the Royal Society of Arts, is October 31, 1934.

Full particulars of the conditions are obtainable from the Secretary, Royal Society of Arts, John Street, Adelphi, London, W.C.2.

NEW ZEALAND HOUSING SHORTAGE

In the Trade and Engineering Supplement to *The Times* an account is given of the efforts being made in New Zealand to cope with the shortage of houses.

"Building in New Zealand last year," says *The Times* correspondent, "was stimulated to the extent of approximately £4,000,000 as a result of the subsidy scheme inaugurated by the Unemployment Board. For a number of years up to 1929 the building industry in the Dominion boomed, two factors operating to bring this about. First, there was the 95 per cent. loan scheme brought in by the Conservative Government to encourage people to own their own homes. Second, a system of rating on the unimproved value forced owners of city

blocks to build in order to secure revenue from which to pay the rates.

"Since 1929 there has been a surplus of office and business accommodation in the cities, but the popular type of labour-saving modern bungalow has been getting more and more difficult to secure on a rental basis. It is estimated today that there is a shortage of 10,000 houses in New Zealand, where the great ideal is one home, one family. The depression has resulted in a large increase in the number of families sharing homes."

UNIVERSITY EXTENSION LECTURES

A programme of University Extension lectures has just been issued by the University of London, South Kensington. These lectures are given in many parts of London and the suburbs, and are held at times convenient to those engaged in day-time occupations. Sir Banister Fletcher, PP.R.I.B.A. will deliver at the L.C.C. Central School of Arts and Crafts twenty-four illustrated lectures on the history of Renaissance and Modern Architecture. A course of twenty-four lantern lectures on English and French Painting will be given by Mr. Charles Johnson; Mr. Hesketh Hubbard will lecture on the history of art and the decorative crafts in England from 1485 to the present day; while other lecturers in this section are Miss Mary Chamot (Modern Art), Mr. Frederick Towndrow (Ideal Homes) and Mr. Stewart Dick (Flemish, German and Dutch Painting).

THIS ARSHETECTURE

The house built by Mr. McCoskrie in five years.

Built 13-Roomed House, and Now Making a Bird Sanctuary

SELF-IMPOSED TASK OF A DETERMINED SCOT

Here is the story of a man who believes in being busy. He built his own thirteen-roomed house—and now, at the age of seventy-one, he is planning a bird sanctuary. He is Mr. Fred W. McCoskrie, a man of Scottish ancestry, born in Cornwall, and now living at Oreston, near Plymouth. Mr. McCoskrie's house-building took five years, and even now he is making additions and improving the lay-out of the grounds.

The architecture is distinctive, with a three-storey bay at one end forming a tower and giving the building a castellated appearance.

The task was a formidable one, but Mr. McCoskrie took it in his stride.

"In youth I was trained as an architect and surveyor," he told *The Daily Mirror*. "I passed all my examinations, but, instead of getting a practice, I followed my father as postmaster at Grampound Road, Cornwall. Unlike him, I was an established official, and I held the post for twenty-seven years.

"I bought the site for this house from the Duke of Bedford, drew my own plans and set to work to build, beginning with four rooms, to which I have added until the number is now thirteen. I made thousands of concrete blocks with which the house and walls of the large garden are built. The only help I had was with the carpentry. It took a long time to do the job."

For his bird sanctuary project, Mr. McCoskrie bought more land from the Duke of Bedford. Oblivious to the pouring rain he stood in the open, pointing out to *The Daily Mirror* representative the features of his bird sanctuary. Half an acre of land with jagged rocks towering above it, and a natural cave which he proposes to utilize, already has a mass of vegetation and small shrubs, but he is to plant berry-bearing shrubs and flowers and provide nesting boxes and dovecotes. He was prompted to this, he explained, by seeing a greenfinch in his garden—the first bird he had seen there. He wants to encourage more in the neighbourhood.

From THE DAILY MIRROR.

R. I. B. A.

INTERMEDIATE EXAMINATION

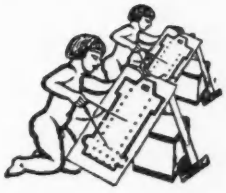
The following are the dates on which the forthcoming R.I.B.A. Intermediate Examination will be held:—

November 9, 10, 12, 13 and 15, 1934. (The last day for submission of applications: October 9, 1934.)

RAFFLE

It will be recalled that, at the Building Exhibition held in 1932, a raffle was held by the Architects' Unemployment Relief Fund. The prizes—pictures—for the raffle were given by many prominent architects, artists and exhibitors at the Building Exhibition. Another raffle is being held this year. Architects and others who would like to present prizes should send them to Mrs. Morgan at the R.I.B.A. Club at Olympia before Saturday next.

COMPETITION



NEWS

OPEN FIREPLACES

In connection with the Coal Industries Fair to be held at the White City from November 27 to December 15, 1934, the Council of the Coal Utilization Council is organizing a competition for designs for open fireplaces and surrounds to be constructed in any materials the competitor deems practical or desirable. The following prizes are to be offered:—First prize, 50 guineas; second prize, 20 guineas; third prize, 10 guineas. The Directors of the Building Centre are to act as assessors. The latest date for submission of designs is Monday, October 15.

Copies of entrance forms and conditions of the competition may be obtained on application to the Secretary of the Coal Industries Fair, 5, Devonshire Street, W.1.

SWINTON AND PENDLEBURY

The results and the winning design in this competition are given on pages 421-422 of this issue.

Competitions Open

September 22.—Sending-in Day. Civic Centre, Tunbridge Wells, for the Corporation of Tunbridge Wells. Assessor: E. Berry Webber, F.R.I.B.A. Premiums of £300, £200, £100 and £75. Conditions are now obtainable

(deposit £1 1s.) from Mr. J. Whitehead. Town Clerk, Tunbridge Wells. The last day for submission of designs is September 22.

October 1.—Sending-in Day. Proposed Municipal Assembly Halls, Wolverhampton, for the Wolverhampton Corporation. Assessor: C. Cowles Voysey, F.R.I.B.A. Premiums: £350, £250 and £150. Conditions from the Town Clerk, Town Hall, Wolverhampton. Last day for questions was May 21. (Deposit £1 1s.)

Competitions Pending

Lay-out of, and scheme for building on the prison grounds, York, for the York Corporation. Premiums: £250, £150 and £100.

New municipal offices for the Wembley U.D.C. Assessor: Stanley D. Hamp, F.R.I.B.A.

New college for technical, commercial and art studies, Birmingham, for the Birmingham Education Committee.

Central offices, Hertford, for the Herts C.C. Premiums: £350, £250 and £150.

Technical college, Bolton, for the Bolton Education Committee. Premiums: £500, £250 and £100.

Civic building in connection with the proposed scheme for a civic centre, Enfield, for the Enfield U.D.C.

Development of the Tuns Gate site, Guildford, for the Guildford T.C. (limited competition).

Rebuilding of Bishopsgate Police Station and Police Hospital, for the City of London Corporation. Premiums: £250, £100 and £50.

Town hall, for the Southall-Norwood U.D.C.

Municipal centre, Romford, for the Romford U.D.C.. Premiums: £250, £100 and £50.

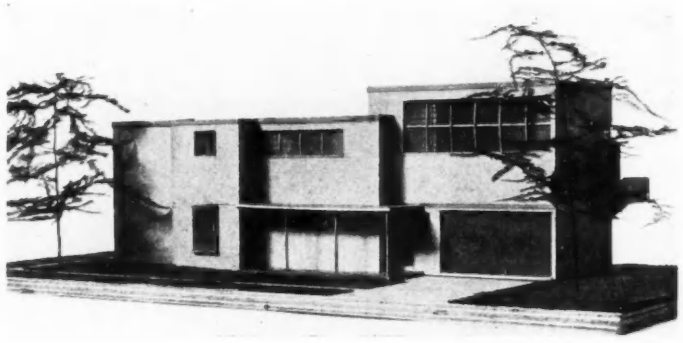
Town Hall, Bury, for the Bury T.C. Assessor: J. Hubert Worthington, F.R.I.B.A.

OBITUARY

We regret to record the death, on September 12, of Mr. Walter Aubrey Thomas, of Lymington, Moorside, Neston, Wirral, at the age of 75. He was the architect of many of Liverpool's leading commercial buildings. He retired from active practice a year ago.

Trained in the office of Mr. Francis Doyle, an architect noted for his commercial buildings, he set up on his own account very early in his career and became one of the most successful architects in the city.

In the Liver Building, whose foundation stone was laid in 1908, he designed the first building of the skyscraper class in the North of England on reinforced concrete and steel frame principles. Its cost was £700,000. In the same neighbourhood are the Tower Building, the premises of Messrs. J. Bibby and Sons, and the African Oil Mills. Elsewhere in Liverpool Mr. Thomas was the architect of stores premises for Messrs. Owen, Ltd., and Messrs. Blacklers, of a portion of the much-added-to building of *The Liverpool Daily Post*, of the State Insurance Building—an essay in commercial Gothic—and the State Café—its somewhat more functional neighbour—of the large music shop for Messrs. Crane and Sons, Ltd., and of the Lord Street shopping arcade.



THE CHIPPERFIELD CASE

ANOTHER HOUSE REJECTED

The Ruislip case having ended in satisfactory agreement, another occurrence of equal importance has almost immediately taken place, this time at Chipperfield, near Kings Langley, Hertfordshire. The plans of a house designed by E. Maxwell Fry has been rejected by the local authority on a purely æsthetic point. The Council had no fault to find with its structure, sanitation or any of the aspects covered by their bye-laws, but insisted that a pitched roof was absolutely necessary before they could pass it. In this case an Advisory Panel was not involved, the Council acting on their own responsibility through the powers conferred on them under the Town and Country Planning Act.

Below is an account of the meeting of the local Council at which the Council's decision was discussed, as it was reported in the WEST HERTS AND WATFORD OBSERVER. *On the facing page are plans and one elevation of the house, and overleaf photographs of the site, of some of the neighbouring housing development and of some earlier flat-roofed houses (including the manor house that adjoins the site), to show that a horizontal skyline is not without precedent. Above is a photograph of the model.*

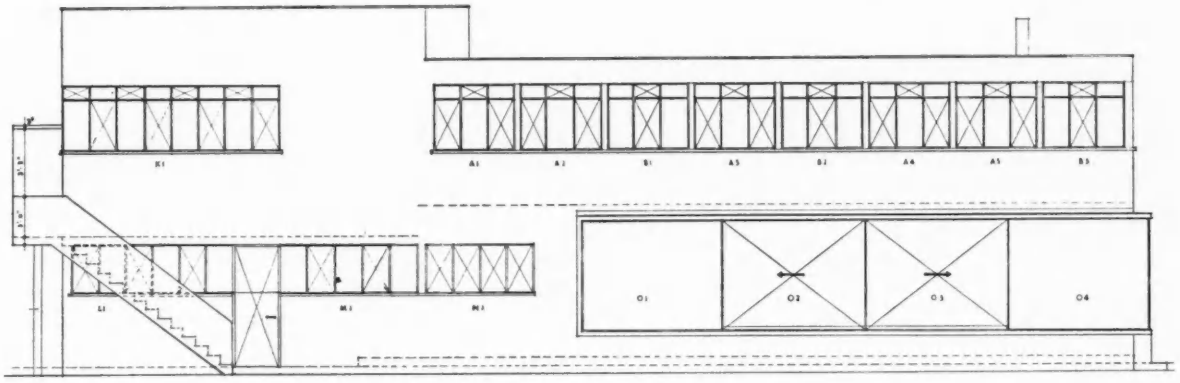
FURTHER discussion took place at the meeting of Watford Rural District Council on Wednesday on the design of the house proposed to be erected near Chipperfield Common, and models were inspected by the members. It was eventually agreed that the house should not have a flat roof, and a parapet should be included, the Council's objections to the proposed plan being on the ground that it would not be in conformity with the rural surroundings of the house. Members present were Messrs. R. H. Attenborough (Chairman), F. H. Dazley, H. Hardwick, A. J. Lee, F. Martin, R. A. Flint, E. H. Slade, and P. Clutterbuck, with the Assistant Clerk (Mr. H. B. Nash) and other officials.

The plan was first before the Council on August 1, when it was agreed to consult the adjoining authority—Hemel Hempstead Rural District Council. At Wednesday's meeting the Surveyor (Mr. E. A. Cragg) reported that Hemel Hempstead Rural Council considered that the appearance would be very much improved if a tiled roof were substituted for the proposed flat roof, when they would have no objection to the building. He produced a model of the house and photographs supplied by the owner, Mr. Butler.

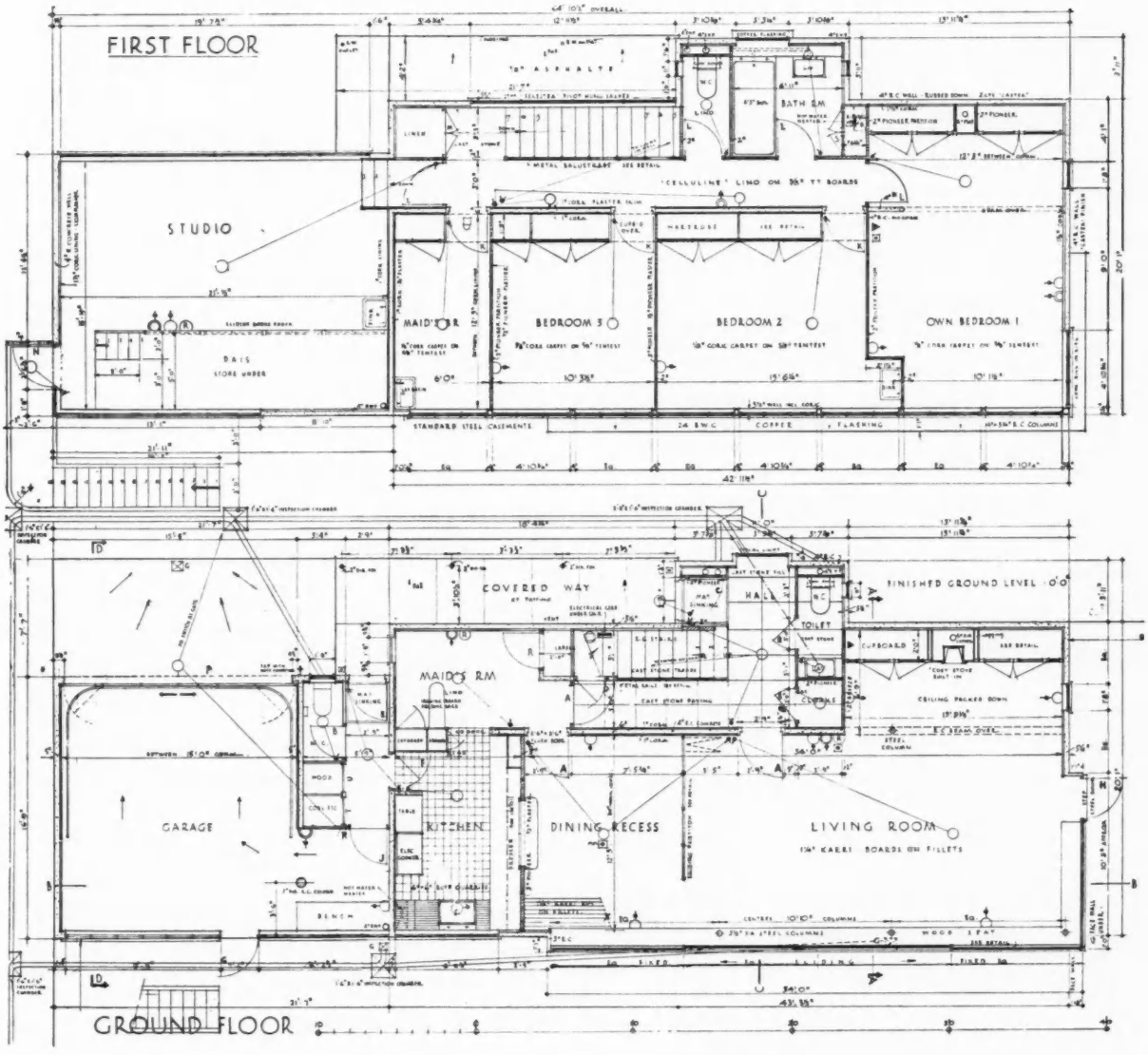
It was stated that Mr. W. R. Davidge, the Council's town planning consultant, wrote that in view of the old-world character of the situation it was important that any house erected should be in harmony with the surroundings, and a tiled roof would, he considered, be better. A letter was also read from a Chipperfield resident referring to the old-world surroundings, and expressing the hope that the exterior of the house would be modified. In reply to questions, the Surveyor stated that Mr. G. Butler, the owner, was an artist. Mr. Flint said they had got to give a decision, and he was not so sure that a flat roof with a parapet wall would not be more in keeping than a large ugly tiled roof.

Mr. Butler and his architect, Mr. E. Maxwell Fry, who were in attendance, were invited into the Council room, and another model of the house, with a flat roof, was produced, the other model showing a slightly pitched roof. Mr. Fry said that the building would be of reinforced concrete which allowed them to make full use of the cheap electricity they provided in Watford, and also allowed big windows. Once they used concrete they must use it throughout. To put a pitched roof on this house meant that they would destroy the whole system of construction, and they would have to pay another £100 to put a pitched roof on. Heating was by the electric tubular method, and there was only one chimney shaft. Mr. Flint suggested that a parapet should be included.

Mr. Fry: I should say no. I think the



• SOUTH ELEVATION



The designs for a house near Chipperfield, Hertfordshire, designed by E. Maxwell Fry, have been rejected by the local authority, who find no contravention of their bye-laws but dislike the flat roof. Above are the plans and one elevation, and a photograph of the model faces, with an account of the Council proceedings when the building was discussed, as reported in the local paper. The house is in reinforced concrete on a secluded site well screened by trees.

skyline, if broken up, might tend to be very confused looking. Replying to Mr. Lee, Mr. Fry said that it was not intended for a sun roof. Answering the Chairman, who asked if brick construction with a flat roof would be considered, Mr. Fry said that they would consider it, but it would add to their cost and mean a lot of trouble.

After the retirement of Mr. Butler and Mr. Fry, the Chairman said that the main thing was whether the Council wanted a concrete house at Chipperfield Common. Mr. Flint: I do not think we are justified in asking that this should be in brick. When it is finished you would not know whether it was in brick or concrete, because it will have the appearance of roughcast, but I think we should ask for an antique tiled roof or battlements or buttments or a parapet wall.

Mr. Lee urged that they should not insist on an unsuitable roof. If the view shown on the photo produced was the only view people would get, he would say there were many old houses with a far uglier view than that. Modern building construction must come. They were putting their standard in the early nineteenth century. The Surveyor suggested that there should be brick facing and a flat roof, or a parapet wall and a tiled roof. Mr. Davidge also suggested a tiled roof. Mr. Flint: Hemel Hempstead ask for tiled roof. It was agreed to approve the concrete construction of the house.

With regard to the roof, Mr. Slade asked why there should be a tiled roof. He preferred the flat roof design to the other, which looked like a factory. If they had battlements, what was the idea of the pitched roof inside?

Mr. Lee: I think he has a nudist sun parlour in mind there. There are several about. Our view is that he must have a pitched roof, and what does he suggest for it? It was agreed to consult Mr. Fry and Mr. Butler once more, and when they re-entered Mr. Flint explained the position, and invited a suggestion as to the best form of pitched roof.

Mr. Fry: If Mr. Butler had wanted a roof it would have influenced the whole design. The imposition of a new feature very late in the design often cannot be dealt with at all if the thing is to be satisfactory. If I, as a member of the R.I.B.A. Council, wanted to show this to my colleagues, with a roof, I should be obliged to say, "This is not entirely my design, but partly that of the Watford Rural Council." Neither Mr. Butler nor I want a roof if it can be possibly avoided. I honestly believe that when it is up public opinion would endorse it, and in ten years' time it would be so common a feature that no questions would be asked at all. If the Council insisted and asked me what sort of a roof, I should say a very low-pitched roof, such as the Manor House has. But it is something I really don't want to do. I do feel that this is reasonable and fulfils Mr. Butler's programme with as great an economy as possible.

After the owner and architect had again retired, Mr. Lee said that the talk of £100 extra cost was ridiculous on a house that might cost two or three thousand pounds. Mr. Flint: It is my firm opinion that we should have a pitched roof there, inside a parapet. On the motion of Mr. Flint, it was agreed to inform Mr. Butler that the Council would require this condition before approving the plan.

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4

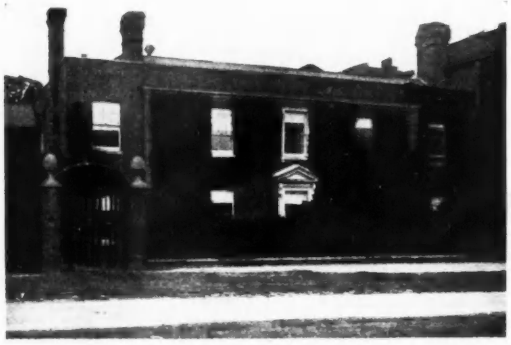
1. The site of the proposed house; well secluded and screened from the approach by trees.

2. The Manor House, Chipperfield; close to the site, and good evidence that there is nothing new-fangled in a horizontal roof-line.

3. The sort of house the Council raise no objection to; a specimen of one of the villas closest to the site.

4. Another example of domestic design from the neighbourhood.

5 and 6. Further precedent for the horizontal roof-line; a house at Herne Hill, and Forbes House, Ham Common (these are reduced from illustrations in Stanley C. Ramsey's "Small Houses of the late Georgian Period.")



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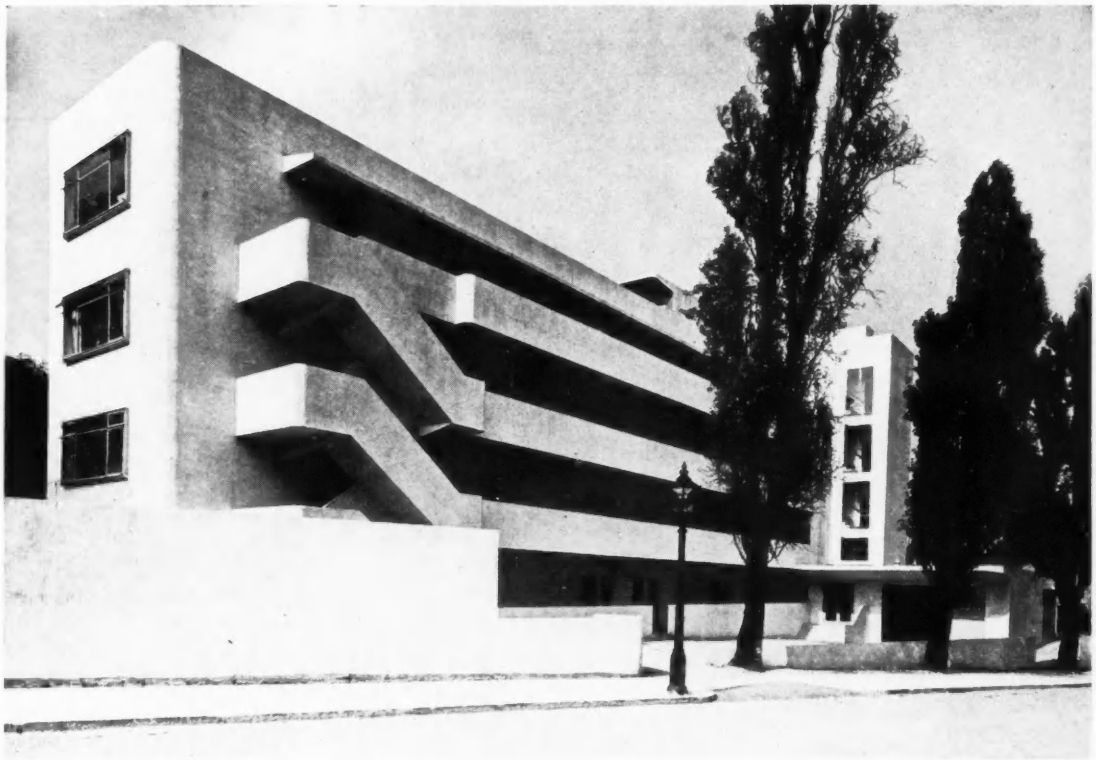
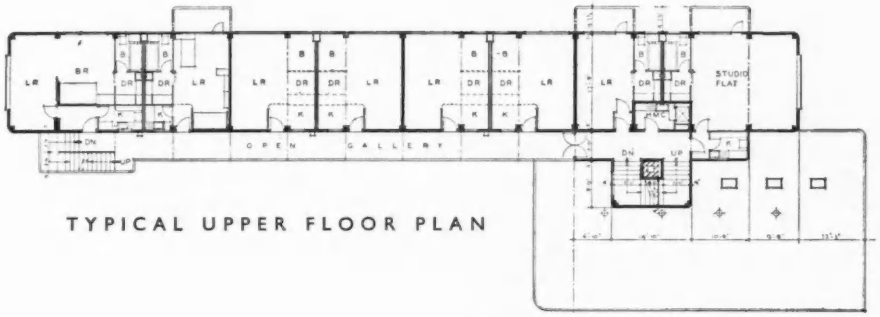
FLATS IN HAMPSTEAD

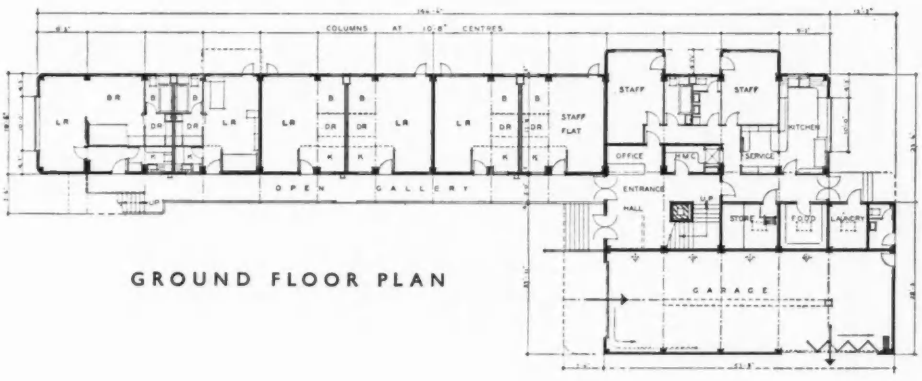


S. W. NEWBERY

Lawn Road Flats, Hampstead, contains (on four floors) twenty-two of the "minimum" flats exhibited by the architect at Dorland Hall last summer, four "double" flats with rooms divided by sliding plywood screens, at the north end over the main kitchen and staff quarters three studio flats and one large flat on the roof. There is a single-storey garage holding ten cars. The structure is of 4 in. reinforced concrete walls, insulated internally with 1 in. of compressed cork, which served as shuttering, and tile floors. The external finish consists of a two-coat waterproofed cement wash applied direct to the concrete face. Standard metal-faced shuttering was used externally.



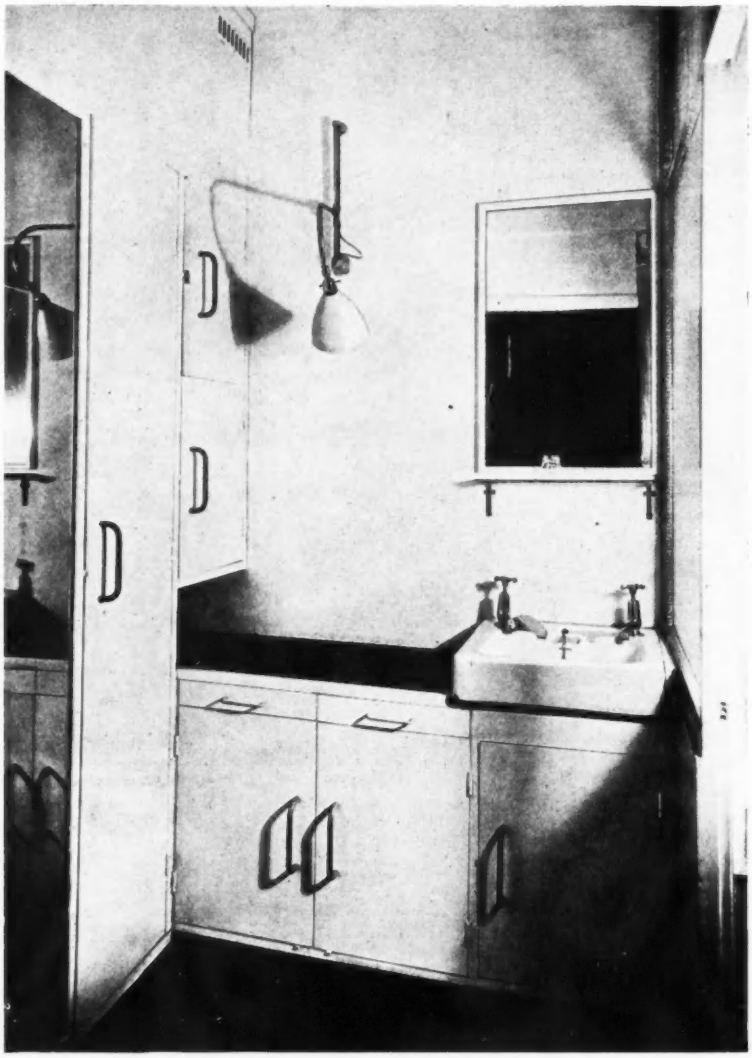
TYPICAL UPPER FLOOR PLAN

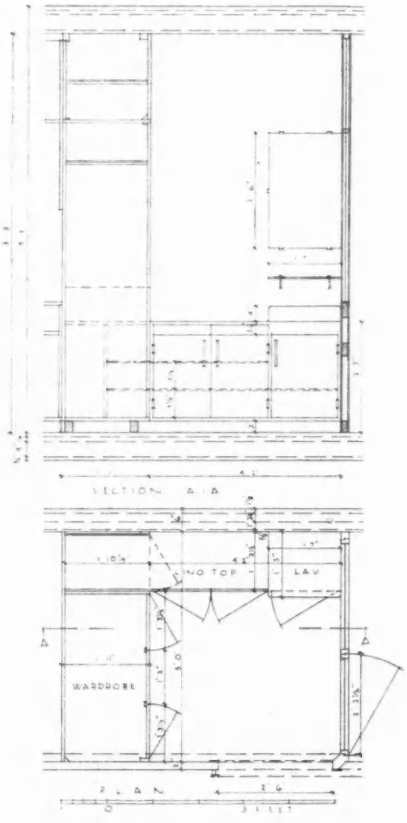


GROUND FLOOR PLAN

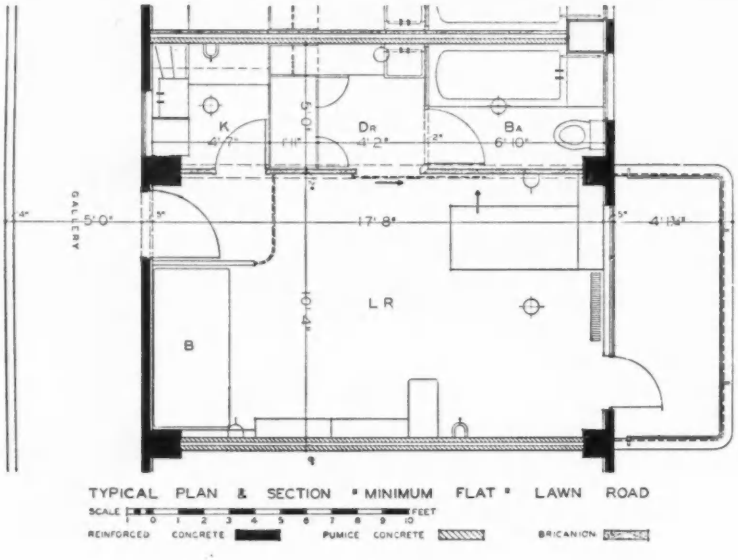
DESIGNED BY WELLS COATES

FLATS IN HAMPSTEAD, BY WELLS C





DRESSING ROOM



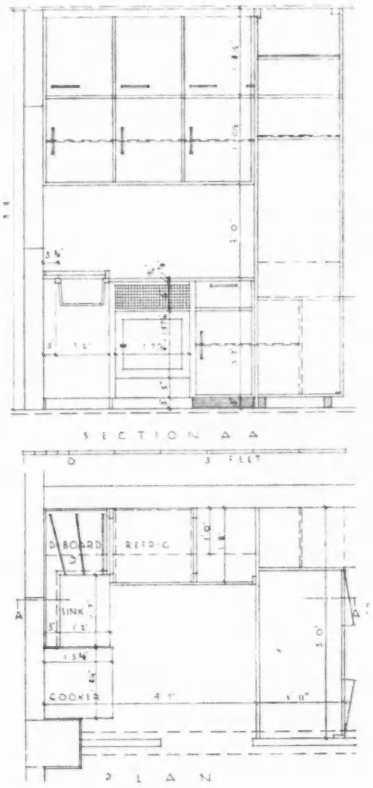
TYPICAL PLAN & SECTION "MINIMUM" FLAT "LAWN ROAD

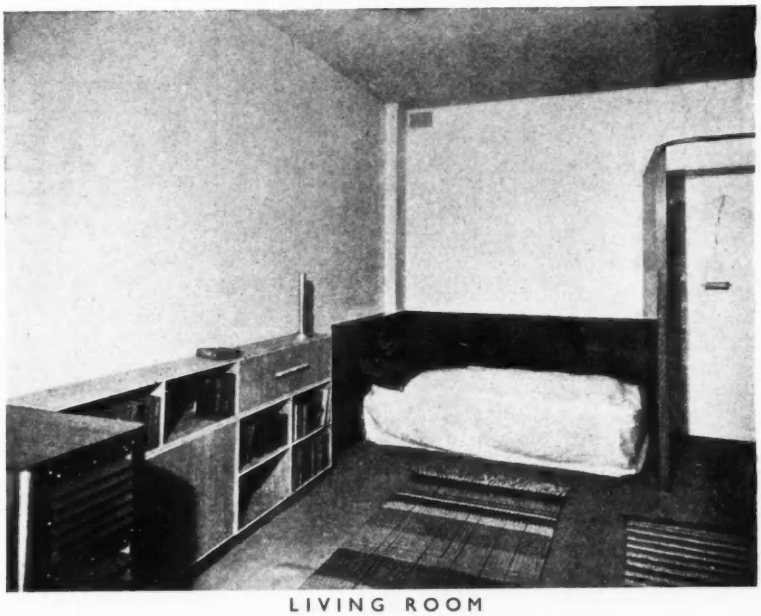
SCALE 1 0 1 2 3 4 5 6 7 8 9 10 FEET

REINFORCED CONCRETE PUMICE CONCRETE BRICANION

On this and the facing page is illustrated the "minimum" flat of which this block is chiefly composed. The standard "minimum" flat (see plan on the left) is let at a rent of £96 per year, and consists of a living-room with bed recess and, leading off it, a kitchen, bathroom and dressing-room. Included in the equipment of the living-room (of which there is a photograph opposite) is the floor-covering, electric fire and radiator, and a certain amount of built-in furniture. Some of the living-rooms have direct access to their own private balconies. The dressing-room (plan, elevation and photograph above) contains wash-basin, cupboards, wardrobe and mirrors. The kitchen (plan, elevation and photograph opposite) contains electric cooker, refrigerator, sink and draining-board, refuse bucket and a large amount of cupboard space. The equipment throughout is in plywood and laminated board. All the above equipment is included in the rent, besides such services as heating, hot water, cleaning, bed-making and collection of refuse.

COATES: THE MINIMUM FLAT





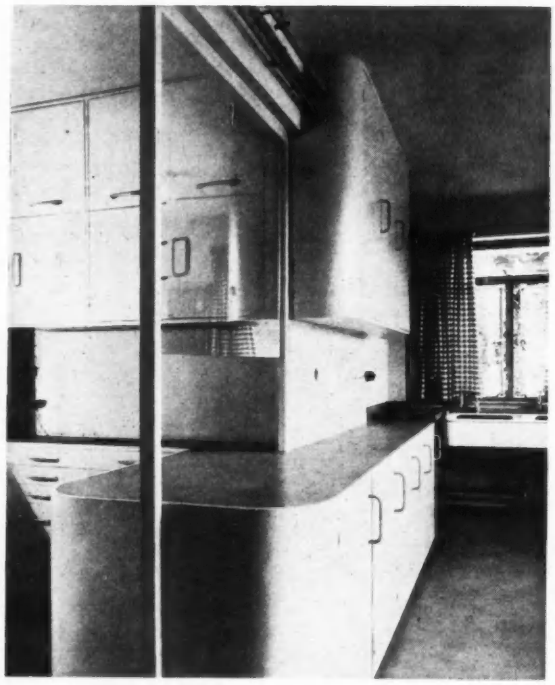
LIVING ROOM

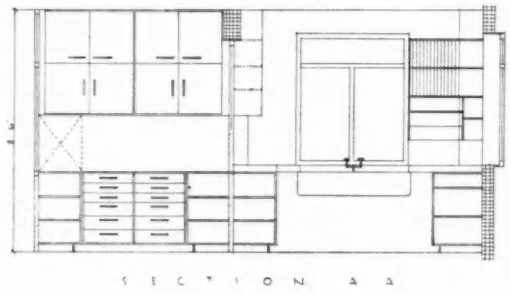
Equipment is in plywood and laminated board, and the partitions between flats are of pumice blocks in two skins, with an air-space between; and interior partitions are 2-in. plaster on patent lathing.

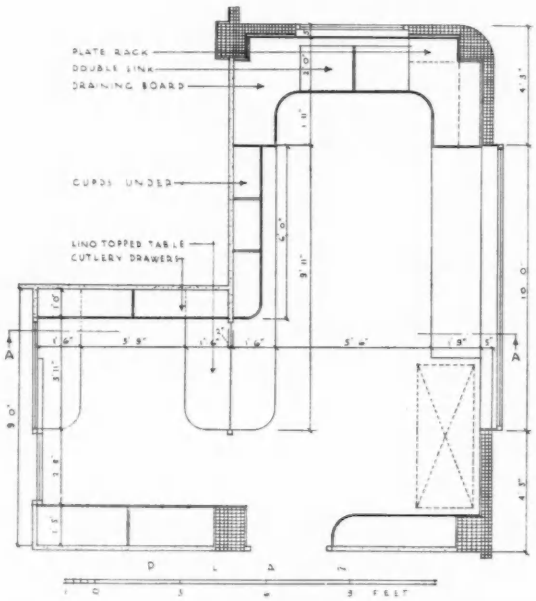
KITCHEN

Above: the "minimum flat" kitchen. Right: looking along the back, or western elevation, showing the open cantilevered balconies entered from the living rooms. Details of the entrance door are given on pages 415 and 416.

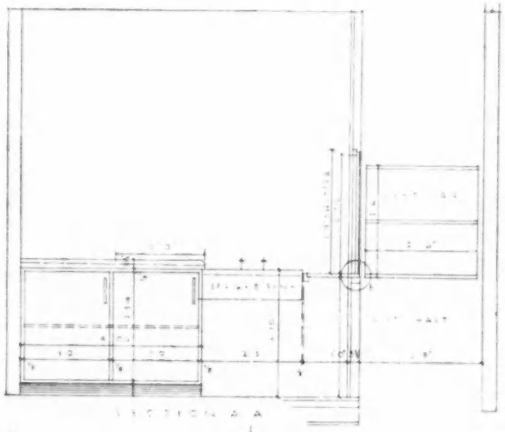
FLATS IN HAMPSTEAD: KITCHENS

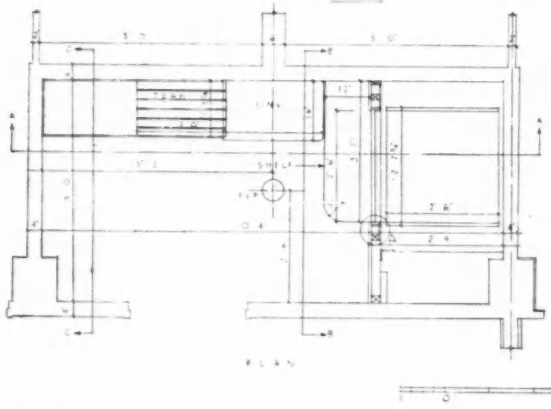


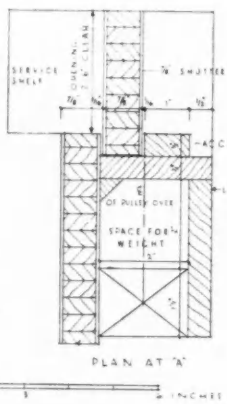


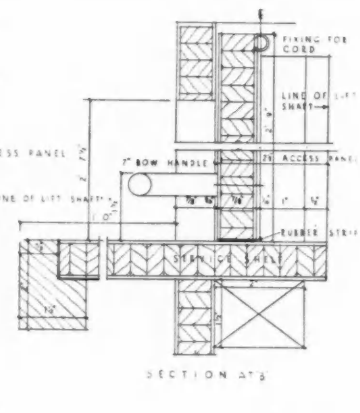


On this page are illustrated the kitchens and pantries which are provided in the block besides the kitchenettes which form part of each flat. Above is a plan and elevation of the communal kitchen on the ground floor from which meals can be served to the residents in their flats. The photograph is of the same kitchen looking towards the sinks in the window, showing a portion of the service pantry on the left. The cupboards are of enamelled plywood, and the bench-tops in cellulin. Below is a plan and elevation of the service pantry occurring on each floor and containing the service lifts, with some details of the lift joinery.









DESIGNED BY WELLS COATES

LETTERS FROM READERS

ARTHUR F. RUSSELL
GEOFFREY BIDDULPH
E. R. GOODALL
COLIN M. MIDDLETON
L. R. FURNEAUX (Hon. Secretary, West Surrey Society for the Protection of the Beauties of the County)

The Building Exhibition

SIR,—The Building Exhibition poster is admittedly attractive, but surely it is not necessary to show a bungalow incorporating a gracefully curved chimney rising from an arcade in order to catch the public eye. However, since architect-designed stands are considered good publicity by some exhibitors, perhaps it is not too much to hope that we may see an architect-designed poster announcing the next exhibition.

ARTHUR F. RUSSELL
London

Economics and the Architect

SIR,—In reply to "Archiconomist's" points :—

1. Money is the means established by law or custom, in the form of currency or credit, for settling debts. Debt and credit are merely opposite aspects of the same thing—agreement to postpone payment, so there is nothing incongruous in money consisting of loans by banks (or deposits by their clients). In general, means of payment is only expanded in proportion to the increase of currency, and as bank credit is practically confined to working capital (setting free savings and reserves for investment in fixed capital) the charges against the banks of creating credit "at will" and inflating the cost of living is unjustified.

2. Nor is the contrary complaint of currency being related to commodities any more reasonable. It is true that there are serious objections to fixing currency in terms of one or two commodities, like wheat or precious metals, the changes in value of which must cause irrelevant movements in other prices. But unless the unit remains fixed in relation to food and materials in general, there is no security of contractual obligations and nothing to prevent violent fluctuations in output and employment.

3. Traders will increase their outlay when they believe the prices of primary products will be restored to a profitable level, i.e., raised relatively to their costs, and such equilibrium is more likely to be secured by currency devaluation than by other methods of increasing "purchasing power." For it is the income of the world's primary producers that needs to be raised (not that of consumers in general) and this can only be achieved by raising the prices of what they produce until unemployment is reduced to a minimum.

4. The silly rumour that "the banks" have offered "a fortune" (which naturally would cost them nothing!) for a refutation of the so-called Theorem can only have originated in some exceptionally silly (or impudent) Social Credit circle, for A-Bism has been effectually exposed by nearly everyone who has criticized it ; in fact, about seven years ago it was almost discarded by Douglas propagandists in favour of a less obviously invalid "theorem." To declare that consumers' income is not equal to the total value of transactions (most of which take place between traders and could not be financed let alone "purchased" by consumers) is a truism not a Theorem ; and to suggest that there must therefore be "a chronic and increasing lack of purchasing power" is a crude fallacy. But enthusiasts so simple (or so doctrinaire) as to adhere to A-Bism are unlikely to have the intelligence (or integrity) to be convinced by any refutation.

5. Those who believe that most unemployment is technological confuse technical progress with labour-saving devices. The former creates more employment, and the latter only reduces the total volume in periods of depression, when there is no demand in other directions for the labour dispensed with. In the years before the war, when production was increasing just as rapidly as it did afterwards, less than 2 per cent. of Trade Unionists were unemployed ; and the present volume of unemployment is not technological, it is due to monetary factors which forced down the prices and incomes of the world's primary producers.

6. The Technocrats' calculations were wildly inaccurate : e.g., cost of machinery was not included in their figures for cost of output, and potential output was grossly exaggerated through assuming that the whole of an industry could be speeded up to the capacity of a few highly mechanized plants. During the war, with no financial restrictions on output, American indices of production showed a rate of increase hardly more rapid than in the preceding period, and except in times of depression the demand for accommodation tends to exceed the available resources.

7. Dumping and Tariffs may bring about strained relations, but export competition is not likely to lead to war. Wars are caused by struggles for power, and power is increased by imports, not by exports. The object of the export of capital is not to dispose of goods for which no purchasing power exists at home, but to get increased returns later, and all but a small part of international trade is complementary, not competitive.

Economists may sometimes miss the essential through preoccupation with details, but laymen are nearly always misled by "the simple and obvious" through ignorance of detail.

Mr. Welford follows the example of his Major in identifying statements that are not "the same thing" at all. To say that the Bank pays for gold or securities by a draft on itself is *not* "to say it gets them for nothing." For it has to pay out notes or gold on demand, the former to meet internal requirements, the latter on foreign account. And to say that "the likelihood of such a demand is remote" is nonsense. The Banking Department's Reserve fell from over £60 million in July, 1931, to less than £20 million in December, and from £40 to £20 million in December, 1932, while a reduction of 25 per cent. is not unusual. If Mr. Welford's contention were remotely correct, banking would be both a safer and a far more profitable business than it is. Bankers have to pay cash on demand, and the joint stock banks hold about 10 per cent. of their liabilities in cash because they believe this allows an adequate margin of safety—not only for themselves but for their creditors. If he will examine the figures of their current and deposit accounts, instead of talking airily about "a few dormant deposits," he will find that the latter are about equal to the former. The difference between 2 and 5 per cent. does not constitute a clear profit for the banks, for they have rents and salaries to pay (even if according to the Douglas propagandists these "cost them nothing!") Traders need not pay 5 per cent. on overdrafts unless they find this form of borrowing convenient ; they can finance their transactions by drawing bills, on which the rate of discount is now little over 2 per cent. The Banks' advances, on which alone "5 or 6 per cent." is paid, are roughly equal to their deposit accounts, not "many times that total," as Mr. Welford asserts. And the printing of notes does not "double the value of gold"—on the contrary, this may halve it! He probably means that issuing notes doubles the Bank's *assets*, but actually the notes are a liability. The fact is that the Bank has to hold gold against any issue in excess of £260 million, and this is the crux of the matter (though Mr. Welford is quite unaware of it) ; for the anomalous law requiring the

Bank to hold gold against notes (which are practically inconvertible) immobilises two-thirds of its bullion, and by magnifying any decrease in the remainder causes excessive rates of interest to be imposed on industry.

Finally, may I say that I am capable of writing what I mean without Mr. Welford's tendentious assistance. The extent of the depreciation of sterling will be determined by the Treasury and the Bank of England, not by "international finance," and economic revival depends on changes in monetary legislation and the mentality of the investing public, not on any "reform of book-keeping."

GEOFFREY BIDDULPH
London

SIR,—"Economics and the architect" still continues to interest some of your readers, but when it is considered that money has an immediate bearing on the life of everybody today including architects, it seems strange that the active interest is confined to so few.

Under the social system in which we live—a system that is the outcome of, and dependent on, the monetary system—power is quite inevitably concentrated, at the expense of the many, unto a few individuals whose qualities enabling them to attain that power automatically render them unfit to use it. If there is any doubt of this it is only necessary to consider the trend of social and political events in every advanced country, and it will be obvious that the centralization of authority is increasing in every walk of life. Quite recently, in the two cases of obstruction by Local Panels, architects have had an opportunity of realizing how unpleasant such centralized authority could be. When it was recalled that architects themselves were responsible for such a system the situation was ironical enough, but now they are clamouring for a much more formidable authority to be set up for the purpose of slum clearance. Of course architects themselves hope to get something out of it in the way of obs, but that is evidence of a lack of purchasing power. It is quite possible to spend a "flat-earther's" lifetime proving that there is no lack of purchasing power, but that will not alter the physical lack of it, nor the physical consequences of such a lack.

One of these physical consequences is the slum. Some of our fellow men have to live in slums, because there is not enough money for them to acquire a legal right to live anywhere else, or to construct with their unemployed hands dwellings with materials and knowledge of which there is no lack. Until this deficiency of purchasing power is made good, all our efforts at slum clearance will result merely in the rebuilding of slums. From time to time THE ARCHITECTS' JOURNAL has published reports of housing schemes, and all of them have this in common, that the minimum tolerable conditions in which the dear proletariat could exist were sought for. Moreover, many of these schemes came from social democratic countries, where the proletariat is still the proletariat, victim, this time, of State Capitalism. How comfortable it is to have the poor proletariats always with us!

But to return to the subject of architecture. Until we are free to build with a sense of achieving the "maximum convenient," and enriching ourselves thereby, not impoverishing ourselves by being extravagant as we do today, we shall nevermore see around us beautiful cities. It would appear that this is where the teaching of the purely functionalist betrays architecture into the hands of its destroyer—the money monopoly. Without being functional in every pore, our architecture can never be great, but to assert that function is "the be all and end all," that were indeed the greatest folly.

Our architecture is one expression of the culture of us who are contemporary with it, and until we determine to possess our freedom and our leisure, our architecture with our culture will remain stagnant. It can only develop when we enjoy the leisure to set free our imagination from the every day struggle of cornering sufficient money to live—a struggle that our scientists, architects, and all other technicians render more unnecessary every month. The choice is before the architects, as it is before anyone else, either a dynamic social credit society and a living architecture, or a nerve racking effort to make our specifications watertight and to see beauty in a kitchen 3 ft. by 5 ft.

E. R. GOODALL
New Malden

The R.I.B.A. Building

SIR,—It seems to me that "Ovolo's" letter to you regarding the R.I.B.A. building, now in course of erection, brings up the time-old question of what really does constitute good and bad architecture.

From his remarks "Ovolo" would appear to have reached the age when to protest against contemporary architecture should be a foolish indiscretion.

If I may be allowed to offer a word in support of what "Ovolo" chooses to term "Box Manufacturers," I would say that they at least do not attempt to perpetrate architectural falsehoods, sins which our predecessors were all too frequently guilty of, when they shamelessly clothed such buildings as abattoirs with exteriors originally associated with Medici Palaces.

COLIN M. MIDDLETON
Dumfries

Surrey's Plan

SIR,—Astragal, in your issue for August 30, does less than justice to Surrey. He writes on the threat of a large brickfield in the Hambledon area, and says, "If Surrey had a plan, the difficulty might not have arisen at all"; he implies further that "the people of Surrey are too indolent to protect themselves." Surrey has a plan: the Planning Committee of the District Council has for some years been incessant in its activities. The people are not indolent. Apart from an influentially signed letter in *The Times* of August 24, the West Surrey Society and a Rural Protection Society of four adjacent villages are moving vigorously. The Hambledon Rural District Council are fully alive to their responsibilities. At the same time, any assistance which your JOURNAL is willing to render will be gratefully welcomed, and communications are invited to the undersigned.

L. R. FURNEAUX
Godalming
(Hon. Secretary, West Surrey Society for the Protection of the Beauties of the County.)

Astragal replies:—

There is a difference, it appears to me, between being aware of the necessity of planning and having a plan that *works*. The very fact that there is even a possibility of a brickworks being erected in a position where it is undesirable to the community is evidence that a practical working plan is still needed.

[*We have received a letter on the subject of the Building Exhibition over the signature, "Exhibitor." If the writer will send us his address (not necessarily for publication) we shall be very pleased to print it.—Ed., A.J.*]

●

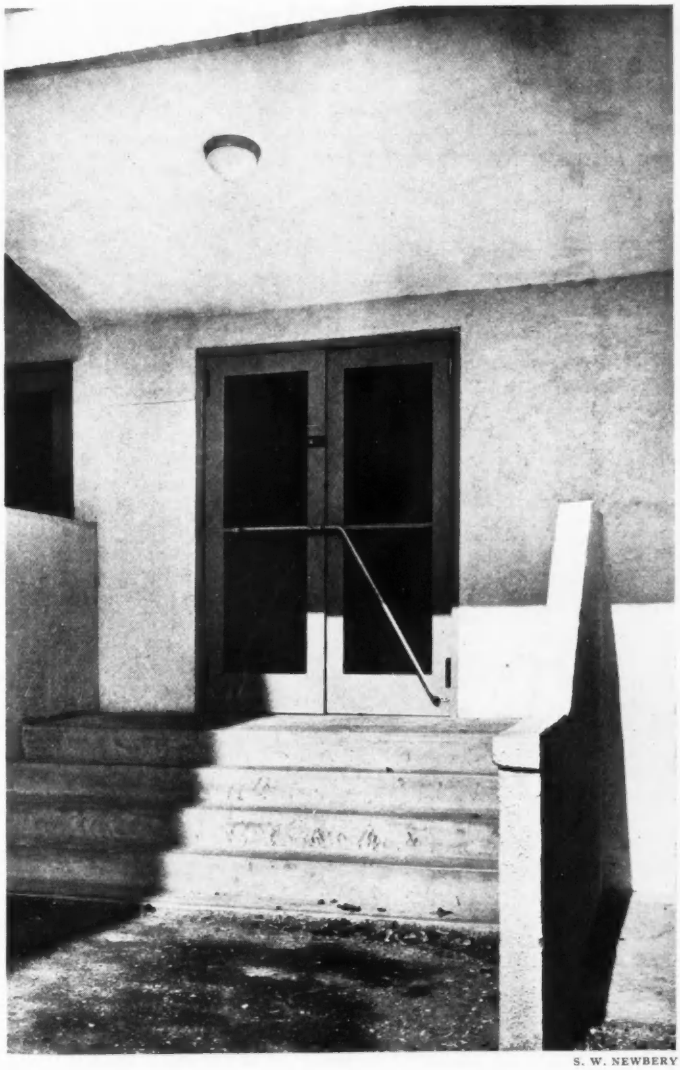
THE INSTITUTE OF OFFICIAL ARCHITECTS

The first annual general meeting of the Institute of Official Architects is to be held at the Kingsway Hall, Kingsway, W.C.2, on Monday, October 1, at 7.30 p.m.

Mr. Percival M. Ware, A.R.I.B.A., the Hon. Secretary of the Institute, writes: "All official architects interested, and proposing to become members, are very cordially invited to be present together with their colleagues who may be anxious to extend their support. It is suggested, and hoped, that where a number of official architects are engaged in a department by county, municipal and other authorities, at least one delegate may be appointed to attend as delegate representing such staff."

WORKING DETAILS : 121

EXTERNAL DOOR • FLATS IN HAMPSTEAD • WELLS COATES

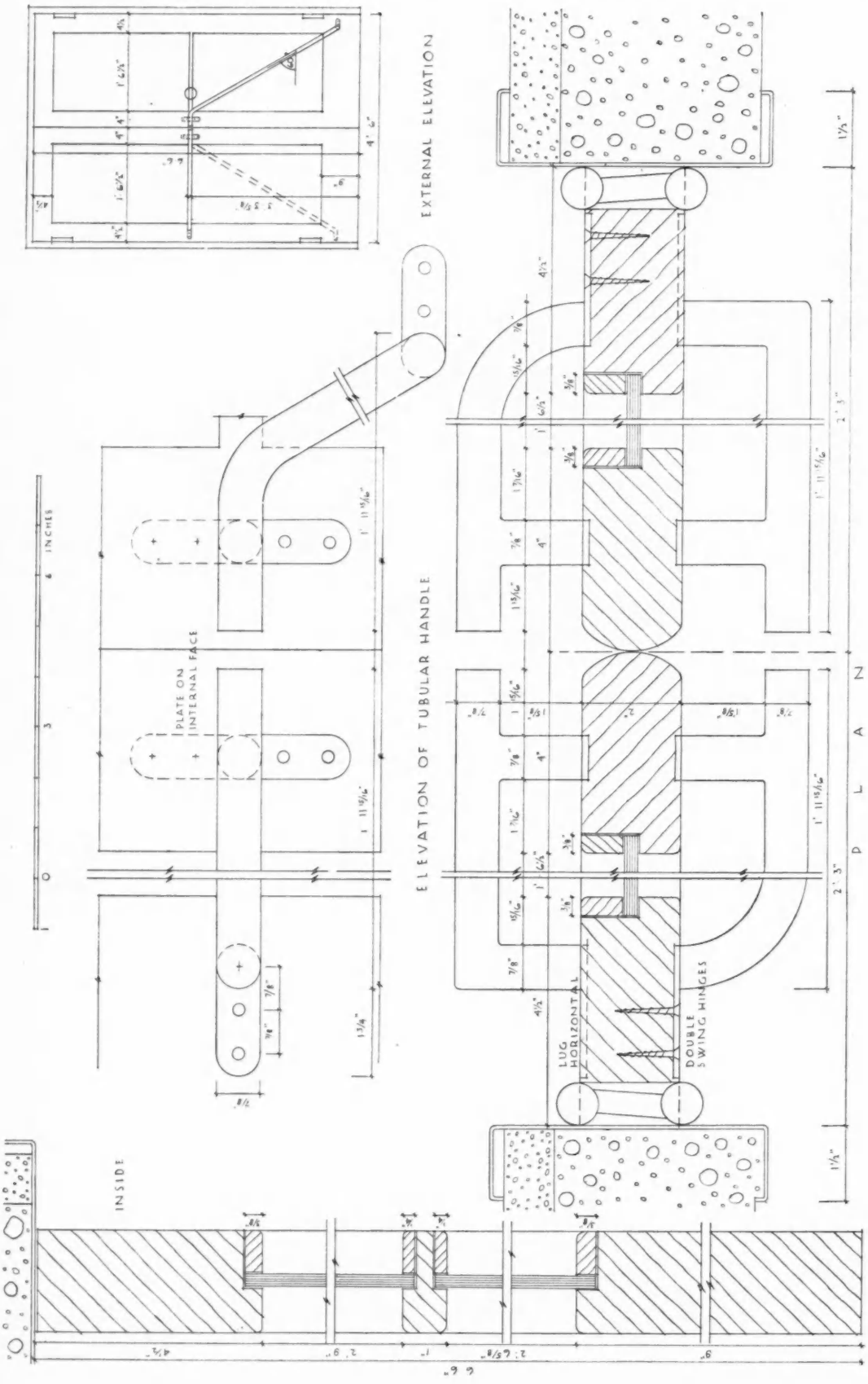


S. W. NEWBERY

The main entrance doors to Lawn Road Flats, Hampstead, are hung on double swing hinges in an all-metal architrave fixed direct to the concrete wall. The finish of the surround is a two-coat water-proofed cement wash applied direct to the untreated concrete face. Details of the door are given overleaf.

WORKING DETAILS : 122

EXTERNAL DOOR • FLATS IN HAMPSTEAD • WELLS COATES



Details of the main entrance door to Lawn Road Flats, Hampstead. See photograph overleaf.

WORKING DETAILS : 123

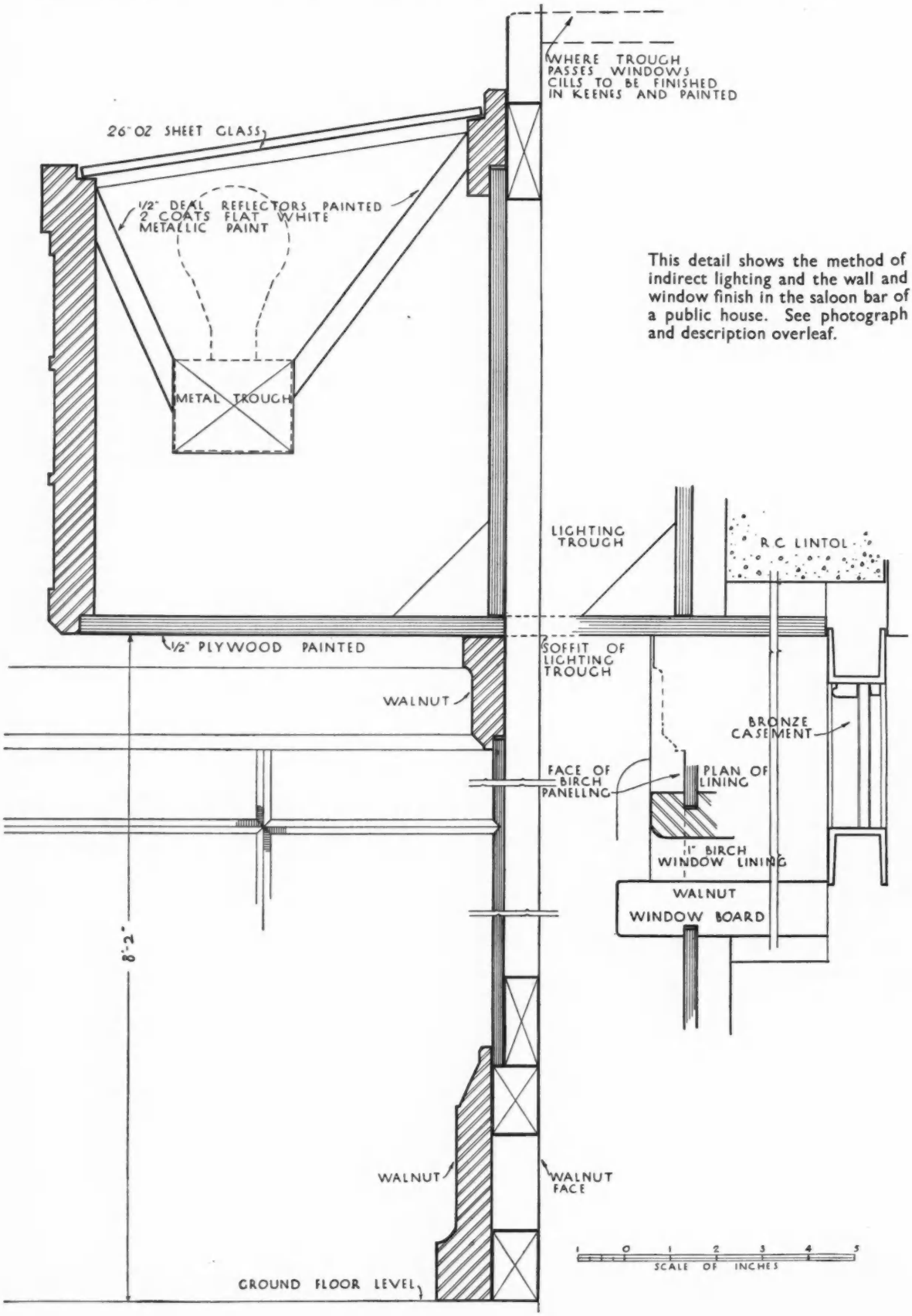
INTERNAL FINISHES • PUBLIC HOUSE IN CRANBOURNE ST. • PETCH AND FERMAUD

TELLA

The photograph shows the saloon bar on the ground floor of the "Scotch Stores," Cranbourne Street, by Leicester Square Station, London. Lighting is indirect and is thrown on to the ceiling from a trough which runs round the room. The cabinet in each bar is strip lighted, the tubes being concealed behind a painted fascia. The light is reflected downwards on to the glass shelves and mirrors by a plaster cove. Fittings of chromium steel and horizontal discs of frosted glass light the buffet. Details of the indirect lighting and other finishes are given overleaf.

WORKING DETAILS : 124

INTERNAL FINISHES • PUBLIC HOUSE IN CRANBOURNE ST. • PETCH AND FERMAUD



This detail shows the method of indirect lighting and the wall and window finish in the saloon bar of a public house. See photograph and description overleaf.

PUBLIC HOUSE IN CRANBOURNE ST., W.C.

DESIGNED BY PETCH AND FERMAUD

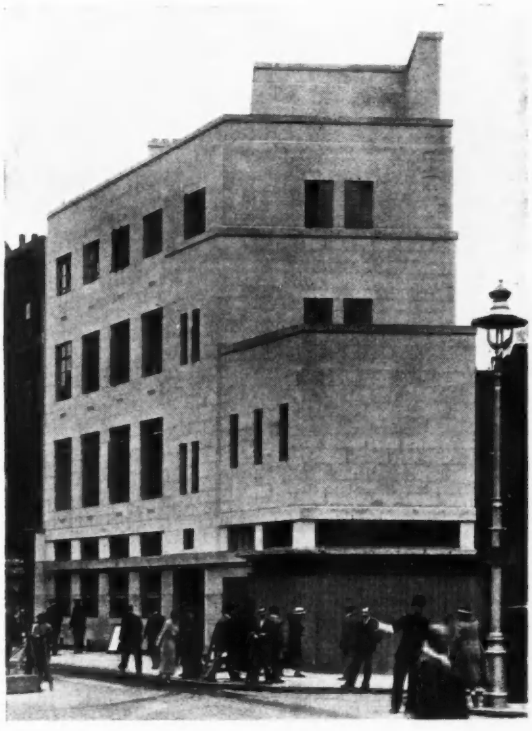
(Adams, Holden and Pearson, Consultant Architects)

This public house, called the "Scotch Stores," is a rebuilding of an old house on an extended site, and incorporates one of the entrances to the new Underground Railway circus to the Leicester Square Tube Station.

The main block is four storeys in height. On the ground and first floors (see plans overleaf) there are the saloon bar, and dining-room and buffet respectively. The second floor contains the licensees' private suite, comprising a sitting-room, two bedrooms, bathroom and w.c. On the third floor is the kitchen and staff accommodation, and on the fourth floor another bedroom and bathroom. There is an isolated heating chamber in the cellar containing the domestic boiler and low pressure hot water heating boiler, which feeds radiators throughout the building. Beer is conveyed to the bars by a pressure system. Two service lifts, one electric and one hand power, are provided, and an electric hoist from the cellar supplies the two bars with bottled beer, etc.

The building is of steel frame construction, with reinforced concrete floors. The elevations are faced in Portland stone and the lower fronts in Creetown granite.

The drawing above shows the elevation to Cranbourne Street; the photograph on the right is taken from Charing Cross Road. A hoarding still surrounds the new entrance to Leicester Square Underground Station, which part of the building will not be finished for some months.



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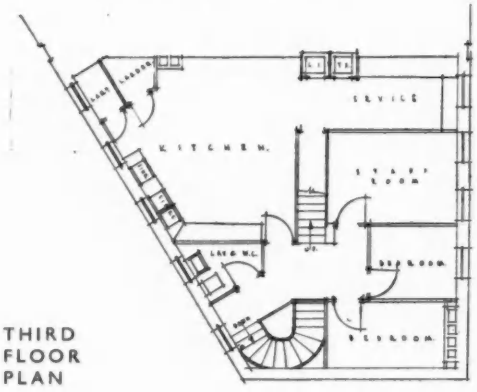
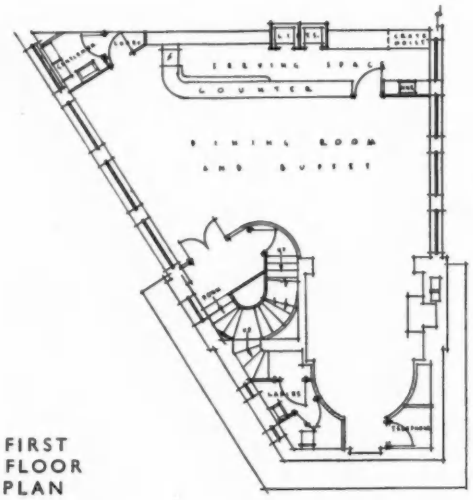
PUBLIC HOUSE IN CRANBOURNE ST., W.C.



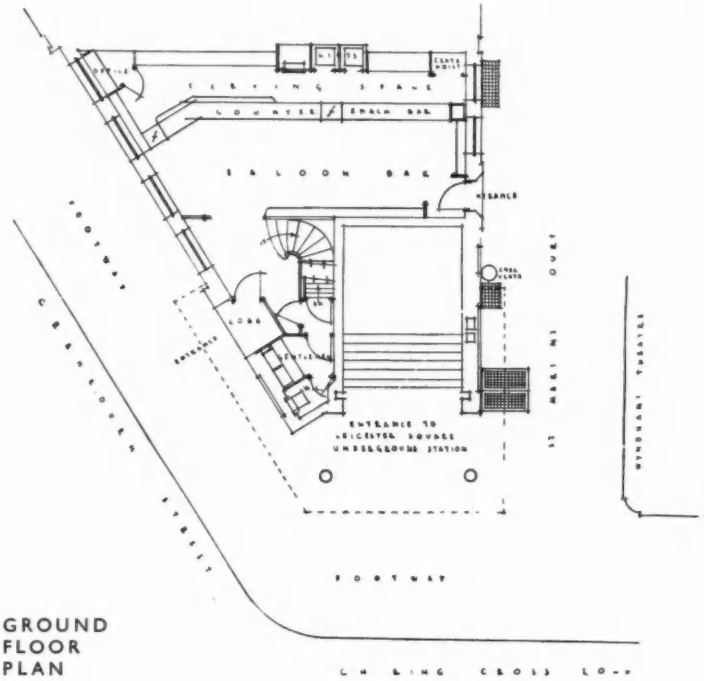
THIRD FLOOR PLAN

Above : The dining-room and buffet on the first floor. The ground floor saloon bar is illustrated on page 417, with some details of the internal finishes. The wall panelling in these rooms consists of rectangles approximately 2 ft. 6 in. by 1 ft. 6 in. of ¼ in. plywood secured to prepared grounds, the joints being bevelled and left in the white. Where the panels butt against the window linings, the latter are grooved to take the plywood. Where the walls are curved, as in the buffet, solid rebated strips cover the horizontal joints and keep the plywood in place. This method is also followed on the counter fronts. In the saloon bar the general panelling is in birch with French walnut capping and skirting.

SECOND FLOOR PLAN



FIRST FLOOR PLAN



GROUND FLOOR PLAN

BY PETCH AND FERMAUD (Adams, Holden and Pearson, consultants)

SWINTON AND PENDLEBURY COMPETITION

THE result of the Swinton and Pendlebury Competition was announced last week, the report of the assessor (Mr. J. R. Adamson, F.R.I.B.A.) being as follows :

In response to the invitation of the Council, 47 designs have been submitted in competition for the proposed municipal offices, and the planning of the land to accommodate also a public library, a Petty Sessions Court, and a Public Hall. I have to report that I have carefully examined all the designs submitted. Many are of great interest, but in all there are points of detail which are open to criticism. After giving the designs very full consideration in relation to the various aspects of the problem, I am of opinion that the design numbered 38 will most suitably meet your requirements, and to its author I award the First Premium. The second premium I award to the author of the design numbered 19, and the third to the author of the design numbered 35.

No. 38 : Percy Thomas, O.B.E., F.R.I.B.A. (Cardiff), and Ernest Prestwich, M.A., F.R.I.B.A. (Leigh).

No. 19 : L. W. Thornton White, A.R.I.B.A. (London).

No. 35 : H. J. Harding, A.R.I.B.A. (London).

I consider the designs numbered 32, 36, 11 and 28 to be worthy of mention.

No. 32 : James F. Howes, A.R.I.B.A., and F. L. Jackman, A.R.I.B.A. (London).

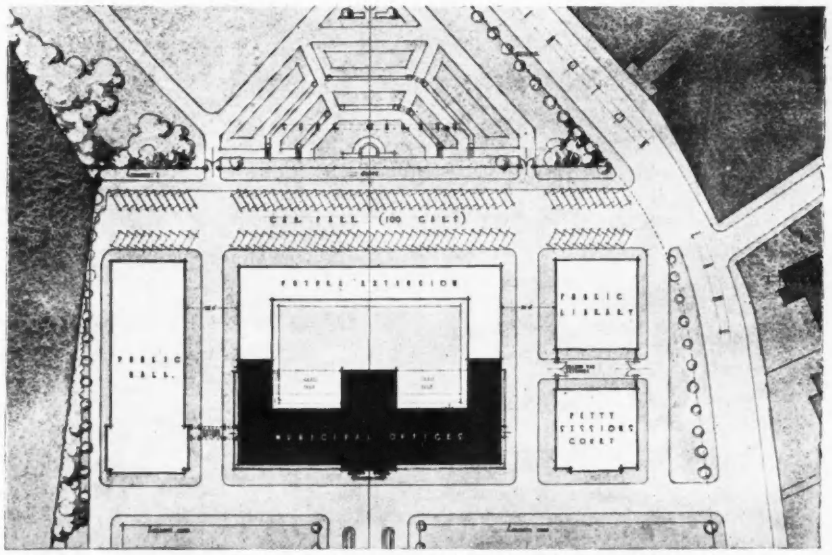
No. 36 : L. Sturmer Jacobson, A.R.I.B.A., and John Alex Caveson (London).

No. 11 : Briggs and Thornely (Liverpool).

No. 28 : Bain and Johnson (Leeds).

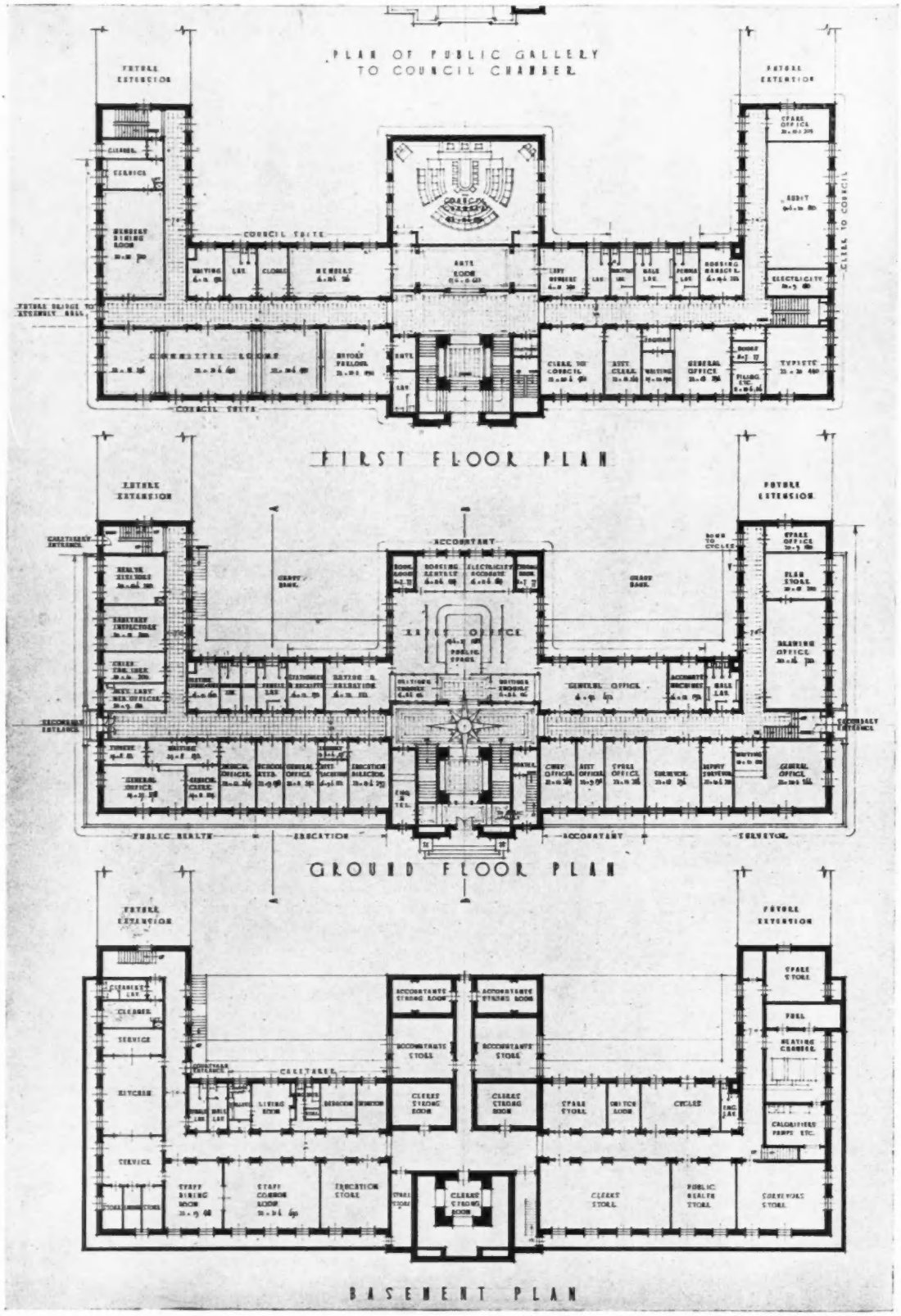
The design placed first has a simple and convenient plan, well balanced and open in character, which lends itself readily to extension, and the external treatment of the building gives promise of dignity and suitability to its civic purpose. Some adjustments in detail may be worthy of consideration, for example, the caretaker's house might perhaps be placed in another position. The cubical contents of the building are stated in the report accompanying the design to be 705,151 cu. ft., which at the rate of 1s. 9d. per cu. ft. estimated by the competitor, with the addition of £2,000 for a concrete raft over the site makes a total estimated cost of £63,700 14s. 3d. This figure is stated to include drainage, heating, ventilating, electric light, and everything necessary to complete the buildings including fixed fittings, and first decoration, but exclusive of movable furniture, boundary walls, railings, roadmaking, or garden lay-out. The lay-out of the site provides for the Municipal Offices to face Chorley Road flanked by the Public Hall, Library and Petty Sessions Court, with car park space and gardens behind.

Designs numbered 19 and 35 each have many good qualities, but I consider that neither of them so satisfactorily meets your requirements as design numbered 38.



Block plan and main elevation of winning design by Percy E. Thomas and Ernest Prestwich. Floor Plans are reproduced overleaf.

SWINTON AND PENDLEBURY COMPETITION



WINNING DESIGN BY PERCY E. THOMAS AND ERNEST PRESTWICH

PLAN THE BUILDING EXHIBITION
OPINIONS OF EXHIBITORS

In our leading articles last week and the week before we discussed the lack of planning that is apparent in the Building Exhibition and the advantages planning would bring. In order to obtain some idea of the feelings of exhibitors on the subject, we circulated among them a letter asking for their views. Here we print a number of the replies we have received. Their implication is discussed in our leading article this week. Following is the text of the letter.

DEAR SIR,—" When it is seen how great are the advantages of employing an expert to solve this problem, then exhibitors will insist upon its being done. We believe that the organizer, Mr. Greville Montgomery, is alive to the fact that the Building Exhibition would be a more valuable thing if it were laid out according to the architect's idea of order and planning. It is, we understand, the attitude of the exhibitors themselves which prevents this much-needed organization. We ourselves are exhibitors in a humble way, and we do not hesitate to say that we would welcome a planned exhibition, even if it meant that our exhibit was placed in what we might consider a more unfavourable position. What do the other exhibitors think about it? We would be glad to know."

This paragraph is taken from the leader in our issue of September 6, which deals with the desirability of replanning the Building Exhibition, and which represents, we believe, the point of view of the architectural profession. May we ask you whether your firm is in favour of re-organizing the Exhibition or leaving it as it is?

LANGLEY LONDON, LTD.

The writer has just come from the Building Exhibition. During recent years it has improved out of all recognition and though, of course, many of the stands might show their wares to better advantage if architects were employed, I think that the Exhibition as a whole is today very excellent. The great curse of the past—the wooden stand with the name high in the air—is rapidly disappearing, though it still exists in some cases. I do not see that it is in the interests of the exhibition authorities to insist that every exhibitor must employ an architect. It certainly would not be in the best interest of the exhibitors if one firm of architects were to be employed to do the whole thing. The building industry is not at all like the radio industry; we could not possibly put up with a uniform stand.

TRIPLEX FOUNDRY, LTD.

There is no doubt that the Ideal Home Exhibition, Olympia, has been considerably improved from every point of view by being laid out architecturally, and it is all to the good of exhibitors and the attending public if an exhibition is designed to be pleasing to the eye. We should rather welcome such an arrangement, although we cannot subscribe to the suggestion that the positions of the stands should be unfavourable.

SIDNEY FLAVEL & CO., LTD.

We believe: 1, that exhibitors' stands should not be overcrowded; and 2, should be as simple as possible, so that the goods themselves call for attraction, and not the stand alone from a design point of view. We think, generally, stands have greatly improved in design in recent years and we are strongly in favour of a uniform design, such as at the Ideal Home Exhibition.

BETTY JOEL, LTD.

I have only once had a stand at the Building Exhibition, which was two years ago, and I am not very clear in my recollection about the whole thing. We have, however, got a small stand this year, and after the exhibition is over, no doubt I shall have formed some definite conclusion on the point you raise. I will then let you have my views, only it is not a point that one can jump at.

THE PATENT IMPERMEABLE MILLBOARD CO., LTD.

Whilst we would endeavour to be agreeable to conform to a definite arrangement of planning, we do not feel the suggestion lends itself to practical application.

We look on the Building Exhibition as being quite distinct from other trade exhibitions. In the Building Exhibition the stand itself is often the exhibit, and has to be designed by each individual exhibitor to bring out the properties of his own material, and therefore the design functions round the material to be exhibited. In other exhibitions often the stand is a home for the exhibits, the materials being displayed in such space or arranged to suit their own requirements. Frankly, we do not think the suggestion could be satisfactorily carried out in the Building Exhibition.

AGA HEAT, LTD.

It was a pleasure to read the leader in your issue of September 6 calling attention to the necessity of properly planning the Building Trades Exhibition. It is astonishing, however, to learn that it is the exhibitors themselves who, apparently, stand in the way of any improvement. There can be no doubt but that the value of the Exhibition could be very materially improved—not only from the point of view of appearance, but from those of display, circulation and dignity.

May I suggest that the organizer, Mr. Greville Montgomery, invites all exhibitors to express their views one way or the other? I feel that if Mr. Montgomery called an informal meeting during the period of the current Exhibition, most exhibitors would be only too glad of the opportunity to exchange views amongst themselves and with him.

HALLIDAY BOILERS, LTD.

I consider the Building Exhibition as at present held is the most interesting exhibition in the country, and I would not consider for one moment wasting time to exhibit at a crazy planned exhibition as suggested by you.

WOOD PRODUCTS, LTD.

We agree that planning of the Exhibition would probably improve it from the point of view of harmony, but we imagine that planning would also mean segregating different types

of exhibits which, from our point of view, is not entirely desirable.

Many architects and builders who in the past have used certain boards with success are, obviously, not very inclined to experiment with others. For this reason, they would probably avoid visiting the wallboard section, as they are not greatly interested, knowing, or imagining, that most wallboards are very similar in nature and the difference in price is extremely small.

If the wallboard stands are dotted about the Exhibition in positions deemed favourable by the exhibitors, there is probably greater chance of a stand catching the architect's eye while he is looking for other exhibits.

Since the receipt of your letter, we have discussed our views with one or two of our friends amongst the architects, and they have agreed quite candidly that as regards wallboards there are a few which they have tried out and found satisfactory, and that they, therefore, would probably not make a point of visiting the wallboard section, but that if they desire especially to see an exhibit they will make a point of going to it wherever it is placed in the Exhibition.

There is then the question of position which you mention, as regards which we think many exhibitors will feel strongly. One exhibitor may be catering for the smaller buyer and another for the larger buyer, and it would probably suit the one to be in a quiet part of the Exhibition, whereas the other would find himself best served by being in the neighbourhood of exhibits which always attract a crowd.

TUKE AND BELL, LTD.

We are quite in accord with the suggestion made by you in your leader, and think that the Building Trades Exhibition might be dealt with much more from the point of view of the architectural profession.

ANSLEM ODLING AND SONS, LTD.

We regret we do not approve of the suggestion that the Exhibition should be planned out by an architect according to his ideas of order and planning.

CEMENTONE PRODUCTS

We ourselves, as manufacturers of decorative and waterproofing products, are quite in favour of the suggestion, but we are frankly dubious as to whether such a re-planning would be equally helpful to exhibitors of large scale products, such as timber, steelwork, machinery, etc.

THOMAS AND BISHOP, LTD.

We have been showing at exhibitions for over thirty years and would prefer to have every exhibition with a stand already made, so that we could just walk on and put up our demonstration plant without any further trouble. If the promoters would put in an "all in" price for this sort of work, we feel sure they would be supported by the firms who are exhibiting. We should imagine architects would design stands that would be good to look at.

T. AND C. ASSOCIATED INDUSTRIES, LTD.

We should quite concur in the desirability of the Building Exhibition being laid out in accordance with the architect's idea of order and plan.

ROBERT ADAMS

In the main we sympathize with your suggestion that a settled order of planning might be an improvement.

At the same time, the matter would need to be approached with considerable caution, because one would hesitate very much to adopt a scheme which would provide a less favourable position from the advertising standpoint than the position which one may occupy at the moment, it being borne in mind that the main object of exhibitors entering the Exhibition is to obtain publicity for their products, etc.

For our own part, to be candid, we have not found much, if any, grounds for complaint as to the position, etc., in which our exhibits have been placed.

THE LIMMER AND TRINIDAD LAKE ASPHALT COMPANY, LTD.

Although we agree to a certain extent with the opinion expressed in your editorial, we do not think that the Building Exhibition lends itself to a completely standardized layout, as it would be almost impossible for some of the many trades represented to show their materials to advantage on a standardized exhibition stall.

We do think, however, that a middle course might be taken and that the height of the stands could be fixed at one level, all exhibitors being forced to be neither lower nor higher in the erection of their stands.

B. E. N. PATENTS, LTD.

The idea of the Building Exhibition being laid out according to the plan of an architect appeals to us as being well worth consideration. It is probably doubtful, however, whether the organizers of an exhibition would be as enthusiastic over such a scheme, as they are primarily interested in letting as much space as possible, almost to the point of congestion. One of the steps, we imagine, towards the improvement of the layout would be to provide wider spaces and gangways, which of necessity must reduce the revenue from the organizer's point of view.

When you state that you would welcome a planned exhibition, even if it meant that your exhibit was placed in a more unfavourable position, we find it somewhat difficult to agree, because with a better planned exhibition surely all exhibitors should obtain more favourable positions as a result.

THE METAL GRAVURE CO., LTD.

With regard to the laying out of the Building Exhibition to architects' ideas of order and planning, in our opinion this is highly desirable in the case of a number of exhibitions, such as the Radio, but for the Building the best results, from the exhibitors' point of view, are obtained by allowing each exhibitor to make his own arrangements regarding his stand; owing to the tremendous variation in the type of goods to be shown, which, in our opinion, would entirely prevent any standardized form being adopted satisfactorily.

SMITH'S FIREPROOF FLOORS, LTD.

While quite agreeing that there would be definite advantages to the Exhibition as a whole if it were laid out on the lines appealing to the architect, I fear the main obstacle would be to get the exhibitors to agree to the possibility of forfeiting positions which they have held for years, for such that might not be so beneficial, but which might become essential for the rearrangement of the scheme.

I feel that the best way of dealing with the problem would be to call a conference of the exhibitors during the exhibition period.

THE HEMEL HEMPSTEAD BRICK CO., LTD.

We are not altogether in accordance with the suggested planning of future Building Trade Exhibitions, but we have definite ideas of what is the most suitable period of the year for holding such an exhibition. Our opinion is that April is a much more suitable time for the exhibition than September, and if you can find anybody whose opinion supports this view, we shall be only too pleased to co-operate in approaching Mr. H. Greville Montgomery on the matter. These remarks also apply to our associate company, The Coronet Brick Company, Ltd.

E. HILL ALDAM AND CO., LTD.

Our opinion is that any improvement that can be effected would be welcome. It would no doubt be necessary to form a central body, which could keep in touch with the exhibitors generally, to handle the situation.

[*Further letters from exhibitors on this subject will be published next week.*—ED., *A.J.*]

GALLERY: STANDS 4-9 and 55-61

THE NEW HOMES FOR OLD HOUSING EXHIBIT

THE MARS CONTRIBUTION

Last week we described and illustrated the Housing Exhibition at Olympia organized by the New Homes for Old Committee, and referred briefly to the section of it contributed by the MARS (Modern Architectural Research) Group. Below is a more detailed description of this section of the Housing exhibit. Illustrations from it are given on the pages following.

THE aims of the MARS Group have been set forth in previous issues of THE ARCHITECTS' JOURNAL and need only be summarized here. The Group is made up of modern architects and allied technicians who have been willing to profit by those experiments in form and function which were worked out almost simultaneously in many countries during the last quarter of a century and which have produced a modern style both rational in character and international in distribution, and to assume some of the architect's social responsibilities. The Group has been formed primarily for research, which, within the terms of the task the members have set themselves, includes not only technical investigations into purely architectural matters such as planning and structure, but also includes rather deep probings into the whole structure of society. During the winter they decided to undertake a long-term investigation into the complicated question of housing and urban replanning. For reasons of convenience in finding statistical information it was thought best to take a London borough as a sample area, and Bethnal Green seemed to fulfil all the conditions of a good sample. Work had been started when an invitation came from the New Homes for Old Exhibition group, which decided MARS to join them at Olympia. In the short time available it was impossible to produce very definite findings and the Group has here chiefly concentrated on the vivid presentation of the existing conditions, a study of which is but the A B C of such an analysis.

The walls are arranged in careful sequence and should be taken in order. The beginning of the first is deliberately dramatic; it is headed with an invitation to "LOOK UPON LONDON." A 9 ft. by 8 ft. map of the metropolitan area is attached. Below, a composite photograph showing the heads of about 20,000 people, with the figures x 60 painted over in red, gives a vivid picture of what it means in mass of actual humanity when the statement is made that there are in London 1,206,894 people living at over 1½ to a room. Rows of sardine tins in an adjacent photograph ram home the idea. The crowd of heads is multiplied by eight to indicate how many there are in London (150,130) living at over 3 to a room. "And yet" follows on the script, "138,310 are unemployed in the building trades (January 1934)," and below is a photograph of unemployed lined up outside a labour office. The script continues . . . "1934 Budget provided £113,711,000 for Army, Navy and Air Force." These figures are illustrated by photographs; a machine gunner, the fleet, a charging tank, a flight of aeroplanes in formation. The land is below them, patterned out for a better purpose but ready for destruction.

After these, photographic excursions into realms which are usually, but not accurately labelled "political." MARS goes to the heart of the matter; this time in plain words. "Overcrowding is but one aspect of an increasingly serious situation" . . . followed by (in large type) "LONDON IS UNPLANNED" and, crossing over to the big map of London, "HERE IS CHAOS!" The method of presentation is frankly propagandist in the best sense of that word; such methods have to be used more and more to secure the co-operation of the individual in the workings of society.

The remainder of the exhibit comprises a detailed analysis of one section of London. The Borough of Bethnal Green is chosen on the big map as a sample area for such study and an arrow leads across to an enlargement at the scale of 18 ins. to the mile. Numbered arrows on this lead to the corresponding paragraphs of a short description of the Borough and on to photographs of typical scenes. The whole right-hand section of this first wall thus serves to introduce the spectator to the main aspects of the area under scrutiny.

The second wall (moving clock-wise around the exhibit) starts with an historical analysis in which the growth of Bethnal Green, of London and of the Empire are interconnected. It appears that the most important single event, which had a catastrophic effect on the life of the Borough, was the trade agreement with France in 1860, which removed the tariff on imported silk and, almost at one stroke, put 50,000 weavers out of employment. That is how slums are made. By 1900 there were only 43 families still weaving, though the mercantile tradition of small-scale industry continued, and cabinet-making and tailoring were substituted for silk weaving. The summary of this section is interesting :—

> "About 1700 a small wealthy parish, with population of semi-peasant weavers. Linked by road to Whitechapel. By 1750 already the centre of the most important silk weaving district in England. Before 1800 two classes appeared: the rich master weavers and the pauperized piece-workers, bereft of their land. The industrial revolution of the 19th Century smashed hand weaving completely. To-day the weavers' place has been taken by shoemakers, tailors and cabinet-makers, working in small workshops or at home.
>
> "Imperial development and the growth of world markets between 1880 and today caused the growth of Greater London, in which Bethnal Green is a central borough. As in all cities the first eastern suburb, in which Bethnal Green lies, became the poorest and worst and cheapest, while the wealthier moved ever further out."

The second section of wall 2 deals with Density, both of building and of population, and the first section of wall 3 with Communications. The remainder of this wall deals with such miscellaneous subjects as Occupations, Daily migrations, Health, and a panel entitled "65 Years of Housing . . . and the result." With the exception of Communications, which consists of a straightforward analysis on maps, these sections make extensive use of the "Vienna method" of picture-statistics. These have the advantage over other methods that they can show many factors of a comparison between two sets of figures and at the same time provide a basis for the rapid visual calculation of the number of things compared. No other method could, for instance, compare so vividly and accurately not only the populations of Bethnal Green and Chelsea but also the number of overcrowded in each.

The panel on Housing in Bethnal Green gives a table showing the number of rooms built in different itemized periods and by contrasting red and blue symbols brings out the number of rooms being let today at both over and under

4s. a week. Most strikingly the table brings out the trend : the more up-to-date the room, the more likely is it to cost more than 4s. From 1931 on no rooms have been built to let below this figure, which is taken as the upper limit of what most slum-dwellers can pay.

The fourth wall is entitled "FIRST STEPS FROM CHAOS TO ORDER" and is in the nature of a synthesis where the other walls are straightforward analysis. Its sub-title is "First we must balance the Human Equation," echoing the dramatic language of the first wall. It consists of a technical analysis of how the working class income is spent, with quotations from the reports of various Medical Officers of Health to show how widespread is malnutrition. This wall is of the utmost importance as it gets down to the basic roots of the housing question. It ends with a list of inescapable alternatives—different categories of cost which must, some or all of them, be lowered if new and adequate quarters are to be provided for the large impoverished classes of the population.

This work of the MARS Group, the first steps of which are presented in this exhibition, is to be continued. The next steps will be an analysis of Needs and an analysis of Means whereby the chaotic conditions here set out can best be resolved into conditions of more civilized living ; and, the sociological problems having been first tackled, the Group will be able to approach on a sound basis the problems within the boundaries more popularly supposed to limit the architect's function. The absence of any designs for buildings is indeed the most notable and encouraging symptom of the right approach that characterizes this exhibition of architects' work.

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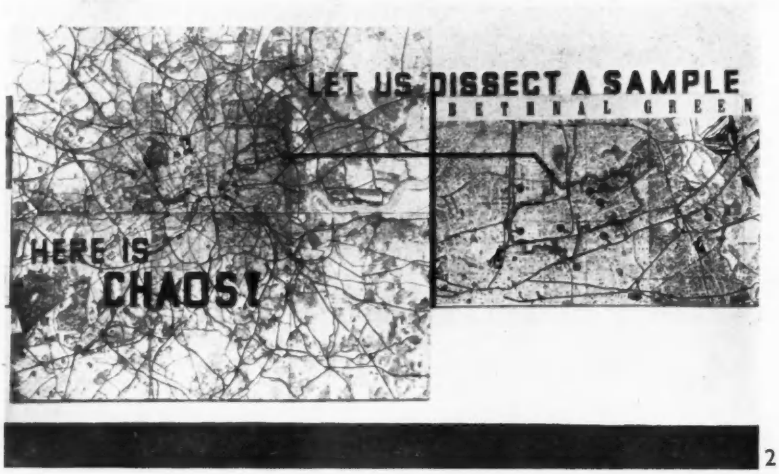

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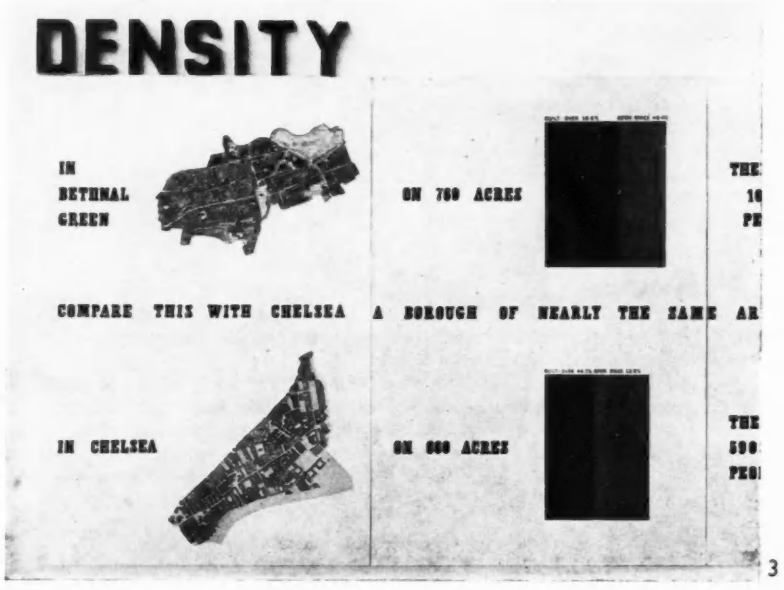


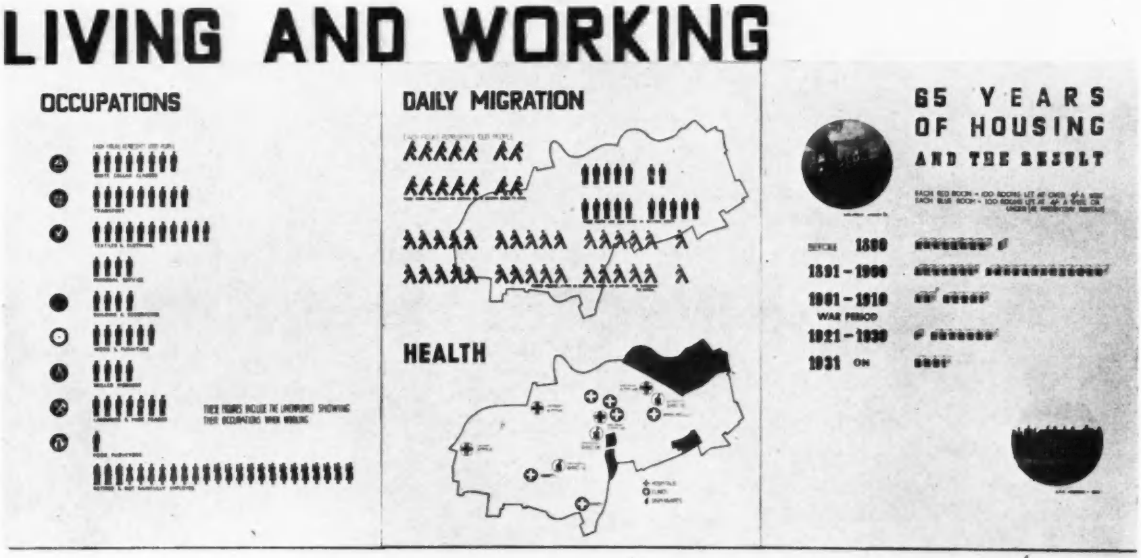
3

1 : Overcrowding in London, revealed in figures and symbolized in sardine tins : destructive expenditure disproportionate beside such constructive expenditure as housing : the spread of London in diagrammatic form.

2 : A map of London to illustrate the cumulative effect of unplanning, and an enlarged map of Bethnal Green, selected by the MARS Group as a suitably typical area for their analysis.

3 : Density : built-over areas in Bethnal Green picked out for comparison with a more fortunate area such as Chelsea. The diagram on the right shows that in Bethnal Green (despite the existence of a large park), only 40·4% of the area is not built on, while in Chelsea the figure is 53·8%.

THE MARS EXHIBIT AT OLYMPIA



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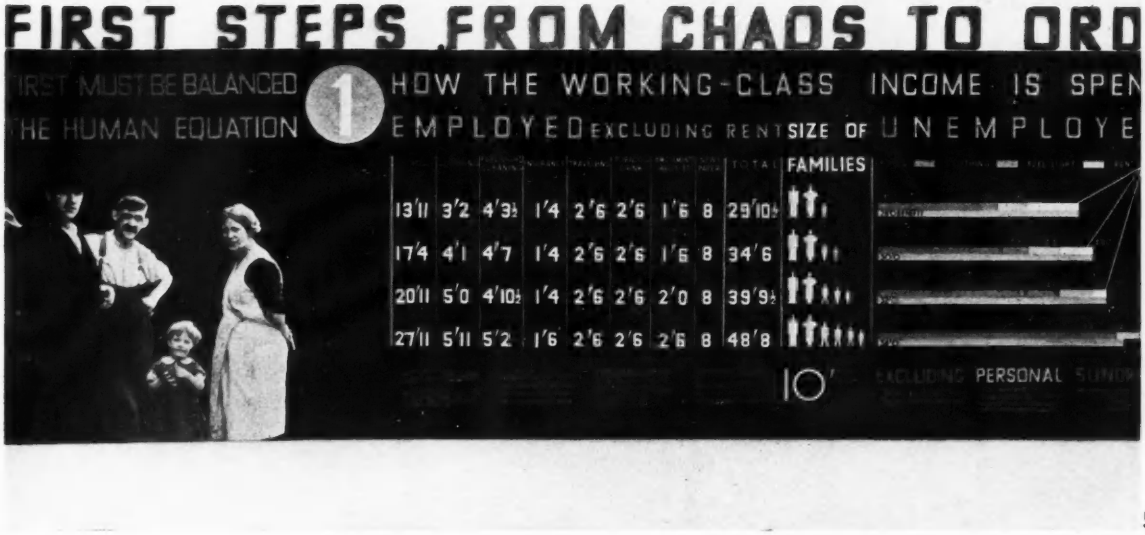

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4: Part of the analysis of present conditions in Bethnal Green. Each figure represents 1,000 people. Under the heading Occupations *they are divided into the "white-collar" classes (symbolized by an ink-pot), transport, textile and clothing, personal service, building and decorating, wood and furniture and skilled workers, labourers and workers in miscellaneous categories and food purveyors. The bottom division is of those retired or not gainfully employed. The unemployed are included, under their occupations when working. Under* Daily Migration *the three groups show the numbers who enter the Borough to their work and the number of residents who work outside and who remain in the Borough to work, the excess of emigration over immigration being shown in a different colour. Health services are shown in the diagram below and housing progress since 1865 in the right-hand panel. 5: The first part of the last wall of the exhibit shows the necessary readjustment of economic factors, which must form the beginning of any plan for improving existing conditions. The working-class income is analysed and a maximum of 10/- per week is found to be available for rent.*

FOUR STANDS AT OLYMPIA

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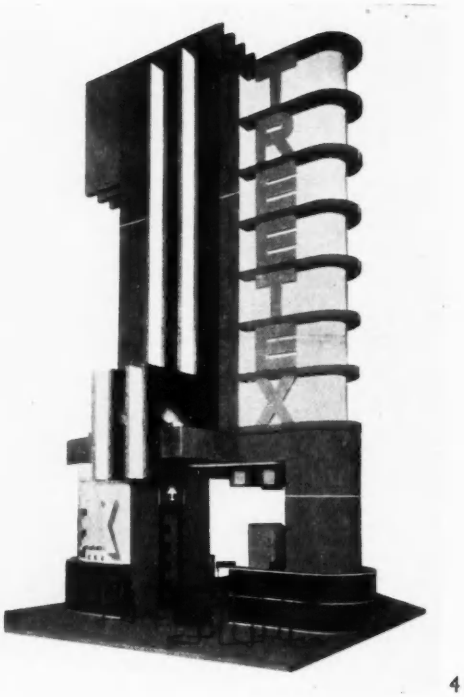

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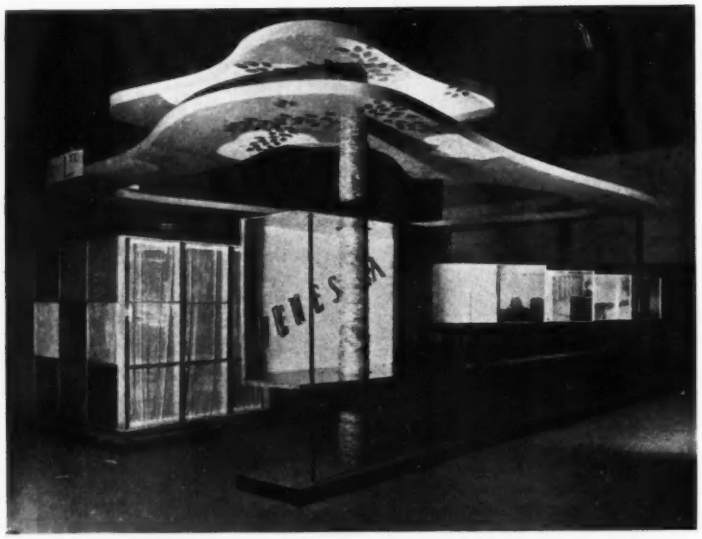

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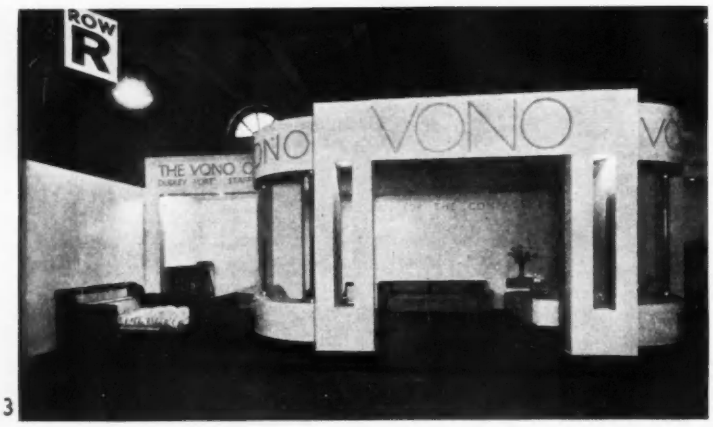


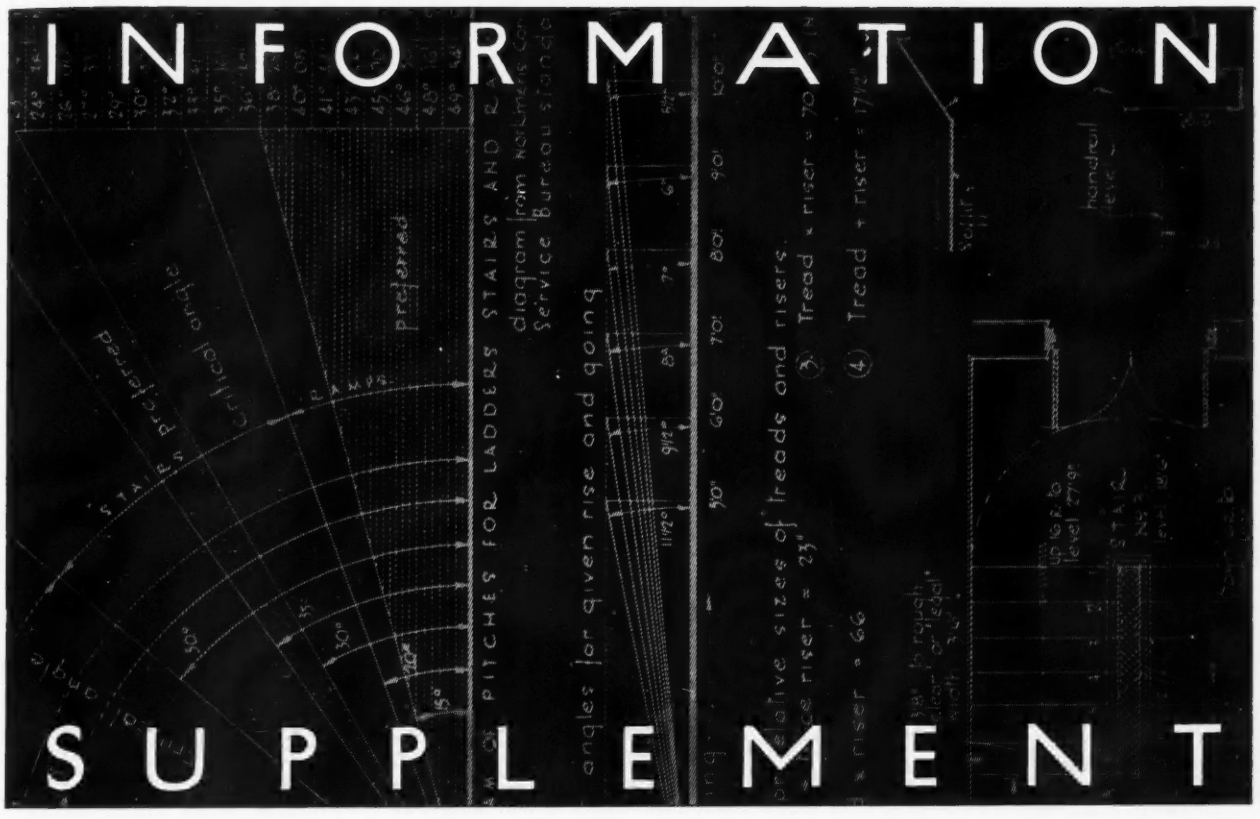
3

1: *Electrolux Ltd.* (*290R*). *Designed by Mrs. Darcy Braddell.*

2: *Venesta Ltd.* (*114F*). *Designed by Skinner and Tecton.*

3: *Vono Company* (*274Q*). *Designed by Mrs. Darcy Braddell.*

4: "*Treetex*" (*269P*). *Designed by John Edgington.*



BUILDING EXHIBITION: No. 6

A REVIEW OF THE EXHIBITS

The general impression to be gained from a tour of the Building Exhibition is that most of the manufacturers have made considerable efforts to supply goods that are really wanted. The old dictatorial "take it or leave it" attitude is seldom met with, and salesmen are eager to discuss the possible uses of their material, or variations in their standard product to meet the needs of the individual architect. In the following pages an attempt has been made to pick out the "high spots" of the Exhibition, and to draw attention to new methods of construction, finishings and equipment. It is inevitable that, in such a review, there will be many omissions among manufacturers who have been marketing a well-tried product for so long that their names are almost household words. With a few exceptions, all the manufacturers of note are to be found at Olympia, and most of their stands will repay a more than cursory glance.

Structural Steelwork, Fireproof Floors and Concrete

THE BRITISH STEELWORK ASSOCIATION (Stand 271P), has chosen to stress, in an interesting stand designed by Mr. Francis Lorne, the possible uses of standard steel products for partitions, stairs, doors, etc., with a view to saving weight in the completed structure rather than to deal with any new developments in the structural frame itself. The steel stairs on this stand are also shown in greater detail by MESSRS. BRABY (Stand 309T). It is becoming usual building practice to employ stairs of this type which, being shop fabricated and delivered to the job in units, are easily erected at the same time as the steelwork, to which they are attached. They can then immediately be used by workmen for the transport of materials, etc., between various floor levels before the floors themselves are constructed—a considerable improvement on the old system of ladders, gin wheels and hoists. When their use for rough traffic is no longer required they can be finished in various ways and with various materials, as shown in Fig. 1.

A method of frame construction which the makers claim combines the advantages of continuous reinforced concrete construction for the beams, with the advantages of smaller column area and greater speed of erection usually associated with steel frame construction, is shown by MESSRS. MCCALL & CO. (Sheffield) (Stand 175J). This is the "Multiple Column" system, the columns consisting of a number of steel bars let into a steel plate top and bottom, clamped at intervals to prevent individual buckling of the bars, and surrounded with steel spiral hooping whose chief purpose is to retain the concrete with which the column is finally filled and cased. The usual number of rods in each column is four (as shown in Fig. 2) and their diameter varies, according to the load to be carried, from 1 in. to 4 in.

The columns are delivered to the job in pre-fabricated units and are therefore easily erected, the base plate of one length resting on the top plate of the length below. They are then capable of carrying load before any casing is added. The beam rods are threaded through between the column rods in

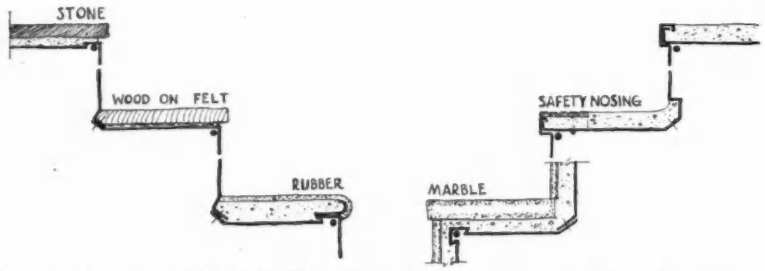


Fig. 1. Various methods of finishing obtainable with the pressed steel stairs shown by Frederick Braby, Ltd. Stand 309T.

exactly the same way as for ordinary reinforced concrete construction, and with the same advantages as regards continuity. Any shape of column, rectangular, round or hexagonal, can be used, and the end plates, which are bolted together at floor level, can also be used to support the beam shuttering. We understand that the L.C.C. have given their consent to the erection of buildings on this system in their area.

Some of the possibilities of welding for structural steelwork are demonstrated by the BRITISH OXYGEN COMPANY, LTD., on their stand (55D), which consists of a small steel structure completely fabricated by oxy-acetylene welding. Apart from considerations of cost and technical questions of design, welding should appeal to the architect because of the cleaner details and lines which are possible in a welded structure as compared with corresponding riveted

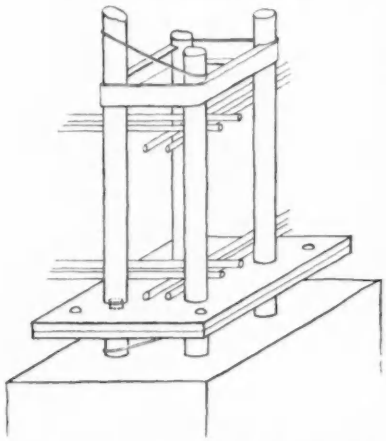


Fig. 2. The "Multiple Column" reinforcement system. McCall & Co. (Sheffield) Ltd. Stand 175J.

structures. This is illustrated in Fig. 3, which shows the detail of a roof truss shoe as used in the construction of the stand compared with a similar shoe riveted up. It should be noticed that the sections of the welded structure are considerably lighter.

Further exhibits of structural interest are various types of floor, several of which are new to the Building Exhibition.

MESSRS. SMITH'S FIREPROOF FLOORS LTD. (Stand 86E), are exhibiting an "all concrete two-way reinforced concrete floor," the details of which appear to have been fully worked out.

From Fig. 5 it will be seen that the floor consists of hollow concrete tiles between which reinforced concrete ribs run in each direction. The hollow tiles are in two exactly similar halves with one open, and three closed sides. By placing the open sides together, a closed box unit 18 in square is formed. The tiles are provided with lips all round which serve the double purpose of spacing the units and also forming a continuous concrete soffit for plastering. The channels left between the tiles are reinforced with rods as required, and filled with concrete, while, where necessary, as in the L.C.C. area, a layer of concrete is laid over the whole floor on top of the tiles.

For rectangular bays, the main reinforcement runs only in the direction of the shorter span and only sufficient reinforcement is added to the cross channels to distribute any load and to prevent shrinkage apart of individual units. For square bays, main reinforcement can be run in each direction with a consequent reduction in the depth of the slab.

To hold the tiles in position until the floor is cast, patent telescopic shuttering which can be laid at the rate of 100 sq. yds. per hour is used. This is also shown in Fig. 4.

A new type of clip for flooring battens has also been developed for use with the floor. (Fig. 5).

Another type of floor embodying practically the same principles of two-way reinforcement and a continuous soffit for plastering, has been developed by Wm. Airey and Son (Leeds), Ltd., and is shown on the EXPANDED METAL COMPANY'S Stand (148G).

In this case, expanded metal "domes" are used with flanges on all four sides. The units are assembled on open boarded shuttering so as to leave channels between them running in each direction, and in these the reinforcement is placed. The channels are then filled with concrete and a layer of concrete placed all over the floor on top of the "domes." The units, being of expanded metal, are extremely light and being also hollow, allow ample space for pipes, etc., while the soffit, which is entirely of expanded metal, is not likely to develop cracks on account of change of material.

THE TRUSSED CONCRETE STEEL CO., LTD. (Stands 130 and 131F), are showing a new example of the entirely precast floor which has been used throughout "Mount Royal," Oxford Street, where 3,750 sq. yds of floor were supplied and fixed per week.

The unit consists of a wide inverted

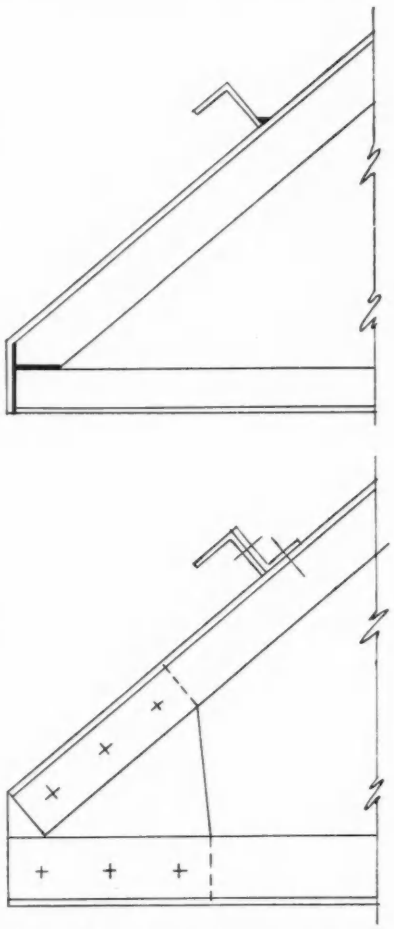


Fig. 3. A typical roof truss shoe, above, welded, and below, riveted. British Oxygen Co. Stand 55D.

U-section, in lengths to suit the span, with a diaphragm at mid span. Suitable reinforcement is incorporated in the unit at the time of manufacture.

Where a plane soffit is required, battens are fixed under the units by means of special clips, "Hy-Rib" is fixed to the battens and rendered. This suspended ceiling not only provides a means of concealing services,

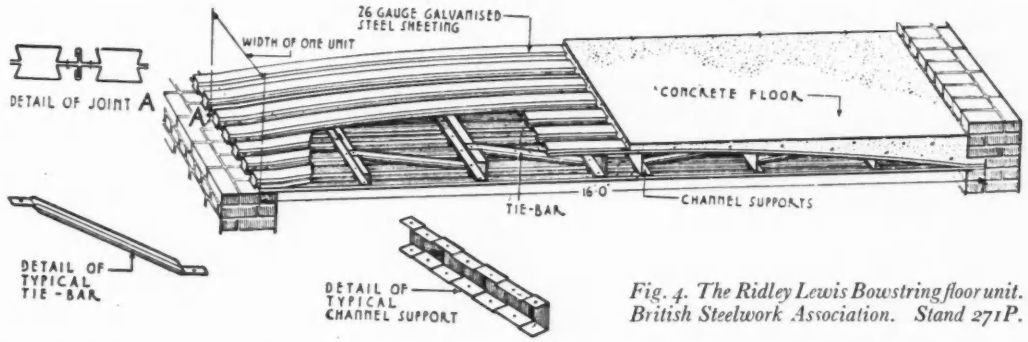


Fig. 4. The Ridley Lewis Bowstring floor unit. British Steelwork Association. Stand 271P.

but also adds to the soundproofing properties of the floor.

Another entirely precast floor is produced by THE RAPID FLOOR COMPANY, LTD. (Stand 122F). This floor consists of concrete beams of approximately I section manufactured by an ingenious method in a steel moulding machine to standard dimensions. Reinforcement is used in the top and bottom flanges of the I, connected at intervals by stirrups in the web (Fig. 6). The great advantage of the floor is that no shuttering is required, the beams being delivered from the factory to the site and placed directly in position. Three standard depths, $5\frac{1}{4}$ in. $6\frac{1}{4}$ in. and 8 in., are produced, and by cutting away portions of the top flange, filling the space between adjacent webs with concrete and adding reinforcement, the floor can be made continuous.

MESSRS. WINGET, LTD. (Stand 301S) are showing the "Pumpcret" concrete pump and pipe line, which, they claim, provides an extremely efficient and economical method of transporting concrete from the mixer to its final position in the forms. Apart from questions of cost, it is claimed that a much drier, and therefore ultimately stronger, concrete can be handled than if any form of chuting apparatus is used, while the pumping action, by applying considerable pressure to the mix on its way through the pump and pipe line, expels a considerable amount of air and results in a dense and strong concrete.

The pump is a horizontal, single acting piston type of heavy construction (usually driven by an electric motor of from 25-35 h.p.). All essential parts are made of steel castings, while for the cylinder and valve linings and valve plugs, special abrasion-resisting alloys are used. The inlet and outlet valves (the most important parts of the pump) are interchangeable and are driven by cams and rods, provided with springs, which come into action when any large stones prevent the valve plugs from completing their action.

The mixed concrete is fed into a hopper above the pump and enters the pump cylinder through the inlet valve by gravity. When the cylinder is full of concrete the inlet valve partly closes, the outlet valve opens simultaneously and the concrete is forced through the pipe line to any desired position on the job.

The pipe line (of 5 in., 6 in. or 7 in. diameter) is of steel, in standard lengths and bends, and is provided with simple, quick-action couplings, since it is essential for the frequent cleaning which is necessary that sec-

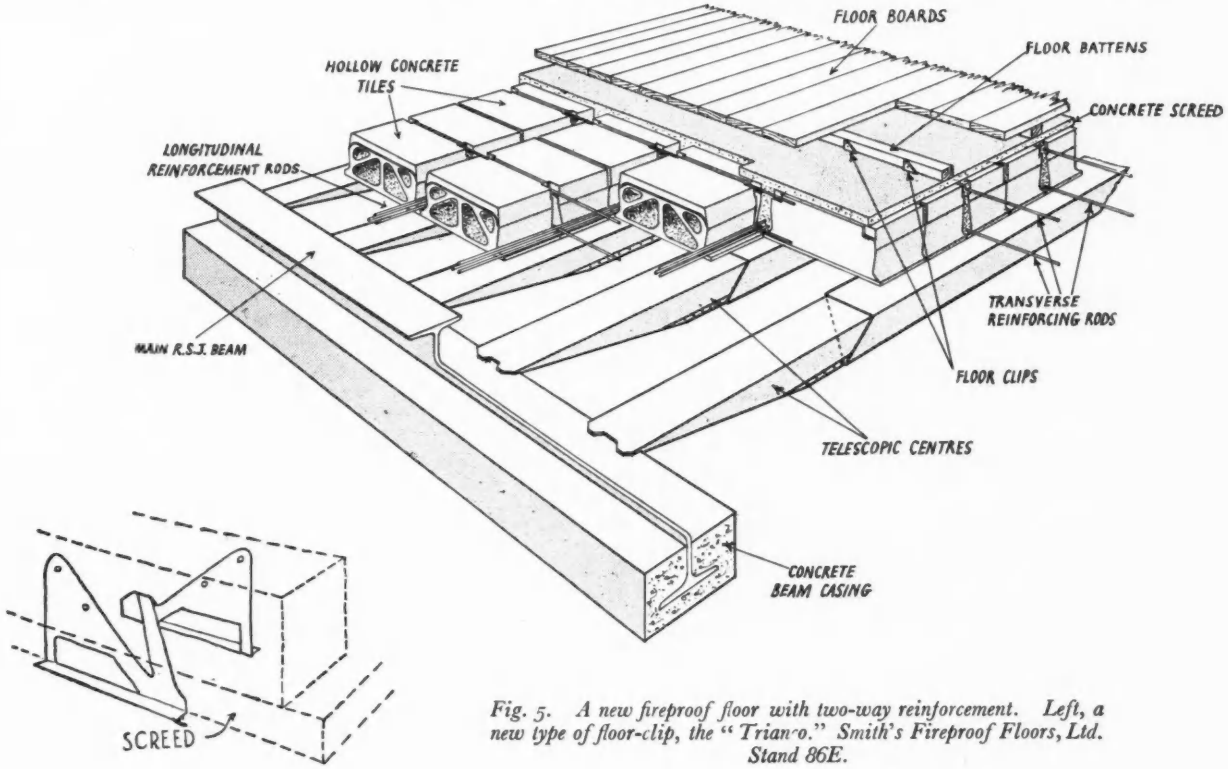


Fig. 5. A new fireproof floor with two-way reinforcement. Left, a new type of floor-clip, the "Trianco." Smith's Fireproof Floors, Ltd. Stand 86E.

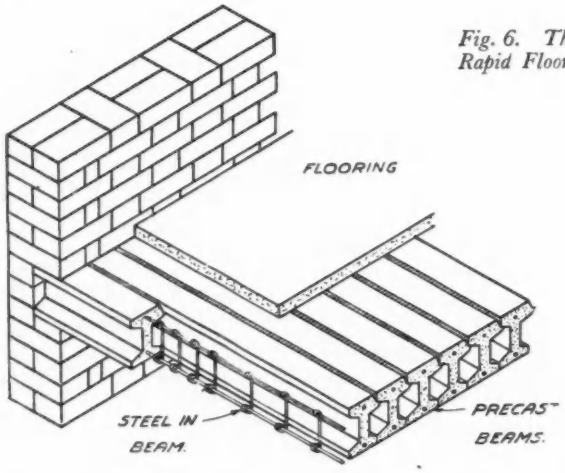


Fig. 6. The "Rapid" precast floor. Rapid Floor Co., Ltd. Stand 122F.

tions of the pipe should be easily detached from one another. The working radius of the pump is assessed at 650 ft. horizontal and 100 ft. vertical, but in practice these distances have been exceeded.

At Fulham power station mass concrete foundations over an area of 4,400 sq. yds. were placed with an average output of 23 cub. yds. per hour with concrete of a slump as low as 1½ in. Upkeep costs are not excessive; the piston rings need replacing every 1,000 yds. of concrete pumped, valve sleeves every 4,000 yds., but, allowing for these repairs, the labour cost per yard of concrete placed is about 8d., this figure including mixers, pump attendant and men at the forms.

For the lining of formwork it is now quite usual to place insulating board on the inner face, and this board is left in position when the forms are struck, thus providing an insulating layer, but on Stand 149G MESSRS. MASONITE LTD. show an excellent example of a smooth external face on a curved wall obtained by lining the formwork with their "Tempered Presdwood." This "Presdwood" is built up from specially treated wood fibre so that the resulting material is grainless, and therefore has no tendency to split or crack, and is sufficiently flexible to be easily bent to a curve. A defect of many of the materials which have been tried for lining shuttering is their failure to strip cleanly when the shuttering is struck, but it is claimed that "Presdwood" can be used at least ten times before its surface is damaged. The material is manufactured in 12 ft. by 4 ft. sheets, accurately rectangular, with smooth, sharp edges, and is produced in two thicknesses, ⅛ in. and $\frac{3}{16}$ in. The ⅛ in. thick sheet can be bent to a radius of 12 in. and the thicker sheet to a radius of 18 in.

The TENTEST FIBRE BOARD CO., LTD. (Stand 141G), have reconstructed an external corner of a room from the Chapman Estate, Stepney, a recently completed slum clearance scheme. The walls consist of 4-in. reinforced concrete cast against ½ in. fibre board, forming a permanent shuttering to which is applied a $\frac{1}{16}$ in. skim coat of plaster only. Adjacent to this is a column with bull-nosed, diagonal and square corners, cut through horizontally to reveal the methods of jointing the TenTest to obtain these angles (Figs. 8 and 9). There are also models showing TenTest applied to various well-known makes of floor and roof constructions. One example shows the board screwed to the underside of Ruberoid metal deck by special screws equal in thread to the gauge of the metal. The method of fixing is by punching the board and the metal, and then screwing home the screw, which cuts its own thread in the roofing.

WOOD PRODUCTS, LTD. (165H), are one of the few firms of building board manufacturers to solve the jointing

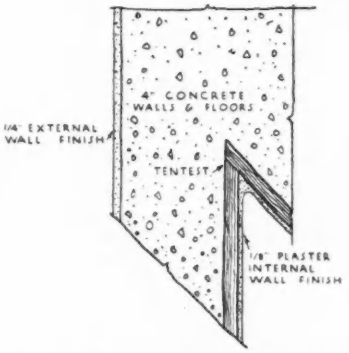


Fig. 8. Wall construction of Chapman House, Stepney. 4 in. reinforced concrete, ½ in. wallboard, $\frac{1}{16}$ in. plaster. The Tentest Fibre Board Co. Stand 141G.

difficulties attendant on this material. Mr. F. R. S. Yorke, A.R.I.B.A., has cleverly demonstrated the possibilities of "Ensoflex," the flexible wallboard, by standing on end a huge roll 75 ft. long and 10 ft. high, unwinding part of it, and curving it down to a circular counter. This board is, of course, an ideal wall covering as it allows a continuous unbroken wall surface, will take any curve, and has a pleasant biscuit colour. "Ensonit" and "Ensowal" are shown with a neat cover strip of aluminium fixed by round-headed screws.

THE TREETEX stand (269P)—to quote the exhibition catalogue—"symbolizes on a large and therefore appropriate scale the unlimited possibilities of 'Treetex' as a building material. The design, which is exceptionally modern in conception, presents 'Treetex' in an imposing manner. The

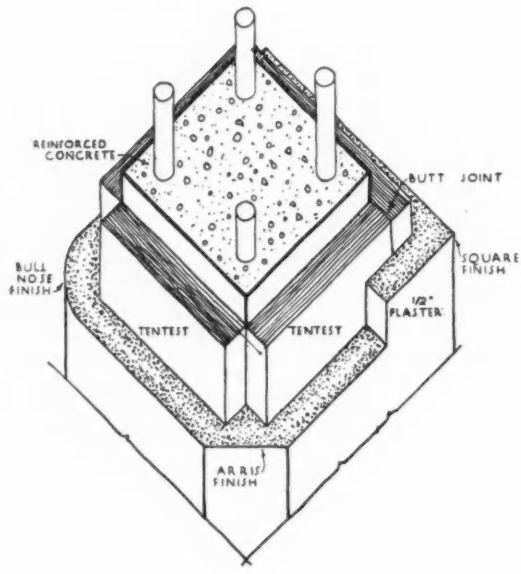


Fig. 7. Various methods of finishing a column casing with plaster on a wallboard base. The Tentest Fibre Board Co., Ltd. Stand 141G.

central feature of the stand, a floodlight tower 30 odd ft. high, is entirely covered with 'Treetex,' nailed on stout studding—in fact, the entire stand is built of 'Treetex.'" There is also a composite picture of buildings in which 'Treetex' has been used, and samples of 'Treetex' veneered with various materials.

So well-known is Tempered Presdwood as a form of board lining that its use as a floor material is perhaps eclipsed. Judging from the MASONITE stand (149G) it makes a floor similar to parquet, with the most attractive appearance.

Asbestos Products

The thorough research carried out by makers of asbestos products have made available such variations in finish as: hard glass-like surfaces in various colours and designs for positions where impermeability is called for; synthetic plaster surfaces stippled in colours; synthetic silicate surfaces in representation of marble, and indented surfaces very similar in appearance to plastic paint, attained by tamping the back of the sheet in moulds; all of which are shown on the stands of the asbestos manufacturers. In particular the TURNER'S ASBESTOS CEMENT CO. stand (143G) show a new building slab for flat and low pitched roofs. This consists of two sheets of asbestos with a corrugated mid-filler making a slab 6 ft. by 2 ft. 6 in., the cavities formed by the corrugation providing insulation, fixing is, of course simplicity itself (Fig. 9).

On this stand is another new system of flat roofs known as Briggs-Horsforth patent system, which amounts to covering the corrugated sheets with a concrete topping. The sheets are nailed to wood joists with lap joints, and then covered with concrete of a minimum thickness, ¾ in. (Fig. 10).

Timbers, Joinery and Floor Finishes

Empire woods are mainly featured in the timber section. WILLIAM OLIVER AND SONS (Stands 2, 3 and 4A) have a stand entirely built of English Oak in sawn logs, which they guarantee suitable for joinery. As a substitute for American Whitewood this firm shows Obechi or African Whitewood, which can be obtained in lengths of 20 ft. and in widths up to 40 in., for use as fascias, table tops, draining boards and similar instances where wide widths or long lengths are required. On this stand there are also samples of African Teak, which is considerably cheaper than the Indian variety.

There are two beautiful wood-lined rooms in the exhibition. One has been built by JAMES LATHAM (154H) and is intended to demonstrate the seasoned raw material; walls are built up of strips of every kind of wood in widths of about 10 in. and fixed vertically with butt joints. The other is a room by WILLIAM MALLINSON AND SONS, LTD. (156H), with walls of Indian Silver Greywood and Australian Blackbean. A ¾ in. veneer is built up on a key-jointed hard wood core; joints are butted and the whole is unmutilated by cover strips or mouldings. A continuous surface with a material treated frankly as a skin is really the only way to use veneers.

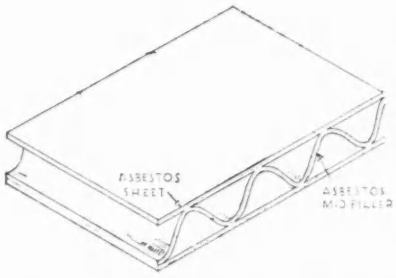


Fig. 9. Turner's Asbestos cement roofing slab. Turner's Asbestos Cement Co. Stand 143G.

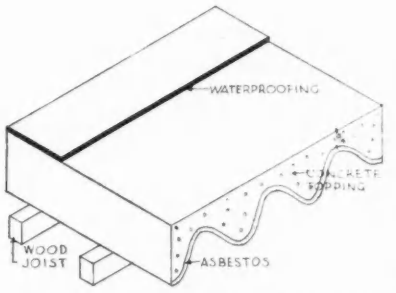


Fig. 10. The Briggs-Horsforth roofing system. Stand 143G.

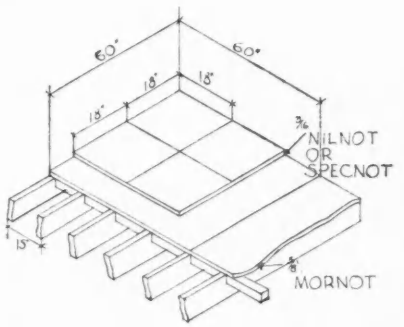


Fig. 11. Plywood flooring. Venesta Ltd. Stand 114F.

The VENESTA stand (114F), by F. Skinner and Tecton, is an absolute joy; never before has plywood looked so very like itself, not even in the stand designed by Le Corbusier for the same firm. A floor finish of Australian Walnut in panels 18 in. or 36 in. square is shown here. These squares are fixed to a three-eighths in. common birch foundation floor, with panel pins at about 10 in. centres (Fig. 11). In the special display of decorative woods a sheet of English Lacewood stands out with surprising loveliness. This wood is a biscuit colour with reddish brown markings rather like a snakeskin, the nearest approach to its texture being that of Australian silky oak.

Cork as a building material, is well represented by THE CORK INSULATION COMPANY, LTD. (47C) where, apart from the usual compressed cork slabs and cork tiles, there is a full-sized model of a patent cork tiled staircase finish, which can be applied to wooden or concrete stairs (Fig. 12).

Metal-faced plywood is becoming increasingly popular, particularly for light partitions, and an example of this type of construction is given by FLEXO PLYWOOD INDUSTRIES, LTD. (Stand 297S), where there is a sample of the dressing-boxes used at the recently completed Roehampton swimming pool. The sides are three-eighths in. ply faced on both sides with 28 gauge galvanized steel, which is turned over the edges and soldered, no joint being visible. These panels are framed up with metal angles and the legs are grouted into the concrete floor. The complete box is finished with dark green cellulose. This firm has also built a section of a bathroom with a wall lining of anodised aluminium sheets with 16-gauge cover strips of the same metal. Although expensive, this finish is half the price of stainless steel, and has a soft light-reflecting surface.

Bricks

There are so many varieties of colour and texture in the sand-faced bricks that the stand of the STOCK-BRICK MANUFACTURERS ASSOCIATION (110F), constructed entirely of London stocks

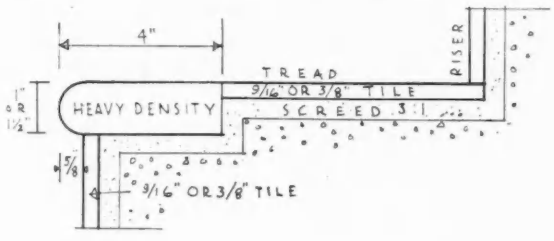
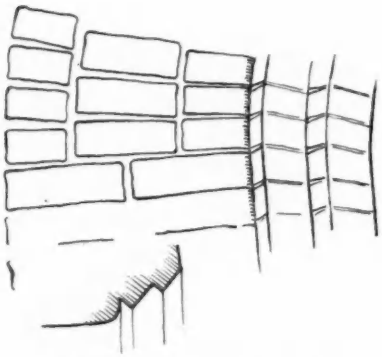
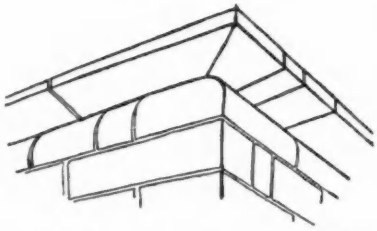


Fig. 12. Cork-staircase coverings. The Cork Insulation Co., Ltd. Stand 47C.





Figs. 13 and 14. Decorative details composed of standard special bricks. Left, an arch detail, above a wall coping. London Brick Co. and Forders, Ltd. Stand 158H.

is almost a relief. This stand forms a courtyard which is paved with stocks laid both on the flat and on edge. In particular should be noticed the arched entrance of four recessed rings set in struck off flush joints, and the construction of recesses by the use of 6¾ in. quoins instead of cut closers.

The LONDON BRICK COMPANY AND FORDERS, LIMITED (158H) have a stand constructed of their cellular, rustic and white facing bricks. Normal standard sizes are employed for decorative panels; figures 13 and 14 show two of Mr. Leathart's clever decorative features which have both been built up from "standard special" bricks. Their new "Grip" partition block can be reinforced with wires to make a partition only two inches thick.

It is apparent from the many pantiled roofs dotted about the main hall that the English domestic Tudor style will soon be ousted by the Spanish and Italian. More "Arshetecture"?

Cooking and Heating

The general hothouse atmosphere of Olympia makes the average visitor more than a little unwilling to visit stands which are themselves adding to the general warmth, but, braving the sudden blasts of heat from gas fires and boilers, it is possible to discover that many manufacturers have made notable strides during the past two years. The general "cleaning-up" of instantaneous water heaters, started by ASCOT HEATERS some years ago, has now infected other manufacturers, several of whom are showing heaters in which the old light-hearted serpentine plumbing and dust-catching valves are tucked away inside white enamel and chromium plate with pleasingly neat results. The Ascot people themselves (Stand 264P) have redesigned their smaller model by grouping the pipe leads more neatly and slightly increasing the rate of water flow, and have introduced a small heater for housing schemes, giving about 1 gallon of hot water per minute. These heaters are now available with a bimetallic safety device which cuts off the main gas supply if the pilot flame goes out—a very necessary feature if the gas supply is through a coin-slot meter. The policy of general neatness has also been applied to several gas cookers, notably FLAVEL'S "Kabineat" (Stand 214L), which was described in this paper on its introduction at the Ideal Home Exhibition in April of this year. Two sizes of this cooker are now available, and the method of locking back the lid carrying the plate rack is much simpler and stronger.

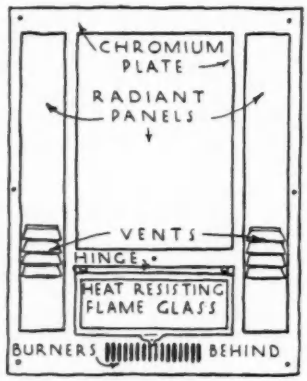


Fig. 15. A flush panel radiant heater which can be built into the thickness of a 4½ in. wall. Sidney Flavel & Co., Ltd. Stand 214L.

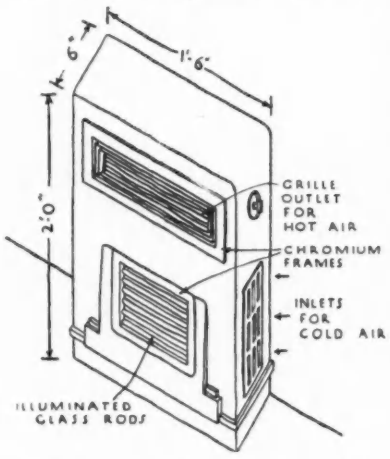


Fig. 16. An electric convection heater. Adamsez, Ltd. Stand 178J.

The radiant panel heater also made by this firm is shown built flush in a 4½ in. wall (Fig. 15). Another neat cooker, known as the "Minette," is shown by the PARKINSON STOVE CO. (Stand 266P). This has a hinged white enamel top which makes a convenient table when the cooker is not in use. Much the same idea is applied by the HURRY WATER HEATER CO. (Stand 193K) to the ordinary domestic gas copper (Fig. 17). This copper has a capacity of 12 gallons of water and is lagged to prevent heat losses, while the detachable top provides useful working space.

Mrs. Darcy Braddell has arranged an attractive display for AGA HEAT, LTD. (Stand 215L), who are showing the incredibly efficient Aga cooker this year with an extra fitment added on the left-hand side, and containing a third oven and a plate-warming compartment. The Aga 20-gallon boiler is also shown in section on this stand.

Since the introduction of the 1d. per gallon tax on oil fuel, considerable attention has been paid to the problem of the automatic stoker for solid fuel. The usual method was an automatic thermostatically-controlled feed from a small hopper above the stoker itself, but this hopper needed filling at least once every day. HOPES HEATING AND LIGHTING (Stand 152H) have gone one better, however, and have provided a continuous feed from coal store to stoker by means of the usual Archimedean screw. This stoker, therefore, has practically all the virtues of the automatic oil-burner, since it will continue to feed coal until the main supply is exhausted, quite apart from the extra thermal efficiency gained by a properly controlled rate of fuel supply.

A new type of electric fire (Fig. 16) is being shown by ADAMSEZ (Stand 178J).

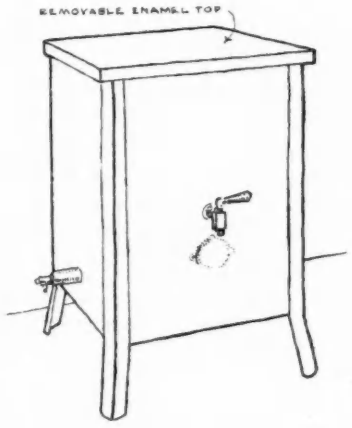


Fig. 17. A lagged gas boiler with a detachable table-top. Hurry Water Heater Co. Stand 193K.

This is really a convection heater, but a small panel at the bottom gives a pleasant glow, and the supply of warmed air comes out through a grating at the top. One of the virtues of this type of heater is that its exterior remains at a fairly low temperature, and, since the heat is not radiated, but emitted in the form of warm air, it is impossible to scorch one's trousers by standing in front of it. The price, 7 guineas, seems high, but it is probable that this will be reduced if the demand is large.

Generally speaking, detail work in this section has improved. THE GAS LIGHT AND COKE CO. (Stand 283Q) have a neat connection (Fig. 18) for portable gas apparatus, rather on the lines of the bayonet catch on the ordinary electric lamp. Withdrawal of the plug cuts off the gas supply, and there is an alternative version with a

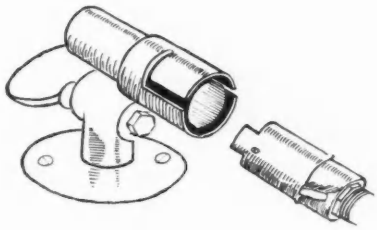


Fig. 18. A quickly detachable flexible gas lead. Gas Light & Coke Co. Stand 283Q.

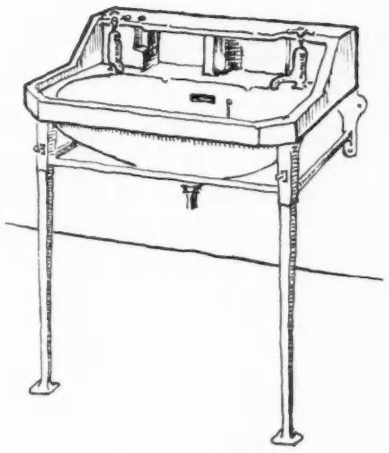


Fig. 19. A lavatory basin with plenty of shelf space. Doulton & Co., Ltd. Stand 243N.

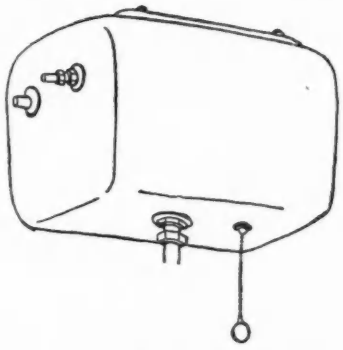


Fig. 20. A neat flushing tank in which the usual unsightly arm is concealed. Doulton & Co., Ltd. Stand 243N.

separate tap. IDEAL BOILERS AND RADIATORS (Stand 268P) show a gas cooker with an oven door arranged for foot operation as well as the usual handle.

MESSRS. ALLAN URE (Stand 12B) are showing several types of their well-known "Back-to-Back" grate, which provides a fire in the living room and a cooking range in the kitchen, an exceptionally economical arrangement.

Sanitary Fittings

In this section are to be found several new types of lavatory basin. One of these, on MESSRS. DOULTON'S stand (243N), has more than usually lavish provision for soap, tooth brushes and other necessaries (Fig. 19), and the price is as low as 50s. The legs shown in the sketch are detachable, and the basin can be supported temporarily by its wall brackets, so that it is possible to lay linoleum or move carpets without unnecessary cutting. The same firm is also showing a particularly neat flushing tank (Fig. 20) in which the usual unsightly projecting arm is completely hidden. The pedestal basins shown by ADAMSEZ (Stand 178J) have been improved this year. One of the drawbacks to the now popular pedestal-type basin is the difficulty of obtaining access to the plumbing. Messrs. Adamsez support their basin partly by invisible wall brackets, and the spigot joint between pedestal and basin is only about ¼ in. deep, so that when the basin is lifted slightly the pedestal may be completely withdrawn, exposing all pipes.

GEORGE JENNINGS (LAMBETH), LTD., show on stand 139G a new bath designed by Mr. G. Grey Wornum and suitable for small flats and hotels

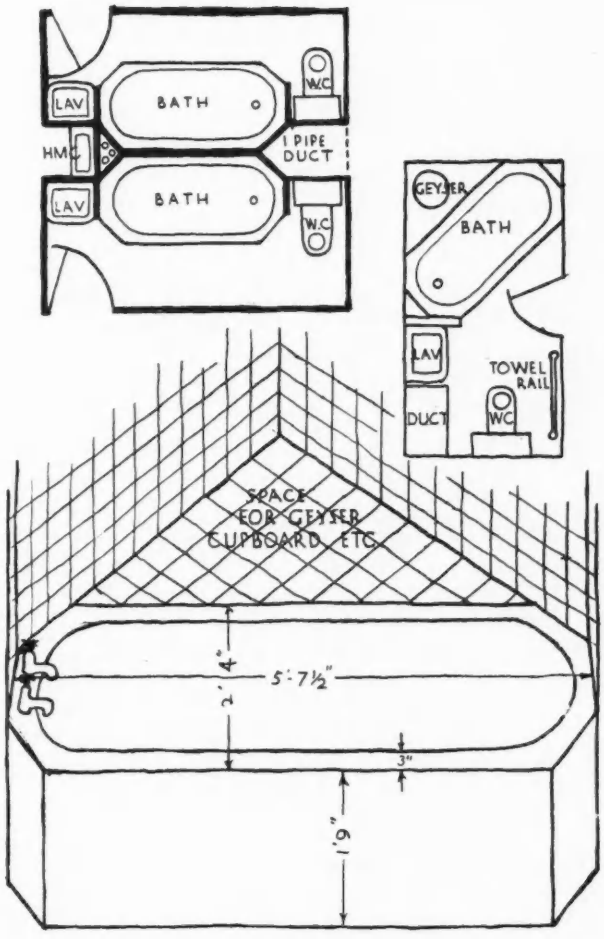


Fig. 21. A new type of space-saving bath designed by G. Grey Wornum. The small plans show possible arrangements for hotel and domestic use. George Jennings & Co., Ltd. Stand 139G.

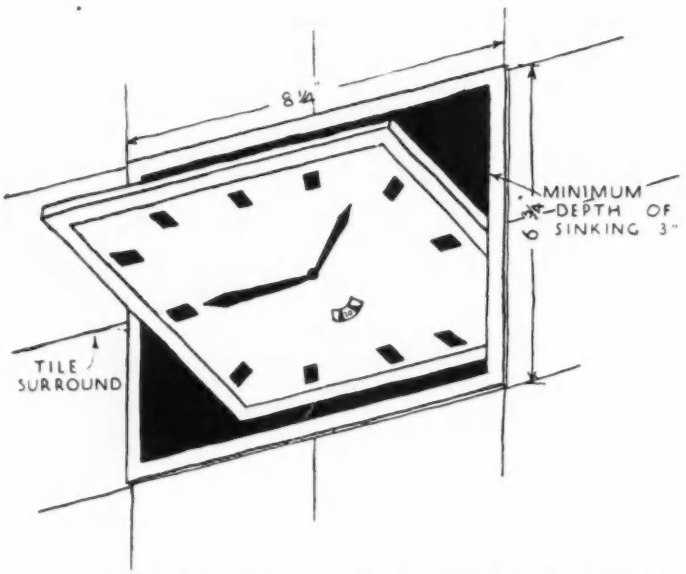


Fig. 22. A synchronous clock arranged for building-in; the clock face is pivoted to allow access to the adjustments. Smith's English Clocks, Ltd. Stand 236M.

(Fig. 21). This firm is also showing a new type of non-slip bathroom floor, which has been adopted for the new Cunader No. 534.

Partitions

One of the most significant things about the exhibition is the increase in popularity of synthetic materials. For example, the traditional stud partition will obviously be hard hit by the numerous partition blocks exhibited. MESSRS G. R. SPEAKERS' "Eonit" block (129F) is featured in connection with one coat plastering, which is made possible since the pumice of which it consists is quite inert. This method of plastering is now getting a fair trial in many districts, as its relative cost to two coats is extremely low.

A new acoustic partition block is shown on the I.C.I. stand (303S). It is composed of the same mineral as the well-known Pioneer block, in which is incorporated buff or brown pigments during manufacture. This enables plastering, which normally destroys acoustic properties, to be eliminated, leaving the block in its natural state. The ATTOC block (200K) is the only block in the exhibition with glazed faces, and since it is both core and finish in one unit, building costs can be reduced to a minimum.

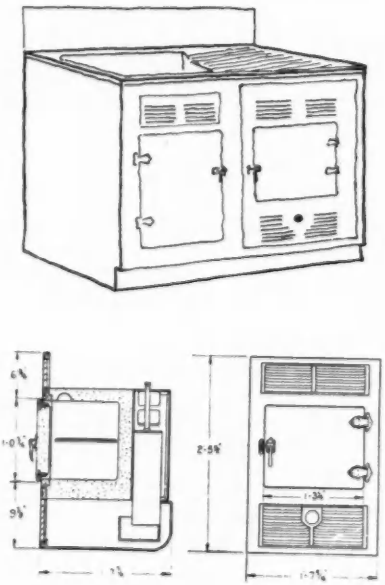


Fig. 23. A 1 cu. ft. refrigerator unit arranged beneath a draining board. Electrolux Ltd. Stand 290R.

Glass

Thanks to the development of such processes as etching, sandblasting, brilliant cutting, and colour spraying, the varieties of decorative glass are infinite. Perhaps the most varied show is that of MESSRS. PILKINGTON BROS (302S). Here the main interest seemed to be divided between a pool consisting of a sheet of glass on which is sandblasted a design of aquatic fauna, lit by a green light projected across the face, and a devilish machine which laterally twists a sheet or armour plate glass through an angle of 30 deg. Less spectacular are the illuminated rectangular columns in an old-fashioned glass known as feathered wash board which has one smooth side and one with vertically feathered flutes.

Under the heading of glass comes the stand of MESSRS. CHANCE BROTHERS (159H). This firm is showing glass silk as a heat and sound insulating material. The main feature of the stand is a pair of rooms soundproofed by 2 in. of glass silk and separated by a "listening cabinet." Detachable panels in each wall and matched loud-speakers in each room allow soundproofing materials to be tested quickly by ear and form a useful guide as to the relative merits of different materials, both from the point of view of transmission and absorption. Samples of glass silk are shown on the stand, one with a faint blue, another with a green tinge; and one almost regrets that such a surprisingly attractive material should have to do its work unseen.

Windows

Windows seem much as usual, save that all manufacturers produce the now fashionable type without vertical glazing bars, and all have sliding and folding types which allow the window area to be made completely open. CRITTALLS (Stand 145G) are showing several types, including a "flat" model, with a shallow fixed bottom light and a pair of casements above it. This has been designed so that the window cill is kept clear of the opening, and so that flowers or ornaments are not blown off as soon as the window is opened. This firm is now fitting the "Arens" remote control to hopper lights and all other types difficult of access. A new type of flyproof larder window is shown by HOPES (Stand 152H), and is simply explained in

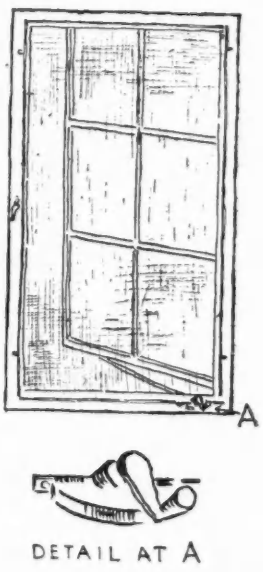


Fig. 24. A flyproof window operated by a small hand lever. Henry Hope and Sons. Stand 152H.

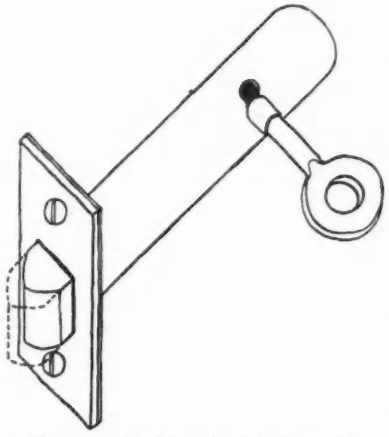


Fig. 25. The Guardian tubular mortice lock. Nettlefolds, Ltd. Stand 153H.

Fig. 24. Although somewhat expensive, it seems to settle the fly question once and for all, since operation is by means of a small handle on the inner side of the screen.

Miscellaneous

Various electrical manufacturers are showing quite a number of new products, notably G.E.C. (Stand 311T), who have a new electric lamp with a "coiled coil" filament which can be safely run at a much higher temperature than has so far been usual. Such is its efficiency that a 40 watt lamp gives nearly as much light as the normal 60 watt.

Refrigerators have had a good deal of attention since last year, and nearly all the manufacturers are producing models arranged for building in beneath sinks or in other convenient places. ELECTROLUX (Stand 290R) have tucked their 1 cubic ft. model neatly away under a draining board (Fig. 23) and PRESTCOLD (Stand 275Q) and COLDAIR (Stands 82 and 83D) have done much the same thing in different ways. The PRESSED STEEL COMPANY have their Prestcold combined electric cooker and refrigerator on show for the first time at this exhibition. This particular model is especially suitable for the modern small flat, and it has been selected as a standard fitting for Sir John Burnet, Tait and Lorne's new Mount Royal Flats in Oxford Street.

Electric clocks are shown by two manufacturers who have produced two entirely different answers to the same problem. SMITH'S ENGLISH CLOCKS (Stand 236M) have a synchronous master clock running from time-controlled a.c. mains and controlling an unlimited number of slave dials by impulses at intervals of one minute. In the event of a failure in current supply an automatic change-over switch cuts in a battery which runs the same motor through a secondary d.c. winding. The motor speed is controlled by a vibrating reed mechanism which, although not so accurate as the a.c. system, allows a variation of only 2 seconds per hour. The battery is kept charged via a rectifier on the main supply. This system is being employed throughout the new R.I.B.A. building. Cost is approximately £30 for the master clock, secondary slave dials from £1 upwards according to taste. This firm is also showing small synchronous clocks for building in. One type is intended to replace a standard 4 in. by 4 in. tile and is merely a push fit, the other (Fig. 22) is somewhat larger and is centre hung so that the works are accessible.

The INTERNATIONAL TIME RECORDING Co. (Stand 230M) show a master pendulum clock in which the mains current is used merely to keep the spring fully wound : this system gets over the difficulty of a mains supply failure, for the clock will run on its own spring for anything up to eight days. Unlimited slave clocks are again available, and these incorporate an ingenious device whereby each slave clock is automatically corrected each hour, so that there is no possibility of its getting out of step with the master. This firm also has clocks which will ring bells, hoot hooters, light lights or do almost anything else at any given time schedule for each day of the week ; an admirable adjunct to our contemporary business efficiency.

Synchronous clocks can either be self-starting or not, and both types have their proper use. A self-starting clock will merely be five minutes slow after a five-minute current failure, whereas the other type will stop permanently until re-started by hand. For private houses where trains are to be caught the hand starting type is probably the best, for it will either show the right time or no time at all. For schools or factories where workmen have to "clock in" any time is probably better than none, for corrections can always be made afterwards—here the self-starting type is probably the more useful.

One of the neatest door locks (Fig. 25) is to be found on the stand of MESSRS. NETTLEFOLDS (153H). This is known as the "Guardian" tubular mortice lock and it seems to have several obvious advantages. It is easy to fit, is not handed, and it does not get in the way of other door furniture. Essentially it is a ball catch, though it is much quieter than the ordinary type ; turning the key pushes the bolt out to its full extent, locking the door. Rattles due to shrinkage of the door can be cured by undoing the faceplate and screwing the bolt outwards to the required extent. The price is 3s. 9d., or 4s. 6d. chromium plated, and it seems thoroughly suitable for internal doors and cupboards on all but the most expensive jobs.

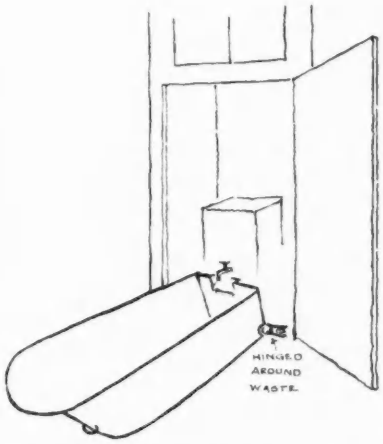


Fig. 26. The "Tip-up Bath," a space saving device for small houses. Patent Tip-up Bath Co. Stand 223L.

The school exhibits in the gallery are confined mainly to examples of craftsmanship, and an amazingly high standard is reached, particularly in the exhibits dealing with leadwork in general. Anyone who has ever made an amateurish attempt to wipe a joint will find it hard to believe that some of the examples shown here were carried out merely in a spirit of light-hearted enterprise by unqualified youths at evening classes. Especially noticeable is a wheel-shaped structure, spokes and rim complete. With astounding virtuosity, this structure has been built up of lead pipe, but it seems as though there is not more than an inch anywhere between any of the joints.

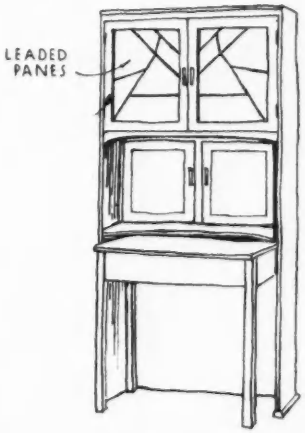


Fig. 27. "Art in Industry." Leaded glazing on a kitchen cabinet.

●

PUBLICATIONS RECEIVED

How to form a Company. By Herbert W. Jordan. London : Jordon and Sons, Ltd. Price 2s. 6d.

TRADE NOTES

[BY F. R. S. YORKE, A.R.I.B.A.]

Non-slip Stair Tread

THE Adamite Company have just introduced a new *Alundum* product—a rubber-bonded safety tread, which offers in a replacement type of unit the same degree of safety and durability for which *Alundum* floor tiles and aggregates are already known.

•

Alundum is a trade name applied to an abrasive containing aluminium oxide as its principal ingredient. *Alundum* non-slip floor products, which are kilned and contain no cement, claim to be non-slip—wet or dry—highly resistant to wear, and quiet. They are now manufactured in nine colours and in four general categories: (1) rubber bonded safety treads for application to old and worn stairs; (2) round-nosed and straight-edged tiles; (3) ceramic mosaic tiles; (4) crushed aggregate for use in terrazzo and concrete floors. *Alundum* is stated to possess three important properties: (1) it is rough and slightly porous—bonds firmly with cement or asphalte; (2) it is tough, not brittle—will not break under load; (3) it is hard—as hard as ruby or sapphire.

•

The safety treads are composed of *Alundum* aggregate moulded into a reinforced base of rubber. The rubber is so vulcanized that it is hard and tough, yet sufficiently resilient to adapt itself to unevenness in the surface to which the treads are applied.

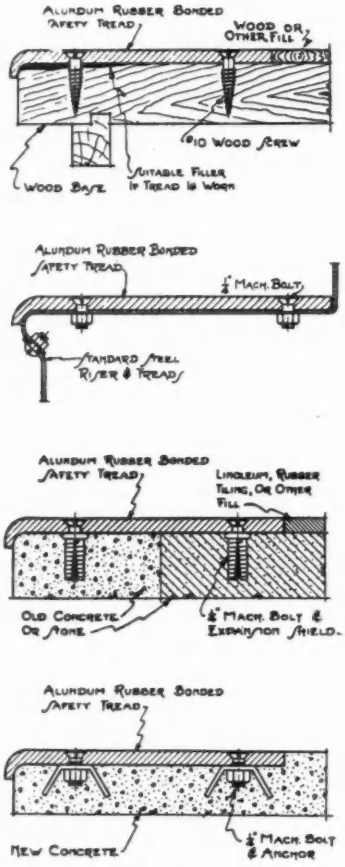
•

The treads have a flat level surface, and the abrasive aggregate is carried round the curved nosing where the foot pivots.

The treads are in two standard widths—$3\frac{3}{4}$ in. and $6\frac{1}{8}$ in., and in lengths up to 6 ft. 6 in. The diagrams show typical fixing details.

Steel Equipment

A steel letter rack of unusual efficiency and good appearance is made by G. A. Harvey from furniture steel, finished with olive green stove enamel. It costs £1, and measures 13 ins. high, 9 ins. deep and 15 ins. wide.



See note on this page.

The Green Book on Plasterwork

This booklet issued by the Gotham Co. has been prepared in the belief that there are occasions during the preparation of a specification when queries concerning plasterwork arise, and time is wasted in obtaining information; or perhaps, more often, a specific material may be omitted for lack of sufficient data.

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The information and typical specification clauses given in the *Green Book* are calculated to provide such rules and regulations governing the practice of plastering that will reduce to a minimum unsatisfactory plastering and possible failures.

•

The publication is concerned mainly with the application of Thistle and Gothite hard-wall plasters in their several grades to various types of wall and ceiling surface.

•

These are retarded hemi-hydrate plasters, made from gypsum (hydrous calcium sulphate, having 79 per cent. calcium sulphate combined chemically with 21 per cent. of water).

•

When heated to various temperatures gypsum passes through several changes, each giving materials having different properties. The commonest of these forms is the hemi-hydrate, and it is the first important stable form reached. In this case the material produced is ($CaSO_4$ $\frac{1}{2}H_2O$)—94 per cent. calcium sulphate and 6 per cent. water.

•

The raw gypsum is crushed, dried and ground to the desired fineness. It is then placed in large kettles and heated. As the temperature increases a portion of the water of crystallization is driven off. The temperature is usually allowed to reach 300 to 330 deg. F. At this point the kettle is emptied, the resulting material having been converted into the hemi-hydrate form ($CaSO_4$ $\frac{1}{2}H_2O$).—the base of Thistle and Gothite.

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The Green Book contains, in addition to general information and typical specification clauses, recommendations for mixes for various types of work, and notes on the failure of plaster ceilings, cracking, efflorescence, sweating, etc.

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

Following are the names of the general contractors and some of the sub-contractors for the buildings illustrated in this issue:—

Flats at Lawn Road, Hampstead (p.409–412). General contractors, George Barker, Ltd. Sub-contractors: J. E. Billings & Co., Ltd. reinforced concrete foundations; A. A. Byrd & Co., Ltd., external waterproof finish; Helical Bar and Engineering Co., Ltd., steel reinforcements and fireproof floors; Bitumen

Cold Process Co., Ltd., slates; Adamite Co., Ltd., and F. McNeill & Co., Ltd., partitions; Joseph F. Ebner, Ltd., and Cellulin Flooring Co. patent flooring; James Combe and Sons, Ltd., central heating: General Electric Co., Ltd., stoves; White Bayes and White, Ltd., electric wiring; Troughton and Young, Ltd., and Best and Lloyd, Ltd., electric light fixtures; Berry's Electric, Ltd., electric heating; Greenwood's Ventilating Co., Ltd., roof ventilators; Twyfords, Ltd., and John Bolding and Sons, Ltd., sanitary fittings; Crittall Manufacturing Co., Ltd., casements; Haywards, Ltd., fireproof doors and iron staircases; Imperial Chemical Industries, Ltd., plaster; J. H. Hawes Ltd., metalwork, handrails, etc.; Waygood-Otis, Ltd., lifts; British Water Conditioners, Ltd., water-softening plant; William Harland and Sons, Ltd., paint and distemper.

"The Scotch Stores" Public House (pages 417-420). General contractors, Prestige & Co. Subcontractors: Howard Construction Co., Ltd., steelwork; Trussed Concrete Co., Ltd., concrete floors and canopies; Samuel Bysouth and Sons, portland stone fronts; Fenning & Co., Ltd., granite; Burn Bros., Ltd., drainage; Luxfer, Ltd., steel and bronze windows and rolling way; Express Lift Co., Ltd., lifts and hoists; F. A. Norris & Co., Ltd., iron stairs, etc.; Musgraves (Liverpool) Ltd., sanitary goods; Rosser and Russell, Ltd., heating and hot water supply; Girdlestone & Co., electric light; Keith and Blackman Co., Ltd., electric fans; Buckley and Beach, barfittings; Faience and Tile Crafts, Ltd., floor and wall tiling; Brown and Tawse, Ltd., insulation for flat roofs; Jos. F. Ebner, wood block flooring; Korkoid Decorative Floors, flooring; J. Carter, lettering and window screens, etc.; Marshall & Co., fibrous plaster; N. F. Ramsay & Co., Ltd., ironmongery; Haywards, Ltd., dome lights; John P. White and Sons, Ltd., flush doors.

*

In our last issue the name of the Tentest Fibre Board Co., Ltd., was omitted from the list of sub-contractors on Chapman House, Stepney, designed by Joseph Emberton. They provided the wallboard which was used for internal lining and insulation. This use of wall-board is exhibited at the firm's stand (No. 141G) at the Building Exhibition.

In our issue of last week we inadvertently referred to the products of the Expanded Metal Company under the trade name of "Exmet." "Expamet" is, of course, the trade name applied to this firm's expanded metal products in general, "Exmet" being applicable to a particular type of brickwork reinforcement only.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

COUNTY OF LONDON. *Town Planning Scheme.* The L.C.C. is to prepare a town planning scheme for that part of the county which is not already under town planning control. The scheme will be known as the County of London Town Planning Scheme No. 19.

HAMPTON. *Development Plan.* At the General Purposes Committee of the Hampton U.D.C. a lay-out plan of the Manor House estate was submitted by Messrs. R. Lancaster and Son, showing 442 building plots, including 21 plots for shops at High Street and Uxbridge Road, with a total density of 12 houses to the acre. The Committee decided not to approve the plan and to inform Messrs. R. Lancaster and Son that the Council requires a density of not more than eight houses to the acre, and no shops.

HAMPTON. *Houses.* Plans passed by the U.D.C.: Two houses, School Road, for Messrs. Jarvis and Wells; workshop and garage, High Street, for Mr. W. Johnson; cold store, Coombe Road, for Mr. F. G. Hughes; additional class room, "Five Beeches," Ormond Avenue, for Messrs. Lucas Bros.; two houses, Laurel Road, for Mr. G. E. Gibbs; 14 houses, Oldfield Road, for Mr. E. Carter Clout. Plans submitted: 18 houses, Dean Road, for Mr. W. J. Shepherd.

LEWISHAM. *Houses, Flats, Streets, etc.* Plans passed by the B.C.: Houses, Southend Lane, Sydenham, for Mr. T. Spencer Bright; flats, Dartmouth Road, Forest Hill, for Leamington Court Estates, Ltd.; revised lay-out, Flower House estate, Catford, for Mr. L. A. Culliford; petrol station, Bromley Road, Catford, for Mr. G. T. Harman; new street off Winn Road, Lee, for Messrs. Wates, Streatham, Ltd.; streets, Tewkesbury Lodge estate, for Mr. Hugh Macintosh; houses, Peak Hill Garden estate, Sydenham, for Messrs. Brett and Son; nine houses, Winlaton Road, Catford, for Messrs. A. J. Glock, Ltd.; four houses, Senlac Road, Lee, for Messrs. Wates, Streatham, Ltd.; hall, adjoining St. Swithun's Church, St. Swithun's Road, for Mr. E. W. F. Pease; four houses, Bankhurst Road, and five houses, Ravensbourne Park, for Messrs. H. Thoburn, Ltd.; four houses, Sydenham Park Road, for Messrs. Brett and Son; four houses, Coniston Road, for Mr. J. J. Fleming; flats, High Street Sydenham, for Bunting Construction Co., Ltd.; service station and garage, Bromley Road, for Mr. Cameron Kirby; additions to L.C.C. schools, Holbeach Road, for Messrs. J. Scott Fenn, Ltd. Plans submitted: Flats, Chinbrook Road, Grove Park, for Mrs. I. Barnett.

SOUTHERN COUNTIES

BOURNEMOUTH. *Development.* The Corporation has approved the following development plans: Land, Dalmeny Road, for Mr. O. R. Mulley; land, Vallette Road, for Mr. E. de Wilde Holding; lay-out, Somerset Gardens estate, Castle Lane, for Mr. A. R. Hook; flats, Surrey Road South, for Mr. L. Stewart Smith; land, Redhill Drive, for Messrs. Rumsby and Rodd; shop sites, Kinson Road, for Mr. G. V. Ford.

BOURNEMOUTH. *Town Planning.* At the Town Planning Committee of the Bournemouth Corporation a letter was received from Messrs. Rosevears objecting to the zoning of land belonging to their client, Sir Walter Lawrence, at Exeter Road, and asking that the whole site might be zoned for shops, business premises and special buildings. The Committee decided to inform Messrs. Rosevears that the Council is not prepared to make any alteration in the zoning of the land, which is partly for shops and business premises and partly for residential purposes.

NEWPORT (I.O.W.). *Shop, etc.* The Corporation has considered further a scheme for the proposed addition of a paint shop, store, workshop, etc., at the Corporation store at the Quay, formerly the Shell-Mex depot, and authorized tenders to be obtained for the work.

SOUTH-WESTERN COUNTIES

BRISTOL. *Rehousing.* The Housing Committee of the Corporation is to submit a recommendation at a future meeting of the Council with regard to the provision of rehousing accommodation for persons displaced under clearance orders.

BRISTOL. *Slum Clearance.* The Corporation is to proceed with the clearance of the Philadelphia Street, Water Street, and St. Philip's areas.

BRISTOL. *Houses.* The Housing Committee of the Corporation has provisionally agreed to enter into a building agreement with Mr. W. M. Slade for the erection of 10 houses at Briar Way, Fishponds. The Housing Committee of the Corporation reports that in April last the Council authorized the erection of 300 houses for letting, and in connection therewith the Committee now recommends the tender, £42,682, of Messrs. W. J. Sims, Sons and Cooke, Ltd., for the erection of 142 houses at Southmead.

NORTHERN COUNTIES

SHEFFIELD. *Houses.* Plans passed by the Corporation: Six houses, Hucklow Road, for Mr. C. W. Alflat; shop, Derbyshire Lane, for Mr. R. P. Willford; office, Ridgeway Road, for Mr. A. J. Belton; two houses and shops, Chesterfield Road, for Mr. H. Bedford; six houses, Cawthorne Grove, for Mr. W. A. Wright; three houses, Quarry Road, for Messrs. G. H. Bodell & Co., Ltd.; 10 houses, Manchester Road, for Mr. A. Spooner; 10 houses, Hereward Road, for Messrs. Oxspring Bros.; four houses, Montgomery Drive, for Mr. G. Jackson; two houses, Brooklands Avenue, for Mr. G. M. Taylor; five houses, Liberty Road, for Mr. H. Booth; six houses, Earl Marshall Road, for Mr. M. Bonner; six houses, Walders Avenue, for Mr. T. Barker; two houses, Ecclesall Road South, for Mr. A. Ramsay; 12 houses and shops, Church Lane and Townhead Road, for Messrs. R. T. Hinchliffe and Sons, Ltd.; two houses, Victoria Road, Totley, for Mr. H. Howson; six houses, School Lane, for Mr. M. J. Gleeson; two houses, Cockshutt Road, for Messrs. Moody and Sons; 28 houses, Marsh Lane and Headland Road, for Messrs. T. V. and W. L. Simpson; 12 houses, Downing Road, for Mr. F. Talbot; two houses, East Road, for Mr. G. R. Parkin; two houses, Creswick Street, for Mr. W. H. Taylor; two houses, Den Bank Crescent, for Mr. J. Havenhand; two houses, Herries Road, for Mr. E. C. Thompson; two houses, Martin Street, for Mr. I. Elstein; two flats, Westbourne Road, for Mr. W. E. Burnand; 10 houses, Wood Lane and Malin Road, for Mr. W. C. Shaw; two houses, Button Hill, for Mr. T. H. Bailey; 10 houses, Heeley Bank Road, for Mr. G. R. Parkin; two houses, Norton Lees Crescent, for Messrs. Bonser Bros.; six houses, Gleadless Common, for Mr. W. A. Wright; 12 houses, Gleadless Common and Hurlfield Road, for Messrs. T. Ardern and Son; 12 houses, Elm Lane, for Messrs. Oxspring Bros.; two houses, Pingle Road, for Mr. J. Bailey; 15 houses, Vickers Road, for Messrs. J. Copley and Sons; 16 houses, Olivers Mount, for Messrs. McGeogh and Jones; 10 houses off Crimicar Lane, for Messrs. J. W. Sivil, Ltd. Plans submitted: Two new streets, Causeway Head Road, for Dore Estates, Ltd.; two new streets off Hemsworth Road, for Messrs. Basforth and Dyall; two houses, Greenhill Avenue, for Mr. A. G. Redmile; six houses, Duke Street for Mr. D. Thompson.

SOUTHPORT. *Shops and Houses.* Plans passed by the Corporation: Six flats, Promenade, for Mr. T. Hampson; six shops, Everton Road, for Mr. W. Lea; two houses, Wennington Road, for Mr. D. Gallagher. Plans submitted: Three shops, London Street, for Mrs. A. Oddie; bungalow and three flats, Albert Road, for Mr. J. Hampson.

SOUTHPORT. *School.* The Education Committee has considered an application to build a new R.C. school at Grantham Road, Birkdale, and has informed the Board of Education that it has given conditional approval to the erection of the school. The Education Committee is to consider further an application to erect a new R.C. school at Radnor.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a spearate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I	II
			s. d.	s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A	Aberdeen ..	Scotland	1 6	1 1½
A_2	Abergavenny ..	S. Wales & M.	1 5	1 0½
A_2	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_2	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham ..	Mid Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton	N.W. Counties	1 5½	1 1½
A_2	Boston	Mid. Counties	1 4	1 0
A	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A	Brighton ..	S. Counties	1 4	1 0
A	Bristol	S.W. Counties	1 5½	1 1½
B_2	Brixham ..	S.W. Counties	1 2½	11
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B_1	Bromyard ..	Mid. Counties	1 2	10½
A_1	Burnley	N.W. Counties	1 5½	1 1½
A	Burslem	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury	N.W. Counties	1 5½	1 1½
A	Buxton	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE ..	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A	Chelmsford ..	E. Counties	1 4	1 0
A	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A_2	Colchester ..	E. Counties	1 4	1 0
A	Colne	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_2	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorches ter ..	S.W. Counties	1 2½	11
A	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley	Mid. Counties	1 5½	1 1½
A_2	Dumfries ..	Scotland	1 5	1 0½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N.E. Coast	1 5½	1 1½
A_2	FASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE	E. Counties	1 4	1 0
A_2	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S. W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A	Glasgow ..	Scotland	1 6	1 1½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	Gosport ..	S. Counties	1 4½	1 0½
A_2	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln ..	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12–15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_3	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middlesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid Counties	1 5½	1 1½
A_3	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth	Scotland	*1 5½	1 1½
A_2	Peterborough	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate	S. Counties	1 3½	11½
A	Retford	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	SALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A_1	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton	Yorkshire	1 4½	1 0½
A_2	Slough	S. Counties	1 4½	1 0½
A	Solihull	Mid. Counties	1 5	1 0½
A_1	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stirling ..	Scotland	1 6	1 1½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist ..	N.E. Counties	1 5½	1 1½
A_3	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby	Yorkshire	1 4½	1 0½
A	Widnes	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A	Wycombe ..	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 8
Mason (Banker) . . . . . ,,	1 7
,, (Fixer) . . . . . ,,	1 8
Plumber . . . . . ,,	1 7
Painter . . . . . ,,	1 6
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 7
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 3
Timberman	1 3
Navvy . . . . . ,,	1 2½
General Labourer . . . . . ,,	1 2½
Lorryman . . . . . ,,	1 5
Crane Driver . . . . . ,,	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . . per ton	2 2 0
Blue Lias Lime . . . . . ,,	1 16 6
Hydrated Lime . . . . . ,,	3 0 9
Portland Cement, in 4-ton lots (d/d site, including Paper Bags) . ,,	1 18 0
Rapid Hardening Cement, in 4-ton lots (d/d site, including Paper Bags) . ,,	2 5 6
White Portland Cement, in 1-ton lots ,,	8 15 0
Thames Ballast . . . . per Y.C.	6 3
¾" Crushed Ballast . . . . ,,	6 9
Building Sand . . . . ,,	7 3
Washed Sand . . . . ,,	8 3
2" Broken Brick . . . . ,,	8 0
¾" ,, ,, ... ,,	10 3
Pan Breeze . . . . ,,	6 6
Coke Breeze . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

		4" s. d.	6" s. d.
Straight Pipes	per F.R.	0 9	1 1
Bends	each	1 9	2 6
Taper Bends	,,	3 6	5 3
Rest Bends	,,	4 3	6 3
Single junctions	,,	3 6	5 3
Double ,,	,,	4 9	6 6
Straight channels	per F.R.	1 6	2 6
¾" Channel bends	each	2 9	4 0
Channel junctions	,,	4 6	6 6
Channel tapers	,,	2 9	4 0
Yard gullies	,,	6 9	8 9
Interceptors	,,	16 0	19 6
IRON DRAINS:			
Iron drain pipe	per F.R.	1 6	2 6
Bends	each	5 0	10 6
Inspection bends	,,	9 0	15 0
Single junctions	,,	8 9	18 0
Double junctions	,,	13 6	30 0
Lead wool	lb.	6	—
Gaskin	,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . . Per M.	2 18 0
Grooved do. . . . . ,,	3 0 0
Phorpres bricks . . . . . ,,	2 17 3
,, Cellular bricks . . . ,,	2 17 3
Stocks, 1st quality . . . . ,,	4 11 0
,, 2nd ,, ... ,,	4 2 6
Blue Bricks, Pressed . . . ,,	8 17 6
,, Wirecuts . . . ,,	7 17 6
,, Bindles . . . ,,	7 0 0
,, Bullnose . . . ,,	9 0 0
Red Sand-faced Facings . . ,,	6 18 6
Red Rubbers for Arches . . ,,	12 0 0
Multicoloured Facings . . ,,	7 10 0
Luton Facings . . . . ,,	7 10 0
Phorpres White Facings . . ,,	3 17 3
,, Rustic Facings . . ,,	3 12 3
Midhurst White Facings . . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . . ,,	21 0 0
Headers . . . . . ,,	20 10 0
Bullnose . . . . . ,,	27 10 0
Double Stretchers . . . ,,	29 10 0
Double Headers . . . . ,,	26 10 0
Glazed Second Quality, *Less* . ,,	1 0 0
,, Buffs and Creams, *Add* . ,,	2 0 0
,, Other Colours . . . ,,	5 10 0
2" Breeze Partition Blocks . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 10
3" ,, ,, ,, . . ,,	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

	s. d.
The following d/d F.O.R. at Nine Elms:	
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . . ,,	2 11
York stone . . . . . ,,	6 6
,, ,, Sawn templates . .	7 6
,, ,, Paving, 2" . . . F.S.	1 8
,, ,, ,, 3" . .	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . . per M.	28 17 6
22" × 12" Marchionesses . . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . . ,,	15 10 0
18" × 9" Ladies . . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, ,, green ,, ,,	24 7 4
Best machine roofing tiles . ,,	4 10 0
Best hand-made do. . . ,,	5 0 0
Hips and valleys . . . each	9½
,, hand-made . . . ,,	10
Nails, compo . . . . lb.	1 4
,, copper . . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . . as 1" F.S.	9
Deal, Joiner's . . . . ,, ,,	5
,, ,, 2nds ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . ,, ,,	1 6
,, English . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . ,, ,,	4
Teak, Moulmein . . ,, ,,	1 3
,, Burma . . ,, ,,	1 2
Walnut, American . . ,, ,,	2 3
,, French . . ,, ,,	2 3
Whitewood, American . ,, ,,	1 1
Deal floorings, ¾" . . Sq.	18 6
,, 1" . . ,,	1 1 6
,, 1¼" . . ,,	1 2 0
,, 1½" . . ,,	1 5 0
,, 1¾" . . ,,	1 10 0
Deal matchings ¾" . . ,,	14 0
,, 1" . . ,,	15 6
,, 1" . . ,,	1 4 0
Rough boarding ¾" . . ,,	16 0
,, 1" . . ,,	18 0
,, 1¼" . . ,,	1 6 0

Plywood, per ft. sup.

—Thickness	¼"	⅜"	½"	¾"	1"
Qualities	AA. A. B.	AA. A. B.	AA. A. B.	AA. A. B.	AA. A. B.
	d. d. d.	d. d. d.	d. d. d.	d. d. d.	d. d. d.
Birch	4 3 2	5 4 3	7½ 6 4½	8½ 7 6	
Alder	3½ 3 2	5 4 3	6½ 5½ 4½	8 7 6	
Gaboon Mahogany	4 3 3	6½ 5½ 4½	9½ 7½ –	1/0½ 10 –	
Figured Oak 1 side	8½ 7 –	10 8 –	11½ – –	1/6 – –	
Plain Oak 1 side	6½ 6 –	7½ 7 –	9½ – –	1/– – –	
Oregon P.ne	5 4 –	5½ 5 –	6 – –	– – –	

	d.
Scotch glue . . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:
(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	¼"	⅜"	½"	¾"	1"	1¼"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10		
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9		
,, 3"-11½" long ,,	7	9	1/3	1/8	3/–		
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3		
,, ,, 3"M-1½" long ,,	8	10	1/5	1/11	3/6		
Bends . . . . ,,	8	11	1/7½	2/7½	5/2		
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11		
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–		
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3		
Tees . . . . ,,	1/–	1/3	1/10	2/6	5/1		
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6		
Plain Sockets and nipples ,,	3	4	6	8	1/3		
Diminished sockets . ,,	4	6	9	1/–	2/–		
Flanges . . . ,,	9	1/–	1/4	1/9	2/9		
Caps . . . . ,,	3½	5	8	1/–	2/–		
Backnuts . . . ,,	2	3	5	6	1/1		
Iron main cocks . . ,,	1/6	2/3	4/2	5/4	11/6		
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–		

Discounts:

TUBES.

Per cent.		Per cent.
Gas . . . 65	Galvanized gas .	52½
Water . . . 61½	,, water	47½
Steam . . . 57½	,, steam	42½

FITTINGS.

		Per cent.
Gas . .	Galvanized gas	47½
Water . .	,, water	42½
Steam . .	,, steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ¼" . . ,,	8 6
,, ,, ⅜" . . ,,	8 3
,, ,, ½" . . ,,	8 0
,, ,, ¾" . . ,,	7 6
,, ,, 1" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1½" . . ,,	7 6

Cast-iron rain-water pipes of ordinary thickness metal	3" s. d.	4" s. d.
	. F.R. 8	10
Shoes	. each 2 0	3 0
Anti-splash shoes . . .	,, 4 6	8 0
Boots	,, 3 0	4 0
Bends	,, 2 7	3 9
,, with access door . .	,, —	6 3
Heads	,, 4 0	5 0
Swan-necks up to 9" offsets .	,, 3 9	6 0
Plinth bends, 4½" to 6" .	,, 3 9	5 3
Half-round rain-water gutters of ordinary thickness metal	. F.R. 5	6
Stop ends	. each 6	6
Angles	,, 1 7	1 11
Obtuse angles	,, 2 0	2 6
Outlets	,, 1 9	2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	18 6
,, drawn pipes . . . ,,	17 0
,, soil pipe . . . ,,	18 6
,, scrap . . . ,,	10 6
Solder, plumbers' . . . lb.	9½
,, fine do. . . . ,,	1 0
Copper, sheet . . . ,,	8½
,, tubes . . . ,,	11

L.C.C. soil and waste pipes:	3"	4"	6"
Plain cast	. F.R. 1 0	1 2	2 6
Coated	,, 1 1	1 3	2 8
Galvanized	,, 2 0	2 8	4 6
Holderbats	. each 3 10	4 0	4 9
Bends	,, 3 9	5 3	10 3
Shoes	,, 2 10	4 4	9 6
Heads	,, 4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . . per ton	2 5 0
Plaster, coarse . . . ,,	2 10 0
,, fine . . . ,,	4 15 0
Hydrated lime . . . ,,	3 0 9
Sirapite . . . . ,,	3 6 0
Keene's cement . . . ,,	5 0 0
Gothite Plaster . . . ,,	3 6 0
Thistle Plaster . . . ,,	3 6 0
Sand, washed . . . Y.C.	11 6
Hair . . . . . lb.	6
Laths, sawn . . . bundle	2 4
,, rent . . . ,,	3 9
Lath nails . . . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft. s. F.S.		2½
,, ,, 26 oz. ,, ,, ,,		3
Flemish, Arctic, Figured (white)* ,,		7
Blazoned glasses . . . ,,		2 6
Reeded; Cross Reeded ,,		11
Cathedral glass, white, double-rolled, plain, hammered, rimpled, waterwite		6½
Crown sheet glass (n/e 12 in. x 10 in.) ,,		2 0
Flashed opals (white and coloured) ,,	1 0 and 2	0
⅛" rough cast; rolled plate . ,,		5½
¼" wired cast; wired rolled . ,,		9½
¼" Georgian wired cast. . . ,,		11
⅛" Polished plate, n/e 1 ft. ,,	† 10 to ‡1	1
,, ,, 2 . . ,,	†1 2 ,, ‡1	4
,, ,, 4 . . ,,	†2 3 ,, ‡2	6
,, ,, 8 . . ,,	†2 9 ,, ‡3	2
,, ,, 20 . . ,,	†3 7 ,, ‡4	2
,, ,, 45 . . ,,	†3 11 ,, ‡4	7
,, ,, 100 . . ,,	†5 0 ,, ‡5	7
Vita glass, sheet, n/e 2 ft. . ,,		1 3
,, ,, ,, over 2 . . ,,		1 9
,, ,, plate, n/e 2 ft. . ,,		3 0
,, ,, ,, 7 . . ,,		5 0
,, ,, ,, 15 . . ,,		6 0
,, ,, ,, over 15 . . ,,		7 6
"Calorex" sheet 21 oz., and 32 oz. ,,	2 6 and	3 6
,, rough cast ⅛" and ¼" ,,	8½ ,,	1 0
Putty, linseed oil . . . lb.		3

* *Colours*, 1d. F.S. *extra.*
†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s. d.
White lead in 1 cwt. casks . . cwt.	2 6 0
Linseed oil . . . . . gall.	2 2½
Boiled oil . . . . . ,,	2 4½
Turpentine . . . . . ,,	4 1½
Patent knotting . . . . ,,	14 0
Distemper, washable . . . cwt.	2 6 0
,, ordinary . . . ,,	2 0 0
Whitening . . . . . ,,	4 0
Size, double . . . . firkin	3 0
Copal varnish . . . . gall.	13 0
Flat varnish . . . . ,,	14 0
Outside varnish . . . ,,	16 0
White enamel . . . . ,,	1 15 0
Ready mixed paint . . ,,	13 6
Brunswick black . . .	9 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR		£	s.	d.
Digging over surface n/e 12" deep and cart away	Y.S.		2	9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.		8	6
" to form basement n/e 5' 0" deep and cart away	"		9	0
" " 10' 0" deep and cart away	"		9	6
" " 15' 0" deep and cart away	"		10	0
If in stiff clay	add			6
If in underpinning	"		4	0
Planking and strutting to sides of excavation	F.S.		1	0
" " to pier holes	"			5
" " to trenches	"			5
" " extra, only if left in	"			3
Hardcore, filled in and rammed	Y.C.		10	0
Portland cement concrete in foundations (6-1)	"	1	6	0
" " (4-2-1)	"	1	12	6
" " underpinning	"	1	16	0
Finishing surface of concrete, spade face	Y.S.			7

DRAINLAYER		4" s.	d.	6" s.	d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1	6	2	3
Extra, only for bends	Each	2	8	3	9
" junctions	"	3	9	4	6
Gullies and gratings	"	16	6	18	0
Cast iron drains, and laying and jointing	F.R.	4	9	6	9
Extra, only for bends	Each	10	6	15	6

BRICKLAYER		£	s.	d.
Brickwork, Flettons in lime mortar	Per Rod	27	10	0
" " in cement	"	28	15	0
" Stocks in cement	"	35	0	0
" Blues in cement	"	52	0	0
Extra only for circular on plan	"	2	0	0
" backing to masonry	"	1	10	0
" raising on old walls	"	2	0	0
" underpinning	"	5	10	0½
Fair Face and pointing internally	F.S.			1½
Extra over fletton brickwork for picked stock facings and pointing	"			8
" " " red brick facings and pointing	"			11
" " " blue brick facing and pointing	"		1	4
" " " glazed brick facings and pointing	"		3	6
Tuck pointing	"			7½
Weather pointing in cement	"			3
Slate dampcourse	"			10
Vertical dampcourse	"		1	1

ASPHALTER		s.	d.
½" Horizontal dampcourse	Y.S.		4 6
½" Vertical dampcourse	"		6 9
½" paving or flat	"		4 0
1" paving or flat	"		5 6
1" × 6" skirting	F.R.		1 6
Angle fillet	"		2
Rounded angle	"		2
Cesspools	Each		5 0

MASON		s.	d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.		17 9
Bath stone and do., all as last	"		13 6
Artificial stone and do.	"		13 0
York stone templates, fixed complete	"		10 6
" thresholds	"		13 6
" sills	"	1	0 6

SLATER AND TILER		£	s.	d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr.	3	10	0
Do., 18" × 9"	"	3	7	0
Do., 24" × 12"	"	3	17	0
Westmorland slating, laid with diminished courses	"	0	0	0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3	0	0
Do., all as last, but of machine-made tiles	"	2	16	0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	"	4	6	0
" " " " " " (green)	"	4	15	0

CARPENTER AND JOINER		£	s.	d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2	5	0
Shuttering to sides and soffits of beams	F.S.			8
" to stanchions	"			8
" to staircases	"		1	8
Fir and fixing in wall plates, lintols, etc.	F.C.		3	9
Fir framed in floors	"		4	6
" " roofs	"		6	6
" " trusses	"		7	6
" " partitions	"		8	6
¾" deal sawn boarding and fixing to joists	Sqr.	1	14	6
1" " " " " "	"	1	17	6
1¼" " " " " "	"	2	3	0
2" × 2" fir battening for Countess slating	"		9	6
Do. for 4" gauge tiling	"		12	0
Stout feather-edged tilting fillet	F.R.			4½
Patent inodorous felt, 1 ply	Y.S.		2	3
" " " 2 "	"		2	9
" " " 3 "	"		3	3
Stout herringbone strutting to 9" joists	F.R.			10½
1" deal gutter boards and bearers	F.S.		1	2
1¼" " " " "	"		1	6
2" deal wrought rounded roll	F.R.			8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2	1	0
1¼" do.	"	2	10	0
1½" do.	"	2	17	0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S.		1	6
1¼" do.	"		1	9

CARPENTER AND JOINER—*continued*		s.	d.
1½" deal moulded sashes of average size	F.S.	1	9½
2" " " " "	"	1	11½
1½" deal cased frames double hung, of 6" × 3" oak sills, 1½" pulley stiles, 1½" heads, 1" inside and outside linings, ¾" parting beads, and with brass faced axle pulleys, etc., fixed complete	"	3	7
2" " " " "	"	3	10
Extra only for moulded horns	Each		6
1½" deal four-panel square, both sides, door	F.S.	2	0
2" " " " "	"	2	8
1½" " but moulded both sides	"	2	4
2" " " " "	"	3	0
4" × 3" deal, rebated and moulded frames	F.R.	1	0
4½" × 3½" " " "	"	1	4
1¼" deal tongued and moulded window board, on and including deal bearers	F.S.	1	9
1¼" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2	6
1¼" deal moulded wall strings	"	2	1
1½" " outer strings	"	2	4
Ends of treads and risers housed to string	Each	1	9
3" × 2" deal moulded handrail	F.R.	1	3
1" × 1" deal balusters and housing each end	Each	2	0
1½" × 1½" " " "	"	2	9
3" × 3" deal wrought framed newels	F.R.	1	3
Extra only for newel caps	Each	6	0
Do., pendants	"	6	0

SMITH AND FOUNDER		£	s.	d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.		15	6
Riveted plate or compound girders, and hoisting and fixing in position	"		19	6
Do. stanchions with riveted caps and bases and do.	"		19	0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	"		17	6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.			11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1	10	0

PLUMBER		£	s.	d.
Milled lead and labour in flats	cwt.	1	12	0
Do. in flashings	"	1	15	6
Do. in covering to turrets	"	2	3	0
Do. in soakers	"	1	7	6
Labour to welted edge	F.R.			3½
Open copper nailing	"			3
Close "	"			4

Lead service pipe and		½" s.	d.	¾" s.	d.	1" s.	d.	1½" s.	d.	2" s.	d.	4" s.	d.
fixing with pipe hooks	F.R.	10		1 0		1 3		2 0		2 10		—	
Do. soil pipe and fixing with cast lead tacks	"	—		—		—		—		—		5	6
Extra, only to bends	Each	—		—		—		—		2 0		6	9
Do. to stop ends	"	6½		8		9		11		1 0		—	
Boiler screws and unions	"	3	3	3	9	5	0	8	0	—		—	
Lead traps	"	—		—		—		6	3	8	9	—	
Screw down bib valves	"	6	9	9	6	11	0	—		—		—	
Do. stop cocks	"	7	0	9	6	12	6	—		—		—	
4" cast-iron ½-rd. gutter and fixing	F.R.											1	0
Extra, only stop ends	Each											1	0
Do. angles	"											1	6
Do. outlets	"											2	9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.											1	2
Extra, only for shoes	Each											1	3
Do. for plain heads	"											5	6

PLASTERER AND TILING		s.	d.
Expanded metal lathing, small mesh	Y.S.	2	0
Do. in n/w to beams, stanchions, etc.	"	2	9
Lathing with sawn laths to ceilings	"	1	3
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	"	1	5
Do. vertical	"	1	7
Rough render on walls	"	1	2½
Render, float and set in lime and hair	"	1	9
Render and set in Sirapite	"	1	11
Render, backing in cement and sand, and set in Keene's cement	"	2	9
Extra, only if on lathing	"		4
Keene's cement, angle and arris	F.R.		6
Arris	"		1½
Rounded angle, small	"		3
Plain cornices in plaster, including dubbing out, per 1" girth	"		1½
1" granolithic pavings	Y.S.	3	6
1½" " " "	"	4	6
6" × 6" white glazed wall tiling and fixing on prepared screed	"	17	6
9" × 3" " " " "	"	1	2 6
Extra, only for small quadrant angle	F.R.		8

GLAZIER		s.	d.
21 oz. sheet glass and glazing with putty	F.S.		7½
26 oz. do. and do.	"		8¾
Flemish, Arctic Figured (white) and glazing with putty	"	1	1
Cathedral glass and do.	"	1	2
Glazing only, British polished plate	"		7
Extra, only if in beads	"		2
Washleather	F.R.		4

PAINTER		s.	d.
Clearcolle and whiten ceilings	Y.S.		6
Do. and distemper walls	"		9
Do. with washable distemper	"	1	1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	"	3	3
Do. on woodwork	"	3	6
Do. on steelwork	"	3	0
Do. and brush grain and twice varnish	"	5	6
Stain and twice varnish woodwork	"	1	11
Stain and wax-polish woodwork	"	4	6
French polishing	F.S.	1	2
Stripping off old paper	Piece	2	0
Hanging ordinary paper	from	2	9

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The Architects' Journal Library of Planned Information.

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FILING REFERENCE: OCT 2 - 1934 DETROIT

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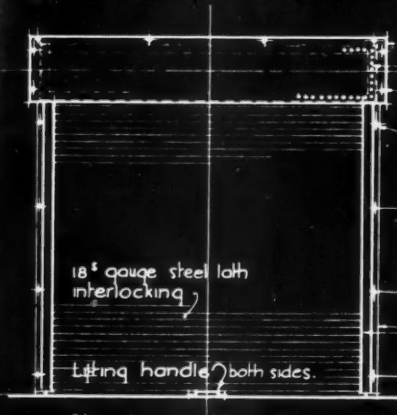
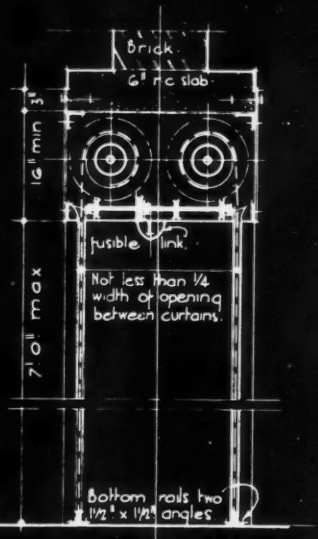
© AUTOMATIC FIREPROOF TYPE : internal or external openings, to requirements of the L.C.C and the London Fire Brigade.

① Double or Single hand-operated shutters :



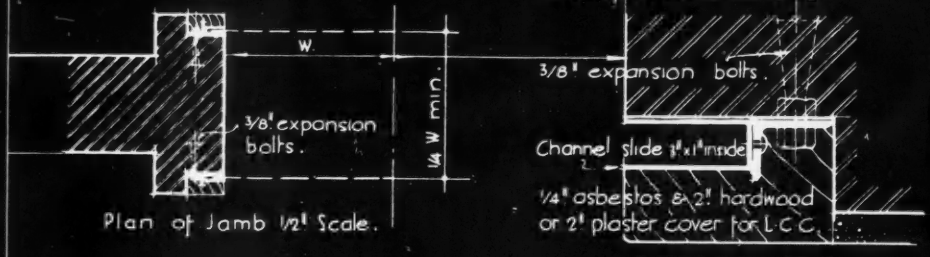
Elevation ¼" Scale.

Note this type operates automatically in emergency. When an outbreak of fire occurs & temperature is raised to 155° F., a fusible link is melted & this sets the operating gear in motion & gradually closes the shutters. Raising or lowering is immediately possible in the usual ways for access etc.



Section ½" Scale.

Detail of Jamb ¼ Full Size

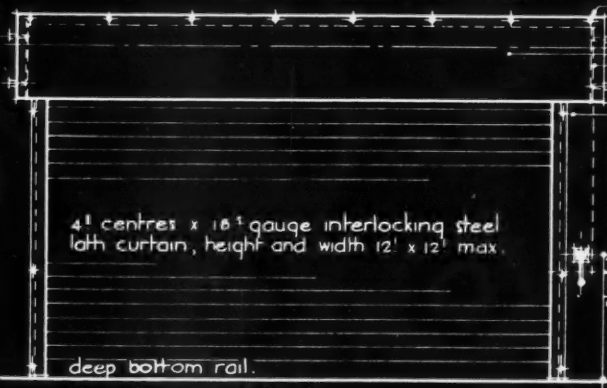


Plan of Jamb ½" Scale.

OPERATING : optional methods :

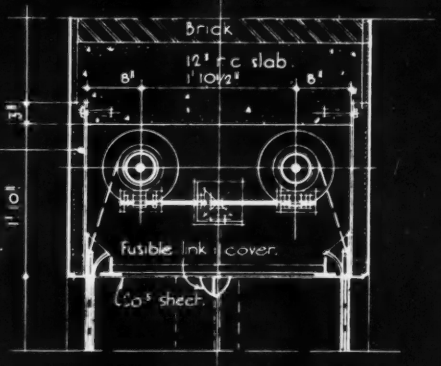
1. Lift handles as shown.
2. Endless hand-chain, with or without handwheel.
3. Geared handwheel at side.

② Double vertical-geared shutters for division wall openings :



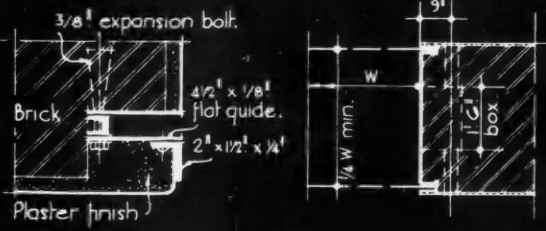
Elevation ¼" Scale.

Section ½" Scale.

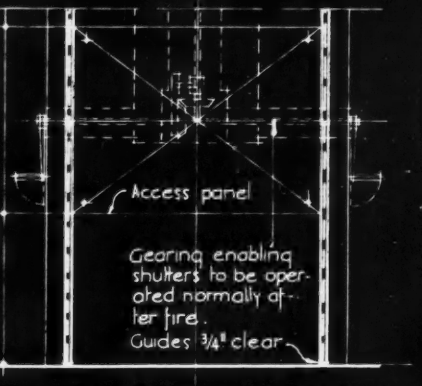


Note : the chases to accommodate the mechanism may be dispensed with if necessary.

OPERATING : Fixed, non-rotating drop grip handles operating from either side; reduction gear box and vertical shaft as shown.



Detail of Jamb 1½" Scale. Plan of Jamb ¼" Scale.



Information from John Booth & Sons (Bolton) Ltd.

INFORMATION SHEET : AUTOMATIC STEEL LATH ROLLING SHUTTERS.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1

THE ARCHITECTS' JOURNAL
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AUTOMATIC FIREPROOF SHUTTERS

Type of Product : Automatic Fireproof Shutters

Booths' Automatic Fireproof Shutters are designed to comply with the latest regulations of the L.C.C. and the London Fire Brigade for internal openings such as division walls, staircases, escalator heads, etc., and certain external openings.

This type of shutter is composed of channel guides which are secured to the jambs, 18° gauge interlocking lath curtains, and $\frac{1}{4}$ in. plate hood. Operating gear may be arranged to suit site conditions. Patent fire gearing permitting the automatic descent of the curtain at the fusing of a link at a temperature of 155° F. and allowing normal operation, after the descent may also be fitted.

The chases to accommodate the mechanism may be dispensed with if necessary. The type of operation is governed by the opening conditions. For example, shutters under 8 ft. wide by 7 ft. high may be operated by lifting handles on the bottom lath.

Where there are two shutters to one opening they must be operated simultaneously and from either side by handles or chain. Further, the distances between the inside faces of the curtains must be not less than one quarter the width of the opening, and the hood must be within the thickness of the wall. To comply with this, wing walls may be necessary. Division wall openings may be 12 ft. by 12 ft., and a special permit must be obtained for larger openings. Such openings must be fitted with two shutters to work together unless 8 ft. by 7 ft. or under, when they may be operated by lifting handles.

Lifts, Staircases, etc.

Single shutters operable from both sides by gear are necessary, unless 8 ft. by 7 ft. or under. The guides may be flush with the opening and must be protected with $\frac{1}{4}$ in. asbestos and 2 in. of hardwood or 2 in. plaster.

Name of Manufacturers : John Booth & Sons (Bolton), Ltd.

Addresses : Hulton Steel Works, Bolton
Telephone : Bolton 1195

Marsden Road Ironworks, Bolton
Telephone : Bolton 2766

London Office : 36 Victoria St., S.W.1

Telephone : Victoria 7162

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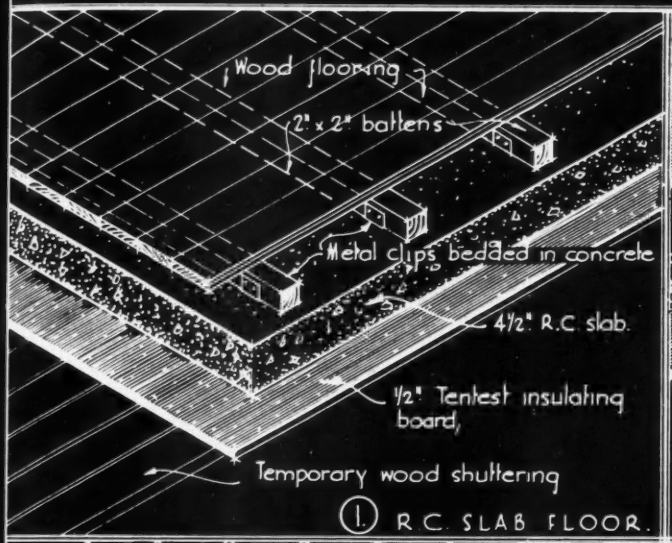
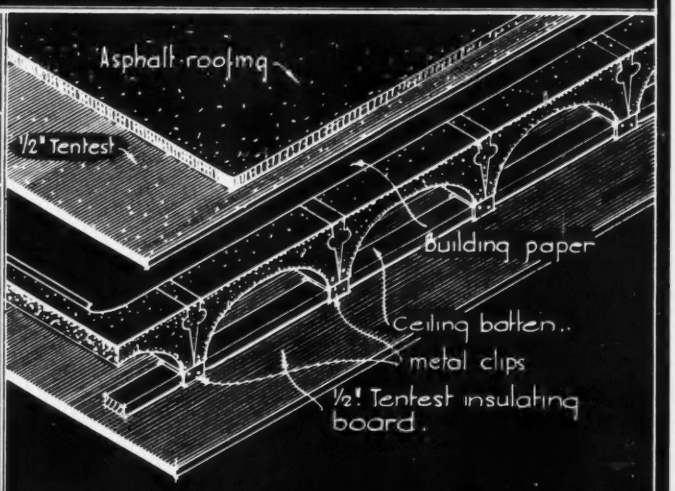
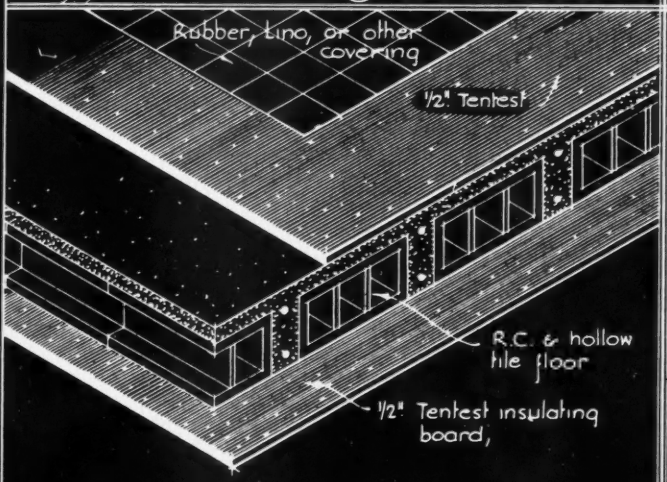


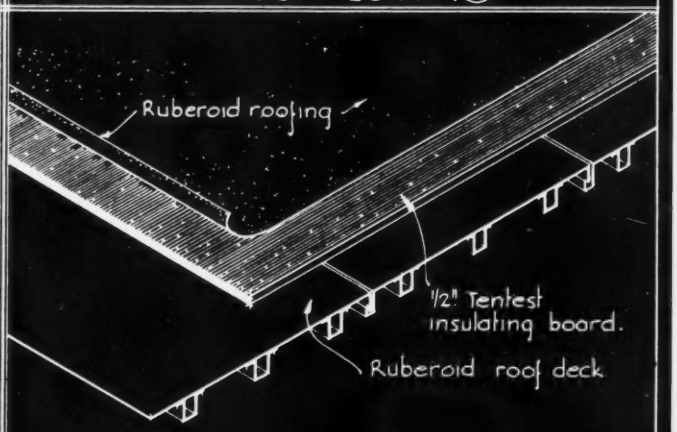
1. R.C. SLAB FLOOR.



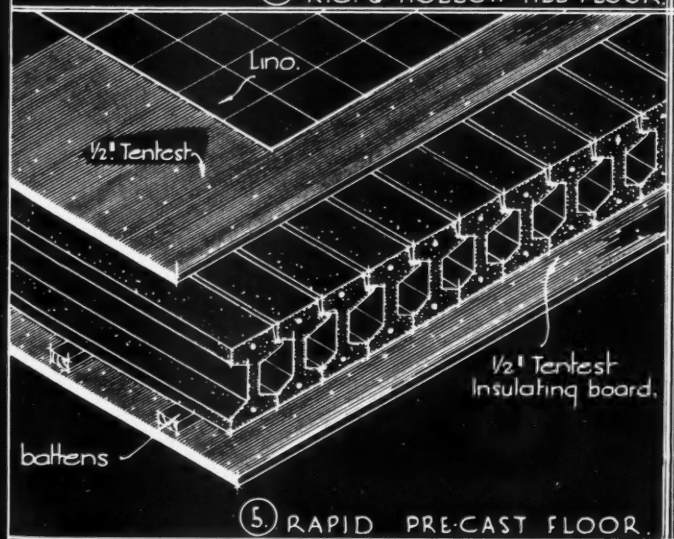
PRE-CAST TRUSCON FLOOR. 2.



3. R.C. & HOLLOW TILE FLOOR.

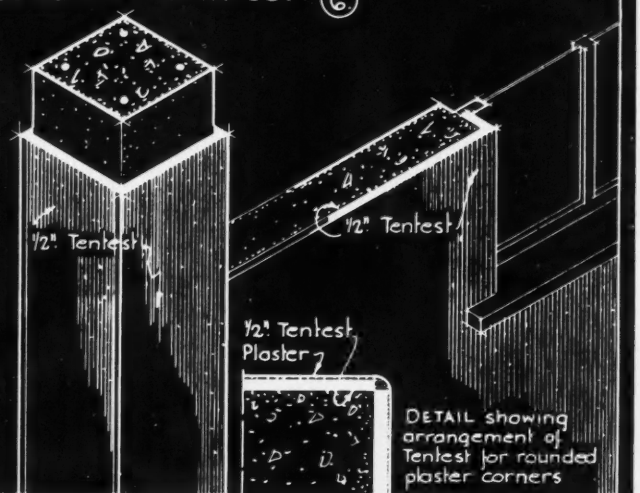


RUBEROID INSULATED ROOF. 4.



5. RAPID PRE-CAST FLOOR.

COLUMNS & WALLS. 6.



Information from the Tentest Fibre Board Co. Ltd.

INFORMATION SHEET : THE INSULATION OF FLOORS, WALLS & ROOFS

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET
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INSULATION (HEAT)

Name of Product : TenTest Fibre Board.

Illustrations : Thermal Insulation of Walls, Floors and Roofs.

Description :

Diagrams Nos. 1 to 6, on the face of this sheet, illustrate methods of insulating walls, floors and roofs.

Until recently the walls, floors and roofs of buildings have been regarded merely as structural necessities and a means of keeping out the elements, but, with the advance of scientific knowledge of heat transfer, it is now realised that, by lowering the thermal conductivity of structural members, a reduction can be effected in the size of the heating plant and also in the fuel consumption involved. It will be obvious, therefore, that effective insulation provides a substantial return on the investment incurred.

The following figures relating to the diagrams will be of interest. They are based on accepted coefficients of conductivity established by The National Physical Laboratory and represent the percentage of heat, expressed in British Thermal Units, that will pass, in one hour, through 1 sq. ft. of the structure concerned per 1 degree F. difference in temperature between the two faces.

Diagram No.	Construction	Coefficient of Conductivity, Construction as Shown	Coefficient of Conductivity, without TenTest
1	Solid Reinforced Concrete Slab Floor with timber on battens ..	0·255	0·425
2	Pre-cast "Truscon" Floor or Roof	0·172	0·568
3	Reinforced Concrete Hollow Tile Floor with Rubber or Lino ..	0·152	0·500
4	Ruberoid Roof Deck	0·188	0·781
5	"Rapid" Pre-cast Floor	0·175	0·450
6	4 in. Concrete Wall lined with TenTest	0·305	0·610

Name of Manufacturers : TenTest Fibre Board Co., Ltd.

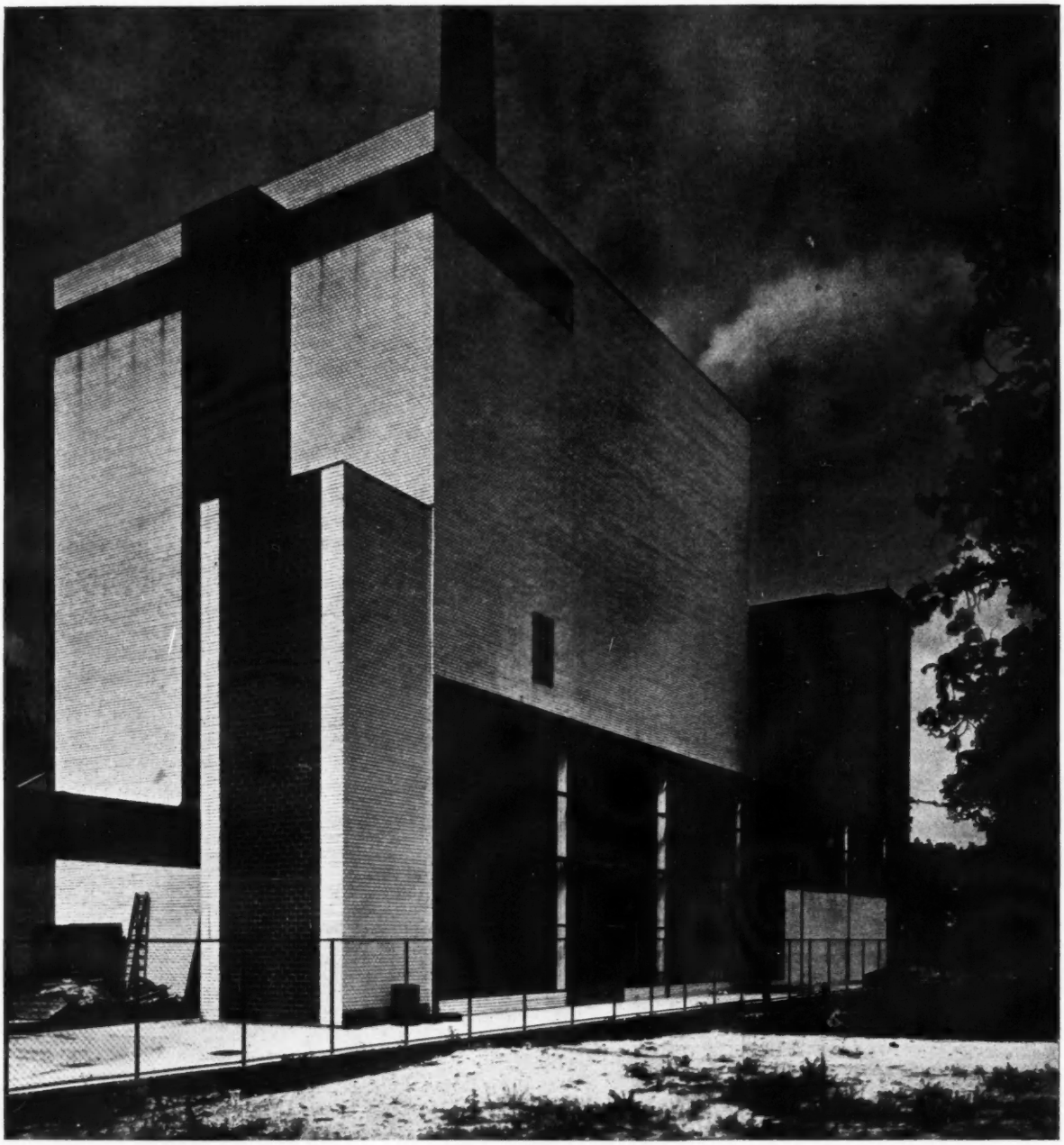
Address : Astor House, Aldwych, London, W.C.2.

Telephone : Holborn 8018

SCULPTOR AT WORK

ON THE NEW FOUNDLING HOSPITAL

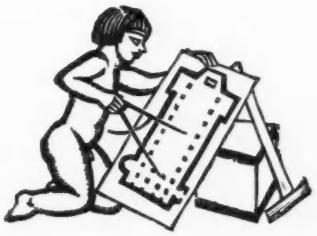
MR. DAVID EVANS, A.R.B.S., the sculptor, at work on the coat-of-arms that fills the pediment over the main entrance to the New Foundling Hospital at Berkhamsted. The hospital, for which the architects are J. M. Sheppard and Partners, is on the point of completion.



THE BOILER-HOUSE OF A BERLIN FACTORY

There are still people who dismiss a factory as something architecturally beneath their notice with the remark "One's just like another!" Here, however, is one that emphatically is not, although it makes no attempt to look like anything else. The architect has co-ordinated a row of necessarily very dissimilar buildings into a balanced and well-patterned unity.

The factory, designed by Arthur Korn, is further illustrated on pages 458-460 of this issue.



RUISLIP—AND ELSEWHERE

IF it isn't one place it's another. Ruislip, hitherto an obscure suburb on the edge of Middlesex, was put last summer on the architectural map as the scene of the martyrdom of an innocently unpretending (if unfamiliarly rational) house on the altars of prejudice and die-hardism. The Ruislip case became a *cause célèbre ;* but, unlike many such, rewarded the perseverance of its protagonists with a happy ending. Its ending, the circumstances of which are described elsewhere in this issue, consisted in the obliging acceptance of the project by the local Council with only one considerable alteration after the architects, Messrs. Connell and Ward, had explained to them the functional origins of the various points in the design. They even went further. They accepted without objection the designs by the same architects for another house on a site adjoining the first : designs that had all the uncompromisingly contemporary qualities that they had originally disapproved of. The Council sensibly recognized that the expert who is trained to think in terms of the solution of an actual problem is even more likely to be right than the layman or die-hard professional whose judgments are based on the superficial appeal of customs that have outgrown the needs that conditioned them.

The process of confirming this truism—or its application, rather, in the province of architecture : that the existence of an expert requires also the delegation to him of some public responsibilty, took place at Ruislip in such full publicity that one hoped its lesson had been universally learned. That optimism, however, seems to have been misplaced. Ruislip being settled, other Councils have with little delay followed the Ruislip-Northwood example and set themselves up as the arbiters of æsthetic taste. The outbreak of interfering officialdom shows signs of becoming not so much epidemic as endemic. The Watford Council and the Hemel Hempstead Council have agreed that a simple concrete house at Chipperfield, designed by E. Maxwell Fry, would be destructive of the old-world charm of suburban Hertfordshire, and the Epping authorities are reported to have accused so august a body as the London Passenger Transport Board of designs on Epping's old-world picturesqueness in wishing to erect a bus-shelter as honest in design as all the architecture with which that body has in late years adorned London and its environs—and earned our gratitude for the civilizing influence it has had on English design in general. That Epping should express its disapproval of what intelligent people in London and the rest of England, to say nothing of the Continent, have admired and respected for years, if it were not slightly ridiculous would savour in this case a little of *lèse majesté.* That Epping, Watford, Hemel Hempstead and all the other local bodies that set themselves up to instruct us in what we shall admire, should persist in standing in the way of honest admission of the century in which we live and acceptance of its peculiar beauties reminds one a little of King Canute.

There is, however, one unfortunate difference. King Canute's gesture was to prove that even he could do nothing to interfere with the waves' advancement. The local authorities, impotent as their obstructionism may be in the long run, have the power to put inconvenient obstacles in the path of progress for the gratification of their personal whims—and they are now beginning to use it. They were given this power by the Town and Country Planning Act of 1932 in order to enable them to preserve their areas from the waves of uninstructed individual exploitation that were threatening irreparably to destroy all that was most valuable in them. In practice they are doing little to stop the spread of the vulgar and pretentious villas that are the most typical concrete expression of anti-social exploitation, but concentrate their energies instead on repressing the all too few attempts to apply modern conceptions of order and decency to this same urgent problem.

In the Chipperfield case, which was fully reported and illustrated in our last issue, it is particularly unfortunate that the Council's disapproval of a building that attempts to solve the contemporary problem in a decent contemporary way should have been confirmed by their town-planning adviser. It is not a case only, therefore, of the ignorant layman who must be educated out of his superstition ; but of the full measures of the Town and Country Planning Act, under a qualified town-planner, Mr. W. R. Davidge, that have been put in this case to such short-sighted uses ; indeed, the most notable fact about the Ruislip and Chipperfield cases is that in each the Council has acted under qualified professional advice—in the one case that of an Advisory Panel, in the other than of a Town Planner. The introduction of the Town and Country Planning Act has at least made some Councils aware of their responsibilities, and it is all to the good that they should go to the expert for instruction on how to fulfil them. Immediate long-sighted correctness of opinion can hardly be expected in an untrained Council, as Ruislip finally realized. The Town and Country Planning Act may eventually, therefore, be instrumental in restoring to the architect the authority his training gives him claims to ; but how he uses it and how quickly he gains the public confidence in his ability to use it depends on himself. The Institute has given him a good lead with its letter of instruction to Panel secretaries, and his own support is the one thing that is needed to make the Act the instrument for good it might be.

The Architects' Journal
Westminster, S.W.1
Telephones: Victoria
9212-7
Telegrams:
Buildable
Parl
London

NOTES & TOPICS

PORTSMOUTH'S ARCHITECT

I HAVE just seen a report of the goings on at a meeting of the Portsmouth City Council over the decision to appoint a city architect. Let me say at once that intelligence has triumphed in spite of much opposition, and that an architect is to be appointed.

*

The report in the *Hampshire Telegraph* (which, by the way, is on the side of the intelligent) makes good reading, and shows up the sort of mentality by which many of us have the luck to be governed.

*

The arguments against the appointment were: (1) that it meant "creating a new head official"; (2) it "would be a waste of money and do more harm than good"; (3) it would be "a retrograde step." There seems to have been more than a hint that the new City Engineer was all that was wanted.

*

On the other side, Councillors Beddow, Pearson and Privett spoke with point on both economic and æsthetic grounds. It is good to see that there are people of enlightenment on the Portsmouth Council who can sway the balance against the folk who are content to muddle along. Portsmouth has some good features and is still developing; careful and skilled supervision is of paramount importance if the town is to avoid being made a shambles.

MONOTONY

The current number of the *Abbey Road Journal* (organ of the building society of that name) contains a championship of contemporary housing by speculative builders. Dr. Jacks has been saying some things recently about the design and the quality of the straggling lines of planless "estates" all over the country. He says that we are building a "jerrybuilder's paradise," and adds that it will be a paradise for nobody else.

*

Mr. Geoffrey Faber (who ought to know very much better) has been disputing with Dr. Jacks. Many of the points raised are largely matters of opinion and, anyway, matter very little. But Mr. Faber seems to forget that if jerrybuilding in its material sense would drive the firm in question into bankruptcy, jerrybuilding in its æsthetic sense has made thumping fortunes for all of them. If the confounded things showed some immediate likelihood of falling down I should care less about them.

*

Mr. Faber says that "The genius has not yet declared himself who can cover a landscape with small houses and avoid some monotony in the result." There is nothing very new about the remark; it is perfectly true. But it has not much bearing on the subject in hand.

*

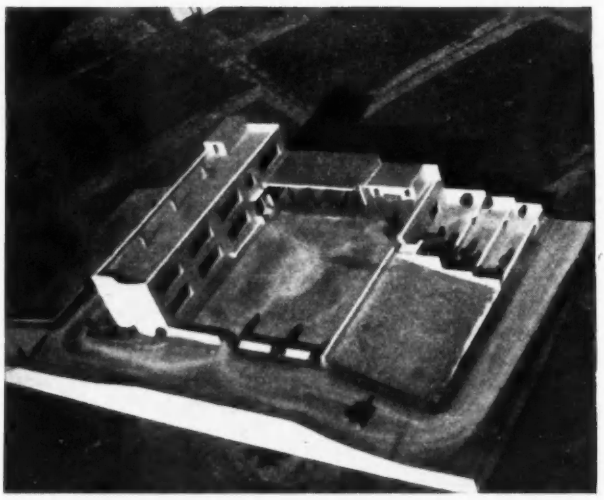
Nobody, I imagine, objects to a "monotony" of *good* things; nobody, at least, prefers a monotony of bad. That is what I would invite Mr. Faber to bear in mind.

THE RUISLIP CASE

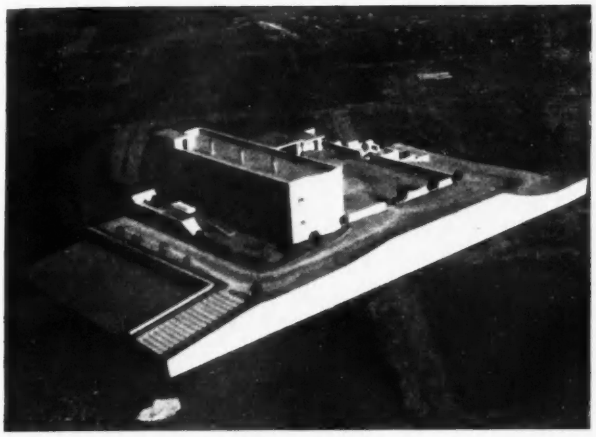
I have seen the final correspondence about the Ruislip case, which appears elsewhere in this issue. The result is gratifying; the design is passed almost in its original form and, what is more, another reinforced concrete house on an adjoining site by the same architects has since been passed without objection.

*

Congratulations are due all round: to Mr. Walter Taylor (the client and builder) for refusing to be discouraged by a most disheartening reception of his attempts to do something better than most builders are content with; to the architects (Messrs. Connell and Ward) for the victory of reason over superstition; and to the Ruislip-Northwood Council for listening to reason instead of stand-



A model of a school in Athens, recently completed from the designs of P. Karantinos, Architect to the Department of Education.



Another view of a model of a school in Athens, recently completed.

ing on their dignity—and thereby acquiring fresh dignity as a body that is able to consider matters on their merits.

*

And the case has had lots of outside repercussions. It was the cue for the R.I.B.A. letter on Panel procedure, and it must have made plenty of people think for the first time of architecture as a thing that either did tackle modern problems or didn't. That it has anything to do with modern problems enters the consciousness of surprisingly few—and who can blame them? Anyway, a well-ventilated argument is always healthy—provided the outcome is as satisfactory as this was.

*

And now for Chipperfield.

PLANNING ABOVE AND BELOW

The G.P.O. is planning an aerodrome in the heart of London so that mail-carrying autogiros can land on a roof space. A car park underneath Leicester Square is being planned to take between six and seven hundred cars.

*

The L.M.S. is considering a scheme of station improvement, and Radlett Station has been chosen for trying out the new idea. The station is to be painted in emerald green, pale blue and orange.

*

With all this activity in planning and improvement in the air, on the road and on the railways, England will soon catch up with the twentieth century. It is time we gave up priding ourselves on being old-fashioned.

THE PRE-WAR ART OF ARRANGEMENT

So many readers have written to me about my pre-war reminiscences on the subject of interior decoration that I am tempted to return to those affluent memories of abundant ornamentation. I remember being in, as it were, at the re-birth of the Tudor interior.

*

One of the great German liners, which has since changed its name and nationality, had most of its interior decoration designed and made in this country; notably the spacious Tudor smoking room. That was a conscientious reproduction, and I remember the scholarship and care devoted to it by that able designer and beautiful draughtsman, the late A. J. Dilon, who recaptured the character of a sixteenth-century interior.

*

Dilon in those days was the head of Thornton-Smith's studio. That was after Andrew Russell had left Soho Square, where the Thornton-Smith business flourished, and had set up a decoration business of his own.

*

We have lost much of the old conscientiousness that made the resurrection of dead periods if not glorious, at least vivid. Men like Andrew Russell and Dilon really could bring the past to life; and the great gift which the pre-war decorators possessed was the gift of *arrangement*.

*

Although one or two of the bright young moderns have disagreed with me about this, I do contend that very few of them could give to a room with contemporary materials the interest and comfort that came so easily to backgrounds that Dilon designed and to furnishing that Walter Thornton-Smith arranged.

*

Is the pre-war art of arrangement a lost art? Does our pre-occupation with functionalism tend to sap our humanity? I'm sure Mr. John de la Valette would say "Yes." And when I get my pre-war mind out and have a look at it I agree with him.

*

The trouble is that most of the delving into the past that is done today is done by people who aren't designers. They "copy." They don't arrange anything; and they copy ineptly. Andrew Russell, Dilon, E. J. Warne and men like them were designers with a profound and sympathetic knowledge of tradition.

BUILDING TRADES OPERATIVES

It would not cause much surprise if the building trade operatives receive the advance in wages asked for. The application has been put forward in a subtle form.

*

If the executive committees of the unions of building trades operatives had asked for an advance of 1d. an hour all round, this would probably have been refused. But they are asking that the index figure on which the wage rate was based should follow the example already set by His Majesty's Treasury and be reduced from 78 to 55. It will be difficult for the employers not to grant this in view of the example set by the Government, and in effect it will mean more money for the men.

THE ARCHITECTS' DANCE

The Architects' Dance at Olympia, on Friday last, was a huge success. I was informed (unofficially) that some 320 were present, although only 250 were expected.

*

During the intervals between the dances I endeavoured to count the number of well-known architects present. I started with Sir Giles Gilbert Scott, and went gaily on; somewhere in the region of thirty my head began to swim, and I stopped playing this amusing little game. I recommend you to try it at the next dance.

*

The proceeds of the dance are to be allotted to the Architects' Unemployment Fund. ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

"A schoolboy could draw a plan sufficient to comply with the requirements of the average local authority" 449

A design for the new Waterloo Bridge will be chosen from a very large number submitted to the L.C.C. at the end of next month or the beginning of November.... 449

A reproduction of the modified design for the Ruislip houses produced by the Ruislip-Northwood Urban Council to give "some indication of what the Council have in mind" 455

"I am in favour of a sound planning scheme for the Building Exhibition" (H. Greville Montgomery) 461

NEW UNIVERSITY LIBRARY CAMBRIDGE

On October 22 the King is officially to open the new University Library, Cambridge, designed by Sir Giles Gilbert Scott, R.A., P.R.I.B.A.

HOUSING

We understand that difficulties are still being experienced by the Housing Committee of the London County Council, under the chairmanship of Mr. Silkin, to obtain suitable land on which to build rehousing schemes for displaced slum dwellers. In some quarters it was considered that it was unfortunate that Mr. Shakespeare, the Parliamentary Secretary to the Ministry of Health, should have actually quoted the figure of £12,000 an acre as a possible price which might have to be paid for housing sites in London. Mr. Shakespeare's statement may have had the result of stiffening prices, thus making it impossible to obtain certain tracts of land at the prices originally contemplated. Mr. Shakespeare has recently been in Geneva and in the next few weeks will be giving considerable attention to the new housing legislation which the Government hope to introduce in the near future.

CONTROL OF BUILDING

In every part of the country and in every building project the need for the observation of local regulations has a material effect on both the price and the design of the building erected, and it is with a view to putting the building public completely at ease with regard to building regulations that the Building Industries National Council has issued a memorandum entitled "The Control of Building by Local Authorities."

THE ARCHITECTS' DIARY

Thursday, September 27

R.I.B.A. *Architects' Unemployment Committee. At 7 Bedford Square, W.C.1. Exhibition of work done under the Architects' Emergency Scheme. Open until further notice.*

NATIONAL SMOKE ABATEMENT SOCIETY. *Conference at Glasgow. Opening day. Until September 29.*

Monday, October 1

ROYAL PHOTOGRAPHIC SOCIETY. *At 35 Russell Square, W.C.1. Annual International Exhibition. Open until October 6.*

Wednesday, October 3

HOUSING AND HEALTH EXHIBITION, *Kelvin Hall, Glasgow. Open until October 27. 11 a.m. to 10 p.m.*

Thursday, October 4

STORRAN GALLERY, 106 *Brompton Road, S.W. Exhibition of Mr. Bainbridge Copnall's working drawings of his sculpture on the new R.I.B.A. Building. To be opened by Sir Giles Gilbert Scott, R.A., P.R.I.B.A., at 5 p.m. Open until October 22. 10 a.m. to 6 p.m. (Saturdays: 10 a.m. to 1 p.m.)*

The pamphlet deals concisely with the regulations governing new streets and buildings; local and general Building Acts; requirements as to the provision of plans, drainage and water supply; building and improvement lines; planning schemes; temporary buildings; tents, vans and sheds; appeals to the Minister of Health, etc.

The booklet is obtainable from the B.I.N.C., 5 Duke Street, Adelphi, W.C. (price 1s. 3d.).

BIRMINGHAM TOWN HALL

The centenary of the opening of the Birmingham Town Hall will be celebrated on October 4. During the afternoon the Lord Mayor of Birmingham will unveil plaques inside and outside the building commemorative of the work of the architect, Joseph Hansom, and the builders. During the week in which the centenary celebrations are to be held the Town Hall will be flood-lit.

FOUNDATION STONES

On October 22 the Duke of York will lay the foundation stone of the new church, Church of Scotland, Edinburgh; and on the following day, October 23, the Prince of Wales will lay the foundation stone at the Birmingham Hospitals Centre at Edgbaston. The architects for the latter scheme are Messrs. Lanchester and Lodge, whose design was placed first in a competition held in 1930.

SLUM CLEARANCE IN SCOTLAND

The Department of Health for Scotland announce that of the total of 15,110 houses under construction at the end of August no fewer than 11,599 were for the rehousing of persons to be displaced from unfit houses in slum clearance areas.

The Department also state that the work of clearing the slums is making good progress. Since a beginning was made following the passing of the Act of 1923 a total of 32,151 houses for rehousing purposes have been completed, providing accommodation for approximately 150,000 persons formerly living under unsatisfactory housing conditions.

According to the programmes submitted to the Department at the beginning of this year local authorities estimate that 61,700 new houses will be required to replace unfit houses during the five years from 1934 to 1938.

In addition to the construction of new houses for replacement purposes 15,424 houses had, up to the end of June last, been reconstructed or improved with State assistance under the Housing (Rural Workers) Acts.

Up to date a grand total of 178,102 subsidised houses have been built in Scotland since the war.

INSTITUTE OF FUEL

The Council of the Institute of Fuel states that Prince George has accepted the invitation of Sir Harry McGowan, K.B.E. (President-Elect), to be present at the annual dinner of the Institute, to be held at the Connaught Rooms, Great Queen Street, W.C.2, on Monday, November 12.

Prince George will propose the toast of the Institute. The Melchett Medal will also be presented to Dr. Bergius immediately following the dinner.

DEFINITE MOVE BACK TO CRAFTSMANSHIP

"I think that we can say there is today an honest and definite move back to craftsmanship. The great industrial revolution in the immense boon it gave, especially to the poor in this land in the way of cheap material, brought with it a terrible deterioration in artistic merit." This statement was made by the Hon. Geoffrey Howard, Lord Lieutenant of North Riding, when he opened the Apprentices' Exhibition at Scarborough on September 18. "The twentieth century," he continued, "is making a slow effort to recapture the advantages of craftsmanship. It is my privilege to live in one of the most beautiful houses in England, and there, at Castle Howard, I can see today gilding and painting done in 1710 and not touched since. You can get, by clever proportion, a thing of beauty, without any declaration whatsoever. The ideal is beauty coupled with simplicity."

KENT AND CANTERBURY HOSPITAL

Mr. Cecil Burns, F.R.I.B.A., has been appointed architect for the Kent and Canterbury Hospital, which will be erected at Canterbury.

AN ARCHITECT ON BUILDING SOCIETIES

Mr. C. W. C. Needham, A.R.I.B.A., A.M.P.T.I., in a paper entitled "Building 'Jerusalem'—An Architect's View of the Part of the Building Society," read at a recent week-end school of the Lancashire and Cheshire, Midland, and Yorkshire County Associations of Building Societies at Pannal Ash College, Harrogate, said: "Are you building Jerusalem? or do not some of our suburbs and bits of rural so-called 'development' savour more of Gehenna or, at any rate, Babel? To many people they are about as pleasant as a bad nightmare. I am aghast at the

A design for Waterloo Bridge. By Sir E. Owen Williams, K.B.E. See note on this page.

way in which some building societies are financing schemes of development whereby England's beauty is being defaced by houses that are badly built, and even more badly designed.

"So far as actual design is concerned, in many cases there is none. Good design includes good proportion and the right use of ornament, not such items as sham timber framing made of creosoted floor boards, windows and doors of eccentric shapes, and many of the meaningless 'features' so often seen in houses built to sell.

"Much that is really vulgar in house design is popular because the public have been gulled into believing that the vulgar is 'smart.'

"But surely, you may ask, there are plans for these houses. There certainly are plans, sometimes drawn up by architects on the instructions of builders who are erecting the houses unsupervized, and in practically every case, to the architect's dismay, his design is not properly carried out, and the finished article is a caricature of the original design.

"A schoolboy could draw a plan sufficient to comply with the requirements of the average local authority."

"When architects are consulted in connection with this class of property it is generally to act for an unfortunate purchaser who discovers too late that the builder is not giving him what he thinks he ought to have, and owing to the absence of proper plans and specifications there is a dispute between building owner and builder.

"Some day, perhaps, when all the damage has been done, it may be as unlawful for buildings to be erected without the design and supervision of a qualified architect as it is for a surgical operation to be performed by anyone else than a qualified surgeon or a conveyance to be prepared by anyone but a qualified lawyer—and why not? Neither the surgeon's nor the lawyer's work affects any other than the individual, whilst the architect's work affects the whole community."

WATERLOO BRIDGE

Sir Owen Williams, in April, 1932, offered to demolish the existing Waterloo Bridge and to construct an entirely new bridge for the sum of £693,000, and, in March of this year, when the question was reopened, he renewed this offer.

Since that date the L.C.C. has decided to let a contract for demolishing the existing bridge and automatically Sir Owen Williams's offer lapsed as his proposal involved utilization of the works of demolition for the purpose of building a new bridge.

The Council having decided to demolish the existing bridge as a separate contract, it leaves the design and construction of the new bridge free from being influenced by the existing structure.

In view of this altered fact, on June 21 last, Sir Owen Williams made an entirely new offer to build a new bridge after the present demolition operations have been completed, the new bridge to be as before, for six lines of traffic, but now to have only four cylindrical piers supporting it instead of eight; giving three river spans with 245 ft. clear between piers and two shore spans each with 190 ft. between piers. The four cylindrical piers supporting the bridge would be each 30 ft. diameter. The type of bridge would be absolutely horizontal on the underside, giving 25 ft. clear above high water for the full length and width of the bridge, which, in combination with the spans and cylindrical form of piers would give the maximum possible river facilities.

Sir Owen Williams has offered to carry out a bridge on these lines for the sum of £535,000 (five hundred and thirty-five thousand pounds) in 2½ years. The perspective reproduced on this page shows the type of bridge proposed. No decision on this offer has been reached by the L.C.C.

We understand that a design for the new Waterloo Bridge will be chosen from a very large number submitted to the L.C.C., at the end of next month, or the beginning of November.

FLATS IN STOKE NEWINGTON

The new Lordship Terrace Flats in Stoke Newington are to be opened by Sir Hilton Young (Minister of Health) on September 28. The architects are Messrs. Howes and Jackman, whose design was placed first in a limited competition held some twelve months ago.

ANNOUNCEMENTS

Mr. Edwin Priestley, L.R.I.B.A., of 28 Rowland Avenue, Kenton, Harrow, has commenced in practice at Kenton and will be pleased to receive catalogues, etc. Mr. Priestley was Chief Architectural Assistant with Messrs. Chas. Heathcote and Sons, FF.R.I.B.A., throughout the whole of the period of the construction of the Ford Motor Works at Dagenham, Essex.

Mr. Ernest Bates, F.R.I.B.A., of 27 Queen Victoria Street, E.C.4, has taken into partnership Mr. William G. Sinning, A.I.A.A., who has for some years been associated with the practice. The title of the firm will be Ernest Bates and Wm. G. Sinning.

£50,000 SCHOOL FOR DINGWALL

The Scottish Education Department has provisionally approved of the plans of the proposed new Academy at Dingwall, at an estimated cost of about £50,000.

COMPETITION NEWS

CHURCH AT MILL HILL

We understand that the result of the limited competition for the John Keble Memorial Church will be announced on September 28.

PORTRUSH PAVILION SCHEME

Portrush (County Antrim) U.D.C. has decided to promote an architectural competition for the erection of a seaside pavilion. The competition will be launched as soon as a deputation of the Council returns from a tour of English seaside resorts, the purpose of which is to collect ideas for the erection of a pavilion suitable for the requirements of the town.

Competitions Open

October 1.—Sending-in Day. Proposed Municipal Assembly Halls, Wolverhampton, for the Wolverhampton Corporation. Assessor: C. Cowles Voysey, F.R.I.B.A. Premiums: £350, £250 and £150. Conditions from the Town Clerk, Town Hall, Wolverhampton. Last day for questions was May 21. (Deposit £1 1s.)

Competitions Pending

Lay-out of, and scheme for building on the prison grounds, York, for the York Corporation. Premiums: £250, £150 and £100.

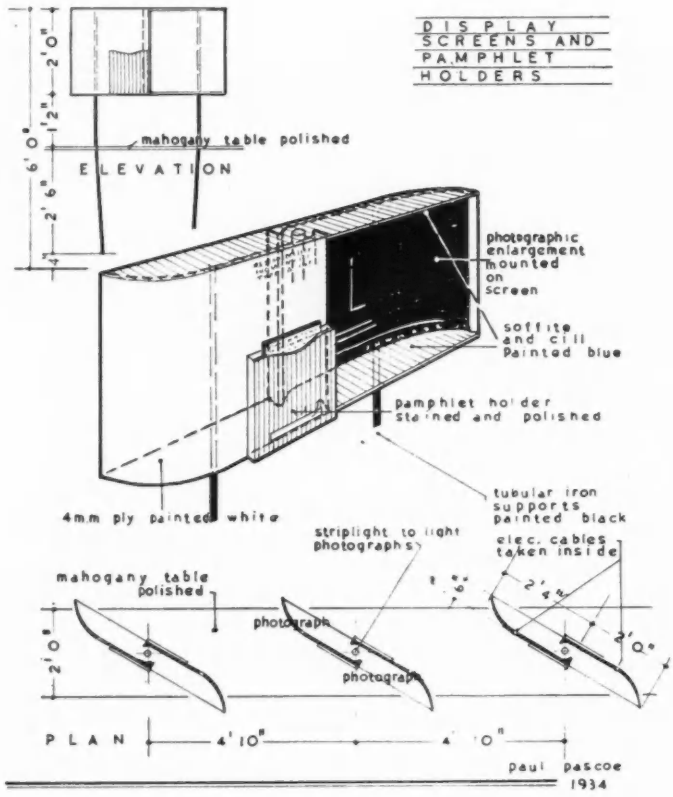
New municipal offices for the Wembley U.D.C. Assessor: Stanley D. Hamp, F.R.I.B.A.

New college for technical, commercial and art studies, Birmingham, for the Birmingham Education Committee.

Central offices, Hertford, for the Herts C.C. Premiums: £350, £250 and £150.

Technical college, Bolton, for the Bolton Education Committee. Premiums: £500, £250 and £100.

Civic building in connection with the



From the Venesta Stand at the recent Building Trades Exhibition. Designers: F. Skinner and Tecton.

proposed scheme for a civic centre, Enfield, for the Enfield U.D.C.

Development of the Tuns Gate site, Guildford, for the Guildford T.C. (limited competition).

Rebuilding of Bishopsgate Police Station and Police Hospital, for the City of London Corporation. Premiums: £250, £100 and £50.

Town hall, for the Southall-Norwood U.D.C.

LAW REPORT

NOISES IN FLATS: INJUNCTION GRANTED

London County Freehold and Leasehold Properties, Ltd., v. Middleton.—King's Bench Division. Before Mr. Justice Atkinson.

THIS was an action in which the London County Freehold and Leasehold Properties, Ltd., as owners of a block of flats at Barnes, sought an injunction against Mr. E. C. Middleton, to restrain him from permitting a nuisance in his flat at Castlenau Gardens, Barnes, to the annoyance of other tenants and contrary to a convenant in his tenancy agreement with the plaintiffs.

Mr. Charles Doughty, K.C., for the plaintiffs, said a lady tenant of the plaintiffs, who lived underneath the flat in which the defendant lived, had made a complaint to the plaintiffs that a nephew of the defendant's made life in her flat intolerable because of the noise he created by playing and jumping and shouting with joy at all hours of the day. Plaintiffs' case was that this was a nuisance in contravention of the convenant of "quiet enjoyment," and they therefore sought an injunction from the Court.

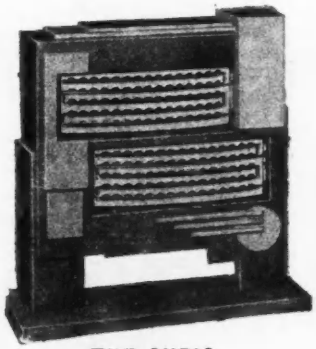
Mr. H. C. Marks, for the defendant, denied the plaintiffs' allegations, and contended that the child made no more noise than was permissible or incidental to ordinary cries, or life in an ordinary dwelling of a family.

His lordship, after hearing the evidence, said, realizing that the problem of children in flats was a difficult one, he paid a visit to the flat—a small, but nice one. Though the hall was a fair size, some ten feet by six feet, in his view the flat was a confined space for an ordinary high-spirited child, whose playing area was apparently restricted to the kitchen and the hall mainly. In the early morning, however, he went in his uncle's bedroom, the construction of which was unfortunate, from the point of view of children, as any noise or running about would be bound to be heard in the rooms immediately below.

The facts of the case were that the defendant had entered into a covenant "not at any time to do or suffer to be done any act or thing" which would tend to annoy other tenants in any part of the building or adjoining premises. The law on the subject had been well laid down in two cases decided by Mr. Justice Luxmoore, sitting in the Chancery Division. In the case of Barton *v.* Reed, 1931, the Chancery, Mr. Justice Luxmoore, in his judgment, dealing with the word "suffer," said there might be a breach if one abstained from taking reasonable steps to prevent an act where it was within one's power to prevent it. Here there was no question that if there was a nuisance, the defendant had power to prevent it. In the second case, that of Vanderpant *v.* May Fair Hotel, Ltd., 1930, the Chancery, Mr. Justice Luxmoore, dealing with the point as to actionable nuisance by noise, said the Act must interfere with ordinary physical comfort, "not according to elegant and dainty modes of living, but according to the plain and sober and simple notions obtaining amongst English people."

Proceeding, his lordship said apparently the defendant and his sister, like many people who lived in flats, did not realize the noise they were inflicting on people who lived below. A boy playing about in the flat overhead could be an intolerable nuisance. Here there were a number of complaints, and on the whole, his lordship said, he must accept the evidence given by the plaintiff's witnesses as true, as he thought they were reasonable people. He was unable to accept the defendant's evidence, which, in his view, went too far, and suggested a little boy sitting at a table drawing and playing with his trains, and that when he had a playmate that they sat like two mutes. He admitted that no one could complain of ten minutes' romp and laughter, but it could be carried to extremes. In his opinion, the nuisance could easily be prevented, and must be prevented. There would, therefore, be an injunction restraining the defendant from making or suffering to be made such a noise in his flat as was an annoyance to or tended to the annoyance, nuisance or damage of the plaintiff, or other tenants or occupiers of other flats in the same block of flats. His lordship assessed the damages at 40s., and ordered the defendant to pay the costs of the action.

THIS ARSHETECTURE

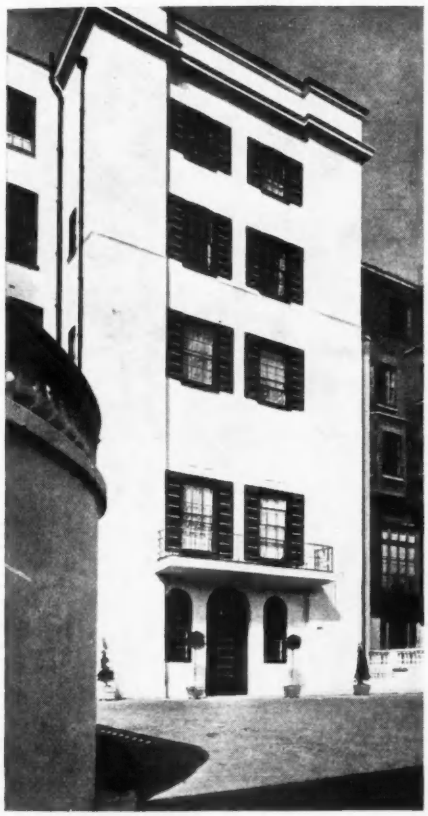


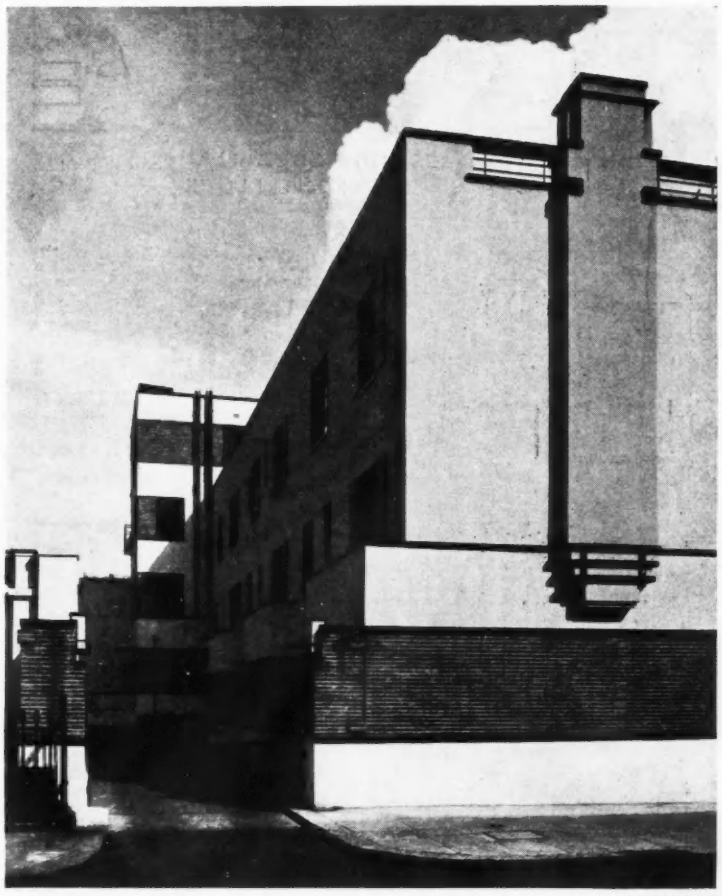
THE CUBIC.

A fire which conforms to the latest ideas in modern architecture. In Blue and Brown finishes.

From the catalogue of an electricity corporation.

CHESHAM HOUSE, CHESHAM PLACE, S.W.

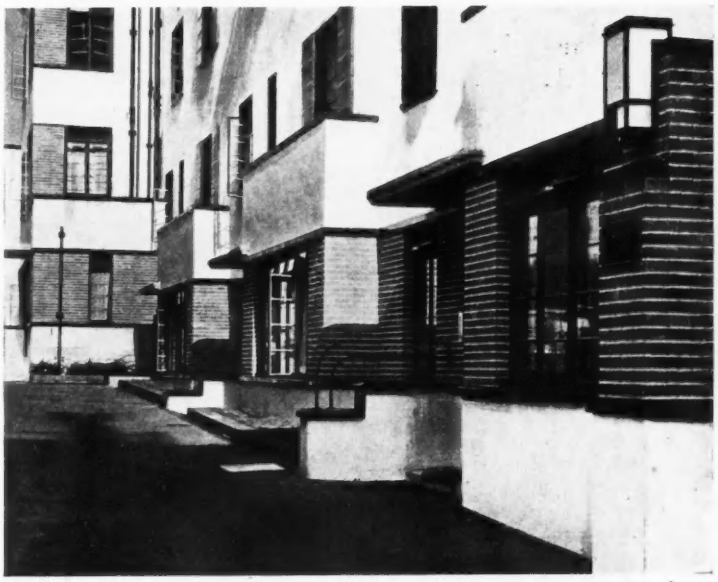




S. W. NEWBERY

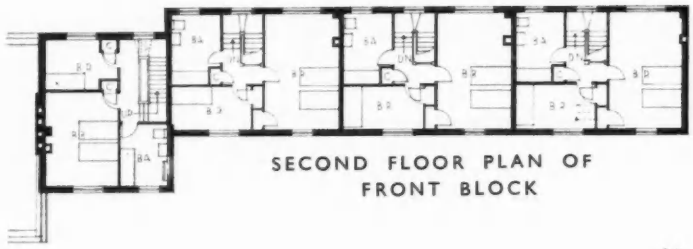
This scheme consists of two blocks: the old German Embassy partially reconstructed and converted into flats and an entirely new building in front of it, consisting of three-storey houses. In the rear block the existing staircase was removed, and an internal light court formed, with a new staircase and lifts to the flats. Externally, the old brickwork has been rendered with cream-coloured Portland cement and new grilles have been provided for the entrance doors. Internally, the existing insulated floors were left untouched, ceilings were washed and given two coats of distemper finished with a stipple brush, and the old rather florid cornices were replaced by a simpler design.

The photographs show: above, the courtyard elevation of the old building; right, two views of the new block.

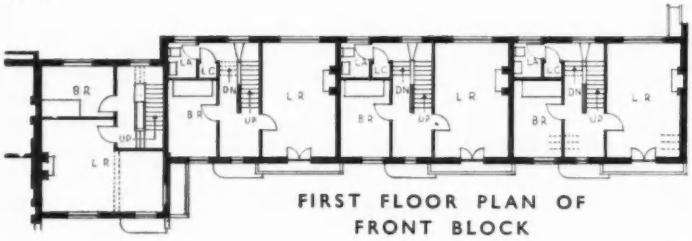


DESIGNED BY MESSRS JOSEPH

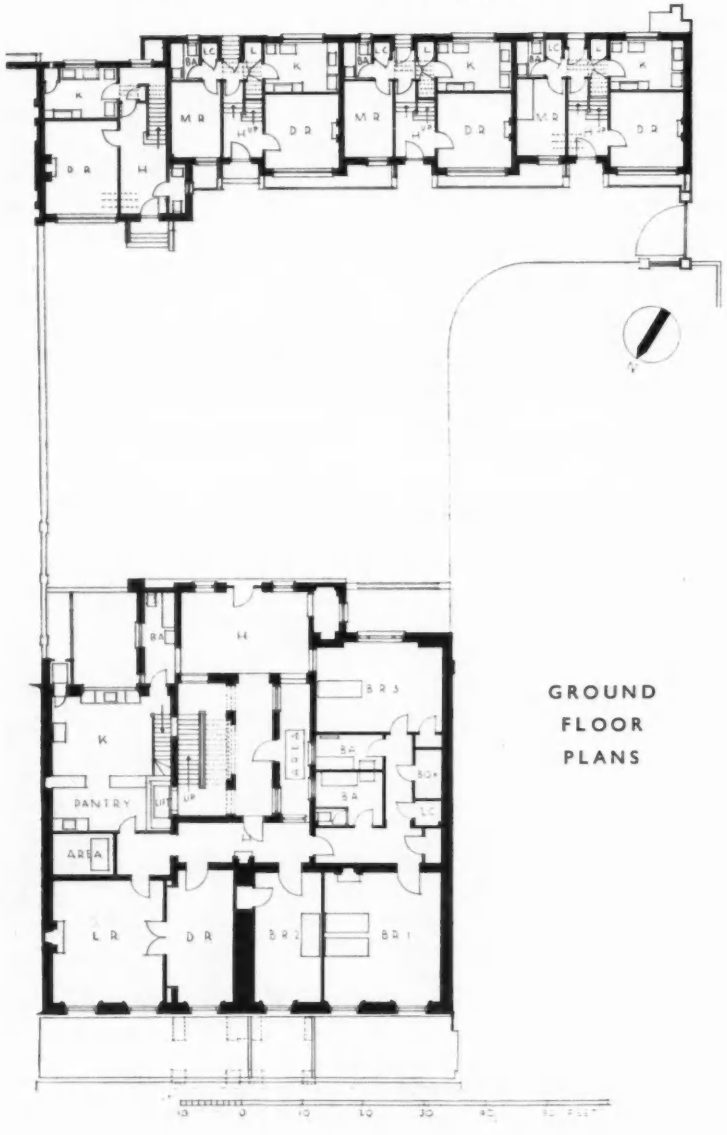
CHESHAM HOUSE, CHESHAM PLACE, S.W.



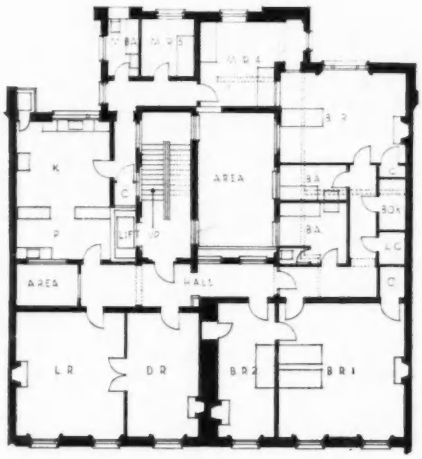
SECOND FLOOR PLAN OF FRONT BLOCK



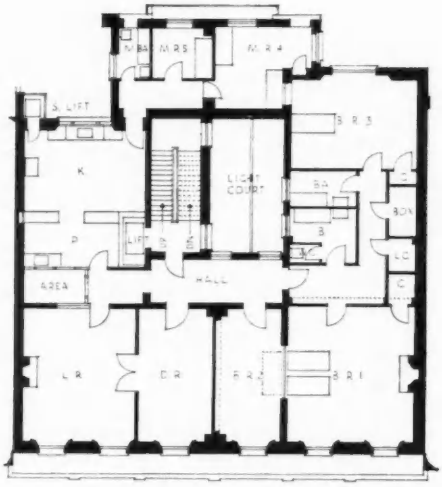
FIRST FLOOR PLAN OF FRONT BLOCK



GROUND FLOOR PLANS



SECOND FLOOR PLAN OF REAR BLOCK

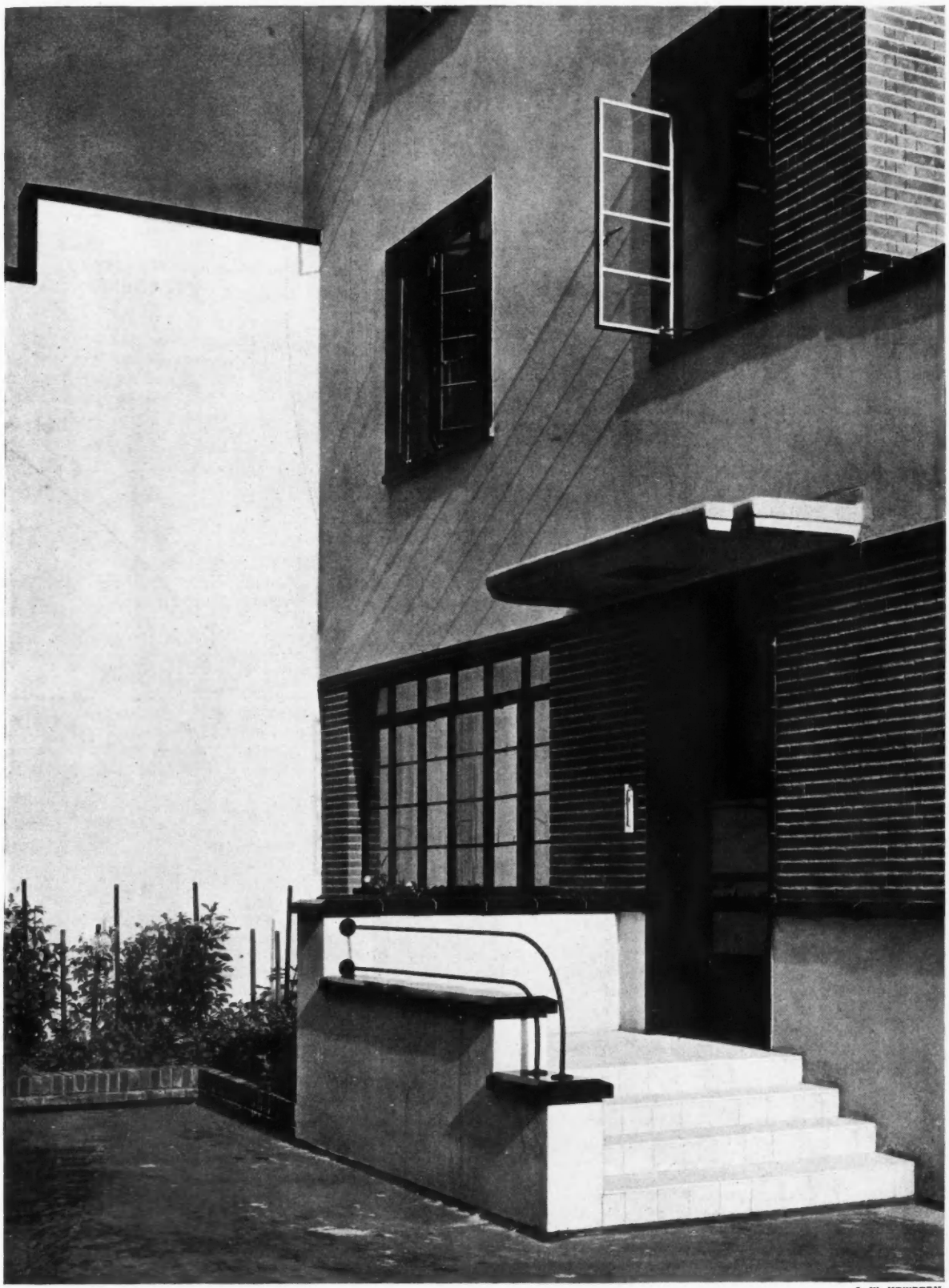


FIRST FLOOR PLAN OF REAR BLOCK

KEY	
LR	LIVING ROOM
DR	DINING ROOM
MR	MAIDS ROOM
K	KITCHEN
H	HALL
L	LARDER
LC	LINEN CUPD
LA	LAVATORY
BR	BED ROOM
BA	BATH ROOM

Floor plans of the existing block, now converted into flats; and the new block, which is arranged as three-storey houses.

DESIGNED BY MESSRS. JOSEPH



S. W. NEWBERY

One of the entrances in the new block.

LETTERS FROM READERS

REGINALD FISHER

ARTHUR WELFORD, A.R.I.B.A.

ERIC MILES, D.ARCH. (LVPL.) A.R.I.B.A.

OVOLO

A. MYERSCOUGH-WALKER, A.R.I.B.A.

The Chipperfield Case

SIR,—May I, as a resident near Chipperfield, try to put before you a point of view on this difficult question.

We live here ; we rather like the place as it is ; every new house to some extent makes the place less country and therefore less desirable. The proposed building appears to us a monstrosity, impossibly ugly, a nightmare ; and to compare it with the old manor house an impertinent insult.

I think we all acknowledge that we are unprogressive, intolerant of too sudden changes, Victorian even, if you like to make that a term of reproach.

Possibly such a house might be suitable in some place away from any natural beauty in a factory town or the raw growing edge of suburban London.

But please don't put it down on the edge of our common. Remember, you live inside it and have any conveniences which its queer shape may give. We live outside it and just see its awful outside appearance. And to us, strange as it may seem to you, this new house is worse to look at—much worse to look at—than even the modern "villas" you show as evidence of our taste.

REGINALD FISHER
King's Langley

Economics and the Architect

SIR,—My criticism was of Mr. Biddulph's statement in his original letter that banks do not create money.

I asked Mr. Biddulph to explain certain questions which arose, but he has not yet done so. These were not catch questions ; the correct answers to them are necessary to the understanding of the principles and the effects on industry of modern banking. Unless agreement can be reached upon these answers all further discussion is a waste of time.

But Mr. Biddulph has already agreed that the Bank of England buys gold for nothing, and in his letter of the 20th he states : ". . . the joint stock banks hold about 10 per cent. of their liabilities in cash, because they believe this allows an adequate margin of safety." This looks as though Mr. Biddulph agreed that joint stock banks also create money. Will he please explain what is the odd 90 per cent. of the banks' liabilities, and whence does it come ?

ARTHUR WELFORD
Saxmundham

The R.I.B.A. Building

SIR,—I am amused at Mr. Middleton's letter. Mr. Middleton is quite right. I have reached the age of discretion, which is the better part of valour.

I should be interested to know what kind of building he thinks suitable for an abattoir and why not a Medici palace ? A good deal of slaughter went on inside, we understand, so it would seem to be most appropriate.

OVOLO
Sidmouth

The Building Exhibition

SIR,—Whilst wishing to congratulate you on the design and lay-out of your Stand at the Building Exhibition, I should like to express my surprise and regret that the accommodation afforded to members of the R.I.B.A. was so poor.

I, and my fellow architects, feel that at this time when there is so much unemployment in the profession, it would have been better policy to have placed the R.I.B.A. Club in a more advantageous position with more adequate accommodation. It should be brought to the notice of the public that the R.I.B.A. is an Institute which is intimately concerned with the building trade, and is not purely academic ; which, I gathered, was the general opinion among the visitors.

ERIC MILES
Southampton

SIR,—There follows after this brief introductory sentence, a not so brief defence of the Building Exhibition as it exists today. The lack of wisdom (as an architect) on my part in shouting such a defence loudly may be questioned, but I feel at least, that the picture is truthful.

In the first place, I feel tempted to answer the friendly critics who, for the past few days, have been loud in their suggestions for reform, not (in several cases) without a very definite personal hope and a host of perfect solutions tucked up their sleeves.

The plea generally is from the æsthetes, who demand that beauty and commerce (a very logical combination) should reach its highest form in the Building Exhibition, in particular it being argued that a controlling architect is necessary.

First, let us put down coldly and without adornment the governing factors which go to make the Exhibition.

(1) The product to be displayed is, generally speaking, a building material. It follows that the stand—for purposes of this display—is best created from these materials.

(2) The Exhibition is primarily a "trade" show and is not, as some of our critics presume, intended for the general public.

(3) The exhibitors for the main part have been exhibiting for a longer time past than I can remember and whose customers or clients take it for granted that their stand will be found in one particular place or not at all.

(4) Space at Olympia is expensive.

These are the four main factors which, so far as I can ascertain, go to make the Exhibition what it is at the present moment.

Let us take the opposing forces and examine their solutions which, for the purposes of this article, I will enumerate broadly.

(1) An architect or architects should design the complete show.

(2) The trades should be sectionalized —stone with stone, bricks with bricks, wood with wood, etc.

(3) A large screen design should be erected to co-ordinate the necessary different designs into a coherent whole.

(4) Architects should design the stands rather than have firms running amok with their pet inventions.

Not one of these solutions (apart from the last, which is obvious) is remotely practical. In fact, it is a matter of surprise to me that the editors of the technical press should have let their contributors get away with such superficial ideas.

Before I attempt to explain why they are impractical, let me say that the organizers of the Exhibition would, I am quite certain, be extremely happy if a solution were forthcoming. They must be getting rather tired of unsubstantiated talk.

And now the reasons why all these things should and will not be done, and on this point I have taken the views of some of the more important exhibitors :

(1) Several architects (including myself) have attempted to design Olympia for the Building Exhibition. The most impressive sketch I have seen lost 30 per cent of the total stand area (value 8s. per ft. super) and produced more stands with acute-angled corners than exhibitors could justifiably be expected to take over.

(2) The sectionalization of the trades involves a complete reshuffle of all exhibitors which the more influential would most certainly not agree to

without a fight. But, assuming such a gigantic task done, the responsibility of placing certain trades in sections must mean overlapping, or large spaces being left unoccupied. And some firms object to being placed cheek by jowl with their competitors.

(3) The large screen design is, to my mind, a rather ineffective cover to a multitude of supposed sins.

(4) Architects do design stands more and more at each recurring Exhibition. On the other hand, the exhibitors who do employ them are happier to be the bright lights in a sea of mediocre stands rather than be one of 300, and very little to choose between one or the other. In any case, I doubt whether all the architect designed stands are as splendid as they are held up to be.

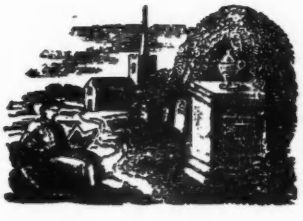
In conclusion I can quite understand the motives, which are not so altruistic as they appear, that the technical press has sponsored regarding this Exhibition. The desire for beauty, even if a little fanatical, is fundamentally natural. The Motor Show and the Ideal Home, Radio and Chocolate Exhibitions—new shows each time with no fixed clientele—can all be accommodated in a set of design at once uniform in appearance and beautiful in style.

The very grim essence, so to speak, of the building industry, rules such a thing out in anything but completely new exhibitions like those at Paris, Chicago and Wembley. It is possible even at the Building Centre, but, short of a revolution, not at Olympia.

I am, personally, more interested to see the trend in appearance of new materials, and most certainly one is satisfied by the beauty of some new products. Manufacturers, whatever their feelings are about stands, appear to have grasped fairly clearly the æsthetic demands the modern architect is making for inclusion in his buildings.

A large number of manufacturers have their fingers firmly on the pulse of modern design, and in certain notable respects (I have in mind a folding window and some solid collapsible gates) will gently but firmly lead the designer into the incorporation of their products and credit the designer with a beauty not wholly of his own creation.

A. MYERSCOUGH-WALKER
London



This is a reproduction of the modified design for the Ruislip houses produced by the Ruislip-Northwood Urban Council to give "some indication of what the Council have in mind." See letters below.

THE RUISLIP CASE

FINAL CORRESPONDENCE

What has become notorious as the Ruislip Case is now concluded, and we are able to report the final stages of discussion that led up to a satisfactory settlement. The designs by Messrs. Connell and Ward for a pair of houses at Ruislip, it will be remembered, were rejected on grounds of amenity by the Ruislip-Northwood Urban Council on the advice of the local Advisory Panel of Architects, and the Council's decision was upheld by an arbitrator appointed by the R.I.B.A. Under the Town and Country Planning Act and the terms of the arbitrator's award the Council were required to inform the clients of the modifications they required in the designs. This notification we print below, followed by the architects' letter to their client advising him on the points of design involved. The Council also produced a sketch showing the type of design they would prefer. This is reproduced above, and referred to in the architects' letter. The final result was the acceptance by the Council of the original design except for a diminution of the glass area in the staircase window. The accepted elevation is reproduced on page 457.

Letter from the Ruislip-Northwood Urban Council to Walter Taylor (Builders), Ltd., dated June 12, 1934.

PLAN No. 4179

DEAR SIRS,—My Council yesterday considered Clause 7 of the Arbitrator's Award (in respect of which you were good enough slightly to extend the period of 28 days), and passed the following resolution :—

That the Council require that Plan No. 4179 be modified as follows :—

(1) By the re-designing of the staircase wings so as
  (*a*) materially to reduce the area of glass therein, and
  (*b*) to reduce the height and the width thereof.

(2) By the re-designing of the bedroom windows so as to provide breaks in the continuity of the glass.

In this connection I have to state that, quite unofficially, a sketch plan has been prepared, which gives some indication of what the Council have in mind. If you think that it would assist you, we shall be very pleased for you or Messrs. Connell and Ward to inspect it here.

Letter from Connell, Ward and Lucas to Walter Taylor (Builders, Ltd.), dated July 3, 1934.

RUISLIP

DEAR SIRS,—On June 13 we called upon the Clerk to the Council, Mr. Gordon Taylor, in connection with the above, to discuss the modifications his Council set forth in their letter to you of June 12. We discussed these modifications in general and Mr. Gordon Taylor was good enough to let us take away the unofficial sketch plans prepared by the Council. We forwarded you a copy of that sketch plan on June 14.

We pointed out to Mr. Gordon Taylor that some of the modifications the Council required might materially affect our carrying out, both æsthetically and practically, your requirements as our client. For instance, we pointed out that their sketch plan appeared both

in construction and in architectural expression to be a brick house, with an external rendering, whereas you instructed us to design in reinforced-concrete with a sprayed or painted finish. Again, we pointed out the extent to which the Council's sketch plan limited the use of the flat roof and, that if the house were built to that sketch plan, discomfort and possible danger would be experienced in approaching the roof. However, we informed Mr. Gordon Taylor that we would take your instructions in the whole matter.

We now forward, under separate cover, drawings Nos. 51/12 and 51/13. The former being a coloured sketch elevation and the latter diagrams showing varying interpretations of the Council's requirements as to modifications. In these diagrams several features are marked in capital letters or numerals.

The coloured sketch elevation and Diagram E on drawing No. 51/12 shows the elevation we advise should be presented to the Council for their approval.

DIAGRAM A. Diagram A is a drawing closely following the sketch plan prepared by the Council and we consider the features marked, either are not suitable to the material in which you wish to build or are points where difference of opinion might arise as to their æsthetic justification.

For your deliberation the points marked are commented upon as follows :—

At A there is a likelihood of structural cracks through the stresses peculiar to reinforced concrete, unless special reinforcement is used. This would entail extra expense.

The points at B show " breaks " or " set backs " which would be difficult to arrive at with walls only 4 in. in thickness. These " set backs" could, of course, be provided, but only with the added expenditure for special shuttering, the thickening out of the walls in panels, etc., or by the use of external rendering. These " set backs" would provide lodgment for dirt and moisture. In our opinion they are unnecessary from an æsthetic point of view.

At C much the same remarks apply as for B and it is not shown on the Council's sketch plan how these lines are arrived at and how they return on the various planes.

At D is shown a moulded coping to the small balcony on the first floor. This moulded coping would have no return if the balcony side were left open, and would look unsightly in consequence. We consider it an added amenity to have the sides of the balconies open to allow sunlight into the rooms.

There would be difficulty in detailing the construction at point E where the head of the window comes up to a " set back."

At F the windows, while being standard in height, are not of standard units and also are not as practical as could be wished. The horizontal glazing bars interfere with the average eye level, make the windows difficult to clean, and involve additional and unnecessary painting. We consider that the fenestration of a room should make full contribution to ventilation, view, ease of cleaning and economy of upkeep. These considerations should come before any preconceived idea of appearance.

The architrave at G is an added expense and not in our opinion necessary.

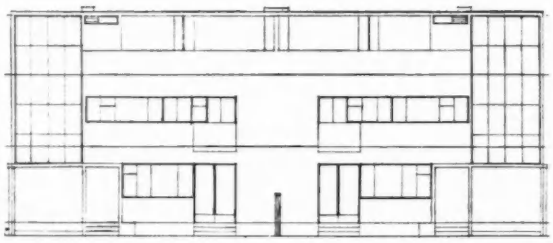
We do not think that the steps need be returned as at H. The return portions could hardly be used. We consider our provision for a flower box to be more practical and beautiful.

Garage Doors at J. We have shown these as flush doors as opposed to the moulded and glazed panel doors shown in the Council's sketch design, and indicated on the diagram for comparison, but this, we feel, is not of great importance.

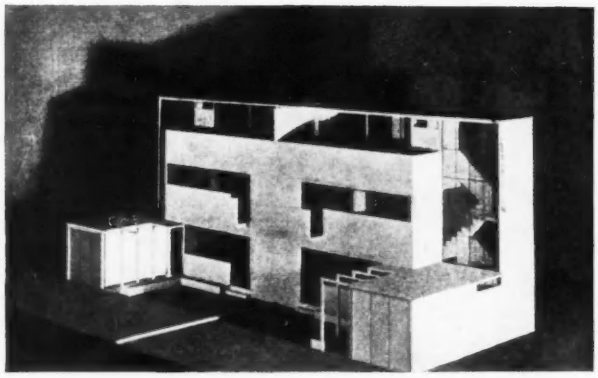
Flat Roof at K. The full use of this flat roof, which was one of your requirements, would hardly be practicable if the house were built to the Council's sketch design. The approach to it from the top of the staircase would be difficult and dangerous through the necessity of using steep stairs or a folding ladder and trap door. It will be necessary to have a chimney from the boiler, though this is omitted on the Council's sketch design. Without a hooded or protected part to the roof the maximum discomfort would be felt from the smoke from the chimneys. The party wall between the flat roofs should, we think, be retained. The elimination of the box-room or store interferes with your requirement for such an adjunct.

DIAGRAM B. This diagram has the original structure dotted over an outline of that of the Council's sketch design. You will note the variation in position and size of windows generally, and the alteration to the staircase feature. Apart from the fact that your requirements were for a bigger house than the Council's modifications provide, with a more full use in the amenities sense, the " scale " of the building, an ineffable quality in æsthetics, has been completely changed, the original being freer and more spacious in scale. The change, we consider, would have effect upon the sale of these houses.

DIAGRAM C. In this variation we still consider the question of cracking, at points marked L (dotted in the case of staircase features) to be of serious importance. Here and in the dotted outline on Diagram B may be pointed out evidence of our consideration of the particularities of reinforced



The elevation of the original design, rejected by the Council.



Model of the original design, rejected by the Council.

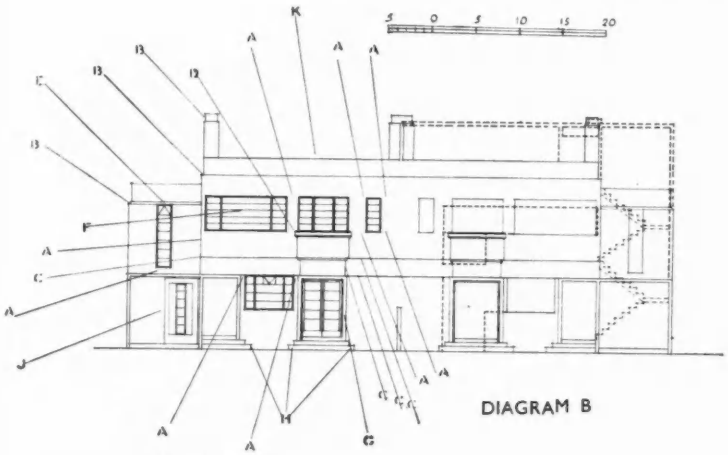


DIAGRAM A

DIAGRAM B

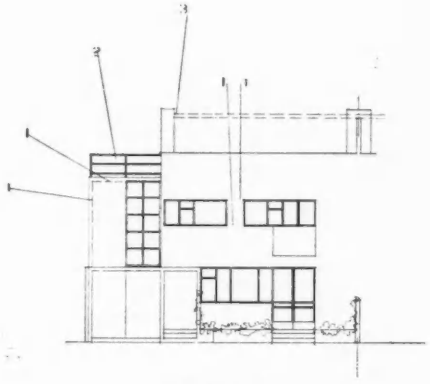


DIAGRAM C

This series of diagrams was drawn out by the architects and submitted to their client as an analysis of the Council's suggested modifications (see page 455) and a demonstration that progressive elimination of its faults in design and use of materials would result in an approximate return to the architects' original scheme. The diagrams and accompanying letter were passed on to the Council who eventually approved the design reproduced below.

DIAGRAM D

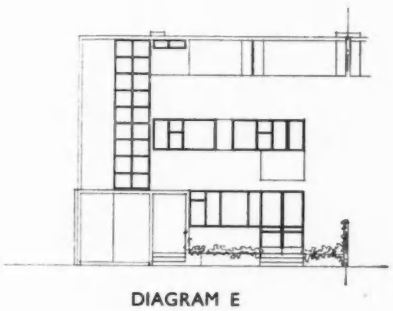


DIAGRAM E

concrete construction. At 2 we have shown railings to protect against danger of falling in approaching this flat and the flat roof.

At 3 is a dotted line to show how a hood or canopy, which, while being of practical use, has æsthetic value in tying the chimneys and party wall together.

You will note that we have simplified the detail generally and have halved the area of fenestration to the staircase. Also, we have reduced the length of the windows on the first floor, but reverted to the original height.

DIAGRAM D. Again remarks as to points 1 are as for points 1, Diagram C.

Here we have endeavoured to provide a proper stairs and cover for the approach to the flat roof. The result is not a good one. From the practical point of view the danger of cracking in the staircase feature is greater, shuttering is more expensive, and storm water more difficult to control. The canopy or hood over is as in the original design.

DIAGRAM E. This diagram, as we advise, is perhaps the best interpretation of the Council's requirements. You will note that the first floor windows have been enlarged in height to 3 ft. 6 in. as the Council's sketch plan shows a greater area of window on this floor than did our original design. The various features which you require, such as the box-room, remain. The staircase wings are reduced in area of glass by half. While the height is not reduced, you will see that the effect of the height is not the same. We do not consider it wise to reduce the size of the staircase, which has a reasonably easy "go." The bedroom windows are broken in their continuity as required by the Council.

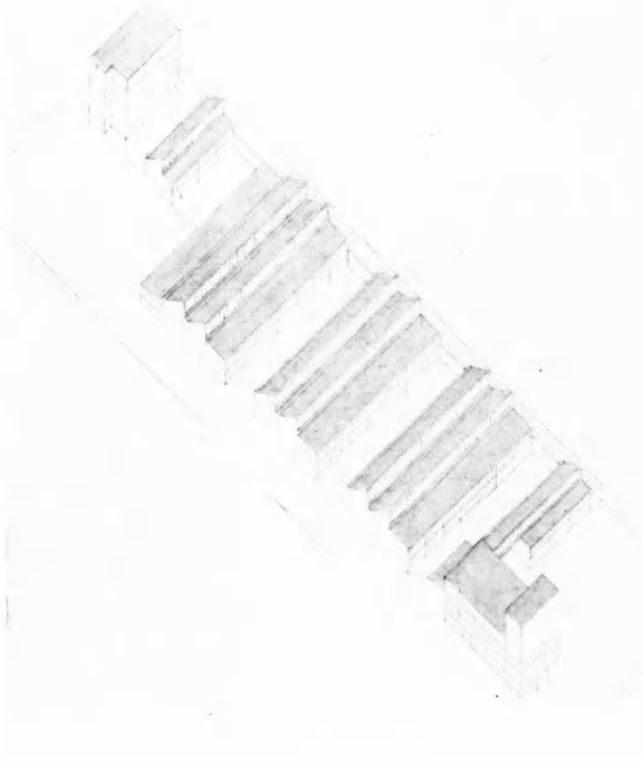
To overcome the question of cracking at the points indicated, we suggest that a panel of concrete or some other material be set in separately with a mastic joint. This is indicated on this diagram by lines. This suggestion was made to Mr. Gordon Taylor at our interview referred to above.

Should there be any further matter upon which we may advise you, or should you require us again to visit Mr. Gordon Taylor, kindly inform us.

The final outcome of the Ruislip case is the approval by the Council of the design whose elevation is shown below. It will be seen that the only considerable alteration from the original design is that the area of glass in the staircase window has been reduced. The Council therefore have proved themselves willing to accept an expression of modern architectural requirements when its logical basis has been explained to them. They have confirmed their more reasonable view by since passing without objection another and equally modern house designed by the same architects for an adjoining site.

The elevation of the final design as passed by the Council.

FACTORY AT CÖPENICK, BERLIN:

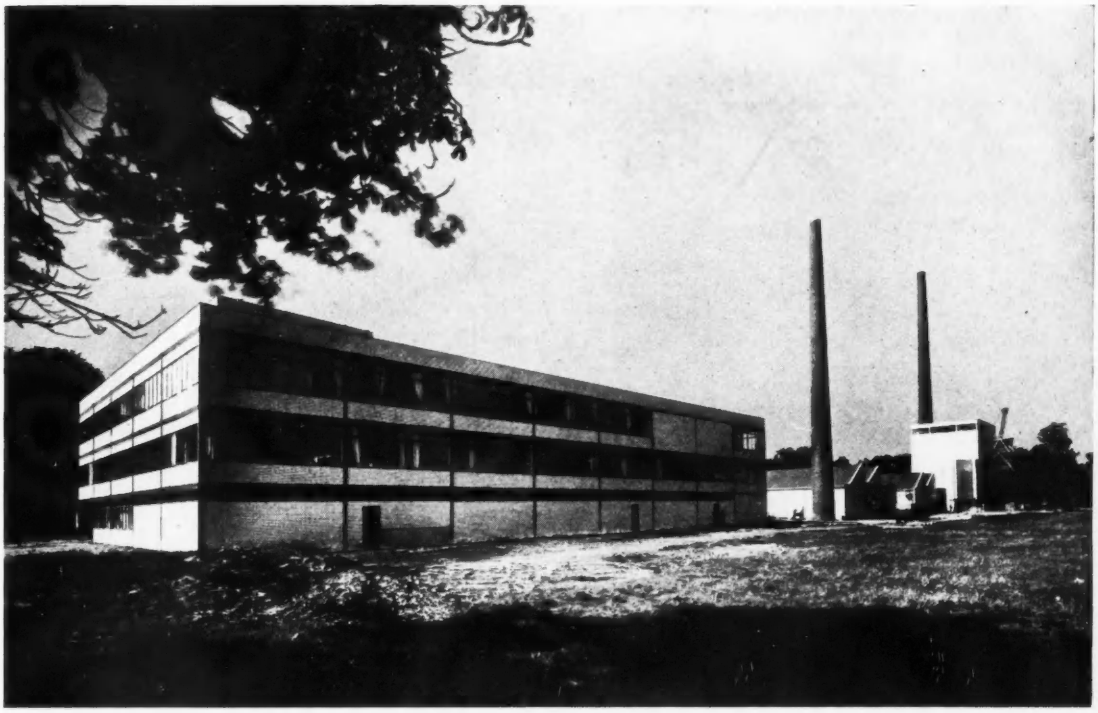


This self-contained factory occupies a long narrow site, 15,543 square metres in area, which has a very short street frontage on the Friedrichshagener-Strasse, the main road leading out of Berlin in a south-easterly direction. It stands in very pleasant country among chestnut and fruit trees, with one side facing a public park. A low enclosed exterior corridor, 145 metres long by 4 metres broad, runs the whole depth of the site, uniting the various buildings, each of which required to be separated from those next to it by open courtyards for technical reasons.

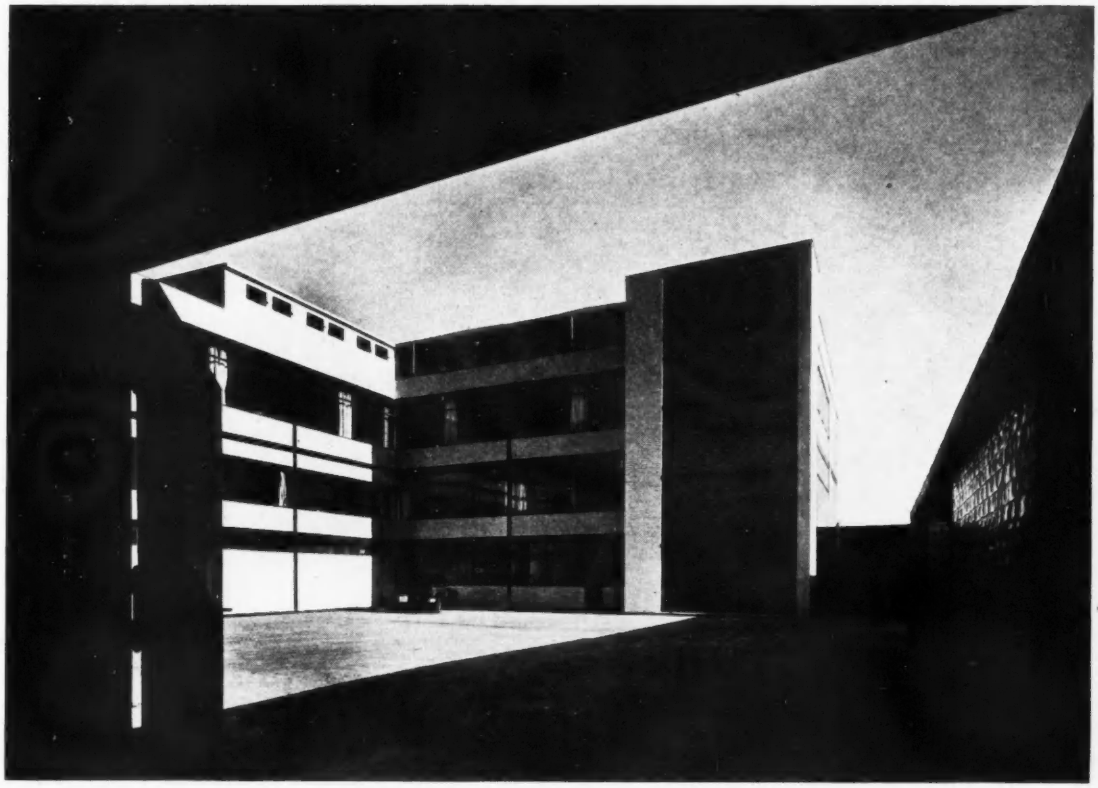
The first of these buildings, the administration block, of which a photograph is reproduced above, faces the road to one side. It is a 4-storey, steel-frame structure constructed with the steel sections left fully exposed on the exterior, the very slender stanchions being placed at 7-metre intervals. The first three floors house the clerical staff, and contain the directors' offices and board rooms, etc., besides the boxing and packing departments. The set-back top floor consists of two 4-roomed flats surrounded by a wide roof terrace. The exposed sections of the steel frame-work are painted scarlet and the metal casements engine grey, the infillings being of white lavatory bricks having a highly glazed surface.

On the left is the architect's drawing of the complete scheme.

DESIGNED BY ARTHUR KORN



The east (rear) elevation.

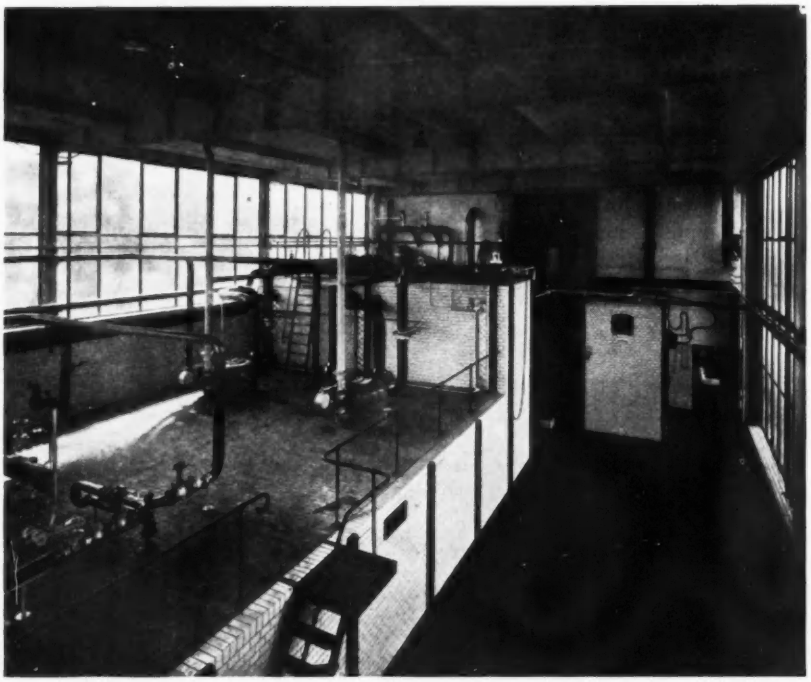


Looking across the courtyard at the rear of the administration block.

FACTORY AT CÖPENICK, BERLIN

1

2



3

DESIGNED BY ARTHUR KORN

At the end of the covered corridor, which runs the length of the site uniting the various buildings, is the engine-house. This also contains the refrigeration and air-conditioning plant; a uniformly maintained temperature and automatic ventilation being essential for the processing methods employed.

In between the administration building and the engine house the three factory bays proper are disposed. These are one-storeyed concrete structures of shed construction (transverse saw-tooth roofing), so as to avoid intermediate supports and simplify any desired future subdivision of their floor space. The factory produces rubber goods and owing to the sensitiveness of rubber to both sunlight and heat, and the exigencies of the various manufacturing and finishing processes used, north lighting was deliberately adopted.

This factory is a model of organized social welfare. Its show rooms are its all-electric kitchens, its rest and recreation rooms, its refectory and infirmary. The corridors have glass walls, and the two staircase towers of the administration block have each one wall built entirely of glass bricks. The photographs show: 1, the staircase in the administration building; 2, the main corridor; 3, the engine room.

PLAN THE BUILDING EXHIBITION
OPINIONS OF EXHIBITORS

Last week we published a number of replies to an enquiry we had circulated among exhibitors at Olympia, asking their views on the advantages of a planned Exhibition. Below we print a further selection of replies. The first one is from Mr. H. Greville Montgomery, the organizer of the Exhibition. Our letter to exhibitors was as follows :

DEAR SIR,—" When it is seen how great are the advantages of employing an expert to solve this problem, then exhibitors will insist upon its being done. We believe that the organizer, Mr. Greville Montgomery, is alive to the fact that the Building Exhibition would be a more valuable thing if it were laid out according to the architect's idea of order and planning. It is, we understand, the attitude of the exhibitors themselves which prevents this much-needed organization. We ourselves are exhibitors in a humble way, and we do not hesitate to say that we would welcome a planned exhibition, even if it meant that our exhibit was placed in what we might consider a more unfavourable position. What do the other exhibitors think about it? We would be glad to know."

This paragraph is taken from the leader in our issue of September 6, which deals with the desirability of replanning the Building Exhibition, and which represents, we believe, the point of view of the architectural profession. May we ask you whether your firm is in favour of re-organizing the Exhibition or leaving it as it is?

H. GREVILLE MONTGOMERY
(Organizer of the Exhibition)

I am in favour of a sound planning scheme for the Building Exhibition, and I have been instrumental in persuading a number of exhibitors to employ architects for the designing of appropriate stands. If you can so plan Olympia that you do not upset—in a double sense—any of my exhibitors, I shall be more than pleased.

CHANCE BROTHERS AND CO., LTD.
(A. Lindsay Foster, director)

As it would only be possible for the Company's opinion to be given following consideration by the Board, it is necessary on this occasion to limit the reply to an expression of personal expression by myself.

I do not know what is actually implied by " planning " in this case, but judged by results in another case with which I am familiar I should decide against exhibiting.

"THE ARCHITECT AND BUILDING NEWS"

I have no doubt the proprietors would gladly allow and welcome the use of architects' ideas of order and planning if these architects would guarantee to the proprietors a greater satisfaction among the exhibitors.

Personally, I feel it to be a great mistake to subordinate to any more general rules than are necessary an exhibition whose interest lies in individual displays.

WILLIAMS AND WILLIAMS, LTD.

We entirely agree that the suggestions you make are worthy of the co-operation of all interested in the building trade.

VENESTA, LTD.

The problem at an exhibition that the maker of products for the building industry has to solve is how best to give the information he wishes to give in as pleasant and easy a manner as possible. The problem is divided into two sections : first, the exhibit must be suitably placed so that the visitor can find it easily and conveniently ; second, that having found the stand it must be so designed and operated that he can obtain information with as little delay as possible. The exhibitor in his individual capacity cannot solve the first problem, but the second he can solve to a considerable extent.

In view of the large number of architects who visit the Exhibition, the method that Venesta applied in attempting to solve this second problem was to ask the architect himself to design the stand in the belief that he would display the various products and the information about them in the way that he himself would wish to find them. This policy was started in 1930, when we had the privilege of having a stand designed by Le Corbusier, Jeanneret and C. H. Perriand ; later by Mr. Wells Coates, and in the present exhibition by Mr. Skinner, of Tecton.

We believe that these three stands have solved the second problem as far as the individual exhibitor can solve it, but it has become increasingly evident that unless the stands are grouped in some order or plan the exhibition itself will become progressively less useful to the visitor and, therefore, to the exhibitor. Visitors appear to be more and more jaded and less ready to receive the information we wish to give. It is significant that other exhibitors appear to be experiencing a similar tendency, and unless this very important affair is made more convenient and interesting it will certainly lose its importance as one of the principal periodic events in the building industry.

I agree, therefore, that our experience is similar to yours and that in order to obtain the full value from such exhibitions the manufacturer will have to give a small amount of his freedom of action in order to obtain greater value from the Exhibition itself and, therefore, from the space that costs him so much.

SCAFFOLDING (GREAT BRITAIN), LTD.

Having had experience in the provinces of architecturally designed planning, we are of the opinion that from a strictly commercial point of view (which we think you will agree is most important to the exhibitor) the present arrangement is more satisfactory.

LEE AND FOURACRE

We should endeavour to fall in with any scheme which would lead to a better arrangement of the exhibits.

SMITH AND WELLSTOOD, LTD.

There are always two points of view : some exhibitors prefer individuality and others have no objection to their being herded into a composite whole. Most exhibitions are interesting to the visitor because he wants to see the articles that are being offered for sale. In the old days some exhibitors whose articles were so well known that they did not require to be displayed, made a point of making their stand an outstanding feature in order to attract

attention. One finds that particularly so in connection with the display of well-known brands of food. A firm who wishes to display their bricks would obviously make the most impressive display if they built something in brickwork. They would most strongly object to having their bricks placed in an uninteresting manner in what might be termed a showcase. A firm displaying roofing tiles might wish to co-operate with a brick maker and have a joint exhibit in the form of an attractive hut or cottage.

Goods such as we make do not require an elaborate erection to display them to advantage, they can be shown quite as well in a stand similar to all other exhibits; and, in fact, we ourselves favour stands of a simple outward appearance so long as the name is prominent and the goods are displayed to advantage.

If an exhibition is to appeal to the general public, such as the Ideal Home Exhibition, it is outstanding side shows that are displayed and advertised to attract the masses, just as a shopkeeper will advertise some special stunt in order to get crowds to his emporium. The organizer of an exhibition has to think first of attracting crowds, because without the crowds the exhibitor will not take space. Furthermore, the exhibitors want to be assured that people who are likely to be customers are going to attend. The organizer of an exhibition is, therefore, the man who must in the first place decide what style of exhibition or what general planning is likely to attract the largest number of visitors.

ELECTROLUX LTD.

We are definitely in favour of the Exhibition being properly planned. On the other hand I can quite appreciate that there are enormous difficulties to be surmounted in bringing such a change about, due to so many of the older exhibitors having shown their goods on the same site and in the same manner for so many years.

JOHN KNOWLES AND CO. (LONDON), LTD.

We are assuming that possibly your question arises because of what has been done in the way of standardizing stalls and the plan of the Ideal Homes Exhibition and such Exhibitions as the North London Exhibition at the Alexandra Palace.

We would say in our own humble opinion that it would be quite impossible similarly to plan standard stalls to suit the timber merchant, the roof tile manufacturer who wants to show his own type of roof, the brick maker who wants to erect a building and so on. On the other hand, we are not experts and it is not for us to say definitely that by the careful thought of the architect, who should be expert in such matters, that it would not be possible to make the Exhibition somewhat more ordered in arrangement than it is at present.

There is always a possibility that the introduction of this order would make the Exhibition less attractive besides making it less effective to the exhibitor. Here again we can only make the suggestion. Before passing any decided opinion one way or the other we should rather like to see some definite ideas put on paper that would indicate what sort of a job the architects would make of it. With our limited vision we are not very hopeful of their success, but they might be able to do better than we imagine.

On reading over this letter in consultation, we are reminded that, even at the Ideal Homes Exhibition, where something has been attempted on the lines you suggest, that particular section of the Exhibition which deals with the type of goods with which our Exhibition is most concerned is still architecturally uncontrolled. Presumably, because the architects have been unable to tackle the problems satisfactorily.

W. H. COLT (LONDON), LTD.

I feel that the Building Exhibition does not lend itself to planned standardized stand fitting. Standardization in exhibition work is sound where the commodity exhibited is a comparatively small unit. In the case of the Building Exhibition many of the exhibits are of such a type that to confine them within standardized facias and pilasters would materially restrict the value of the display.

PEERLESS KITCHEN CABINETS, LTD.

Although we have not had great experience of the planning of exhibitions, it rather seems that it would be distinctly possible to utilize to greater advantages the valuable floor space of Olympia if the Exhibition were replanned under modern systems and attention was paid to the prominence of the individual stands.

We would add, however, that we are perfectly satisfied with the space which has been allotted to us in the present Exhibition.

PRESTCOLD REFRIGERATORS

We are quite in favour of the exhibition being reorganized and laid out more to the architect's idea of planning.

A. JOHNSON AND CO. (LONDON), LTD.

We are in entire agreement with the views expressed in your leading article, as we feel that, undoubtedly, were the Exhibition to be controlled on the lines of the Ideal Home Exhibition, a far greater number of architects would attend. At the same time, we feel that this article would have had far greater results had it been published immediately after the Exhibition, and would not have run the risk of keeping architects away from this Exhibition. In the meantime, we hope you succeed in your efforts to improve the 1936 Exhibition on the lines of your article.

R. VERNON, LTD.

We consider there is room for a great deal of improvement in the order and planning of the Building Exhibition. We do not approve of the stereotype lay-out and colour of the stands, but we certainly think that there should be more uniformity. Undoubtedly the Ideal Homes Exhibition is in every way far superior to the Building Exhibition.

THE SUSSEX BRICK COMPANY, LTD.

In the main we are ourselves not in favour of a planned Building Exhibition, and it would, therefore, depend on the architect's type of reorganization that was proposed as to whether we were in favour of it or not.

We would just take the opportunity of mentioning that, in our opinion, the Exhibition is held at the wrong time of the year, and should be in the spring rather than in the autumn.

PEGSON, LTD.

Our personal experience gained at the British Industries Fair has been that sectionalizing an exhibition is good, providing there are definite signs indicating where each particular section can be found. Such signs should be clearly visible from every portion of the hall. Whilst the British Industries Fair is planned upon the lines of which we approve, indication of each section is not sufficiently clear.

As far as the Building Exhibition is concerned we feel that not only should it be sectionalized, but there should be a definite ruling limiting the height of each stand. If an exhibition stand be treated in the same way as a newspaper or trade paper advertisement, there could be no complaint that one stand overshadows another. In the trade paper advertisements one dimension is fixed, whilst the other two dimensions depend on the amount of money spent. The same thing should apply to an exhibition. The maximum height of the whole of the exhibition should not exceed a given figure, such figure being limited by the height which can be obtained where the roof or balcony is lowest in the hall. An example of an intelligently planned exhibition was to be seen at the Advertising Exhibition last year.

Whether it is a question for an architect to deal with, or for a body of display men such as the National

Display Association, or for a body of advertising men, such as the Advertising Managers' Association, is a matter for consideration. Whilst the architect is fully competent to lay out the ground space, possibly selling, and the design of the stand for that purpose, does not altogether come under his category. Selling, after all, is in the province of the advertising man and the display man. Perhaps the best solution of the points raised by you would be obtained by collaboration between the three groups.

We are sure that the organizers fully appreciate the disadvantages of the present hetrogeneous arrangement and the disadvantage of stands which tower above and detract from neighbouring stands. We shall be only too glad to co-operate with you in any endeavour to rationalise this exhibition.

GLAZED CEMENT COMPANY, LTD.

We consider that the balance of advantage lies in the choice of positions being left in the hands of the exhibitors.

THOMAS LAWRENCE AND SONS

We are in sympathy, to a large extent, with what you suggest, viz. : that the Building Exhibition would be more valuable, and appeal more to architects, and the public generally, if the lay-out were better arranged, and the different trades kept more or less in sections.

The writer is personally well known to Mr. Montgomery, and will be seeing him several times during the Exhibition, and will take an early opportunity of discussing the matter with him, and in this way learn his views, and possibly be able to make some suggestion. At present the different trades are so very much mixed up that, to some extent, one exhibit rather spoils the effect of another, and this, naturally, would be well if it could be avoided.

THE NUTBOURNE BRICKWORKS, LTD.

We have given careful consideration to the query raised in your letter *re* a planned exhibition, and we feel that re-organization on the lines indicated would be of great advantage to the exhibitors. Unfortunately the space of which we are able to avail ourselves does not give us a very large vote in this matter.

THE AQUAMELLIS ENGINEERING CO., LTD.

Whilst we agree to a certain extent that a planned exhibition is more orderly than one which is unplanned, we do not favour the former, as it does not allow the exhibitor to express his own ideas in the form in which he would offer them to the public. Given a free hand, an exhibitor can plan an outstanding exhibit and attract the attention to which he is entitled, having paid his fees for the use of the Exhibition Hall.

FREDERICK TIBBENHAM, LTD.

Your letter raises an interesting point because, in fixing up our own stand, one of the first impressions we obtained of the hall was that the lay-out was chaotic and undignified. We are certainly strongly of the opinion that it could be planned in a more coherent fashion, even if the exhibitors' designs were not subject to some supervision.

J. SAGAR AND CO., LTD.

We do not know quite what is in your mind with regard to the Building Trades Exhibition, but as very old Exhibitors, we should naturally be interested in anything that would improve the Exhibition.

WILSON BROS. (LEEDS), LTD.

We should be in favour of any re-arrangement which we think would be an improvement, such as grouping, as far as possible, the various types of exhibits. In this connection you will notice that the makers of woodworking machinery are mainly in the Annexe.

AUSTINS OF EAST HAM, LTD.

Whilst we may be in agreement with the contents of your letter, we do not think that regular exhibitors should be called upon to express an opinion which might lose them favourable space before the suggested lay-out plan is tendered for their approval.

FREDERICK BRABY AND CO., LTD.

We may say that we are not altogether in favour of the suggestion in the paragraph you reprint, although it might be of some advantage if some of the plans were submitted to architects, although, of course, a great number are now. We do not think that the whole Exhibition would be improved much by being entirely in the hands of architects ; we think it would rule out the individuality and would probably do away with competition and individual ideas to a very great extent.

CANADIAN GOVERNMENT EXHIBITION COMMISSION : *Department of Trade and Commerce of Canada.*

While for exhibitions of some descriptions a great deal can be done to enhance the general appearance through planning the lay-out and by uniformity in design of all stands, it seems to me that a Building Exhibition presents rather marked difficulties in this respect, especially so far as the uniform design of stands is concerned. This is due to the fact that a great many exhibitors wish to construct their own stand, not only according to their own design, but according to designs which suit their own particular product. However, as I understand the general trend of the paragraph you quoted, the idea is to lay out the Exhibition, as a whole, according to some order with regard to the nature of exhibits, although I believe this is already done to some extent. The only suggestion which I can make at present is that some consideration might be given to uniformity of the height of stands, perhaps the highest might be confined to the centre of the Hall and graded out to lower stand to meet the requisite height underneath the Galleries. This, together with an ordered plan of the location of exhibits according to their nature, seems to me as far as you could expect to go with a Building Exhibition.

RANSOMES AND RAPIER, LTD.

We agree with the view expressed in the paragraph you quote and would be in favour of reorganizing the Exhibition on the lines suggested.

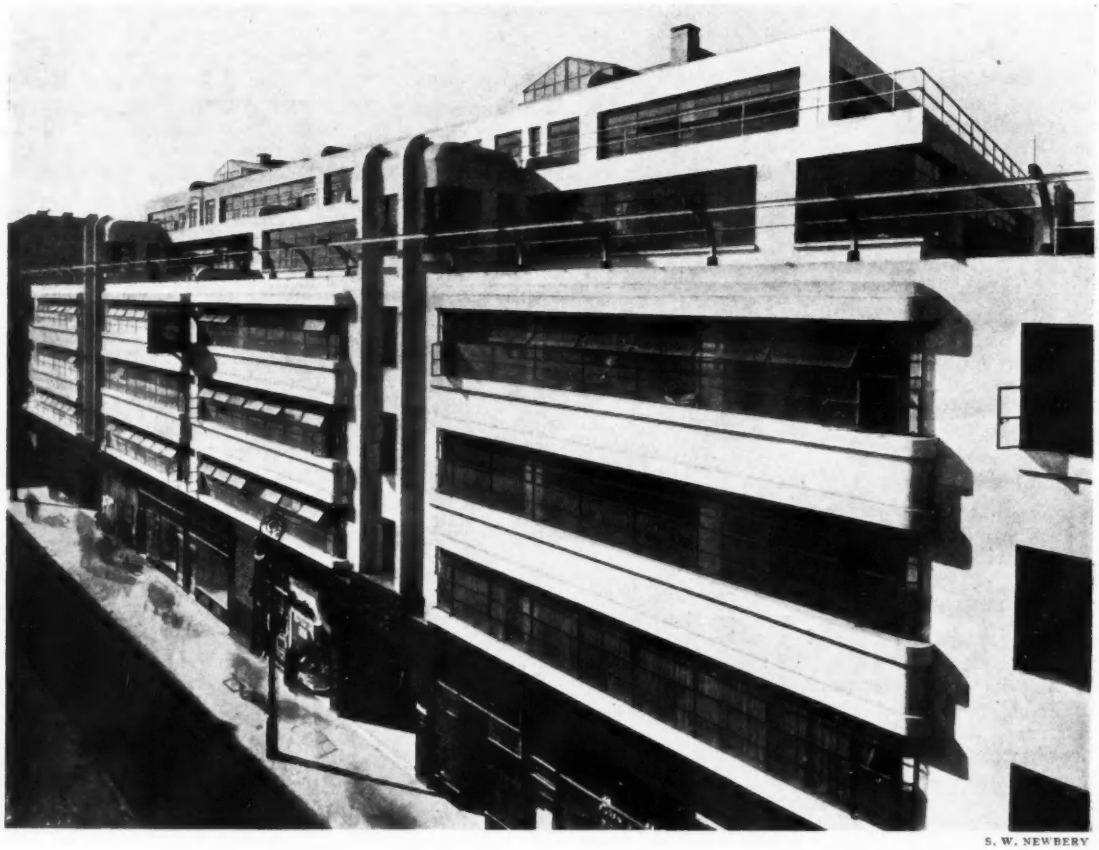
NETTLEFOLD AND SONS, LTD.

The question raised is a large one and somewhat difficult to answer without knowing the degree to which it is proposed to carry the planning. If the suggestion is that the Exhibition should be grouped according to the categories of articles displayed, we think there is much to be said in favour of it, as it would doubtless add considerably to the convenience of visitors who were particularly interested in any one type of exhibit. We do not, however, think that it is either desirable or possible, in view of the extremely varied types of exhibits, to insist on any sort of uniformity in the actual stands themselves. Further, our own experience has been that uniformity of this kind is only too apt to result in greatly increased cost to the exhibitors without giving them the background that they feel to be most suitable for the display of their type of goods.

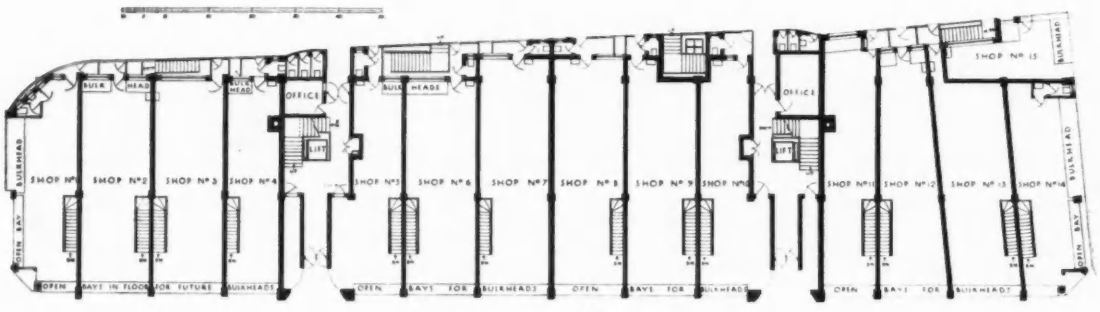
It has to be borne in mind that the Building Exhibition is intended primarily for those concerned actively in the building trade, either as architects, builders, manufacturers or distributors ; it is not primarily intended to attract the general public, and features that would be suitable for a public exhibition might well be out of place at a trade exhibition.

[*Further letters from exhibitors on this subject will be published next week.*—ED., *A.J.*]

COMMERCE HOUSE, MIDDLESEX



S. W. NEWBERY



GROUND FLOOR PLAN

This office building has been erected on an oblong site formerly occupied by slum dwellings. The main façade (bottom of plan reproduced above) faces Middlesex Street, and the side elevations overlook Aldgate Avenue and New Street. At the rear is a private road.

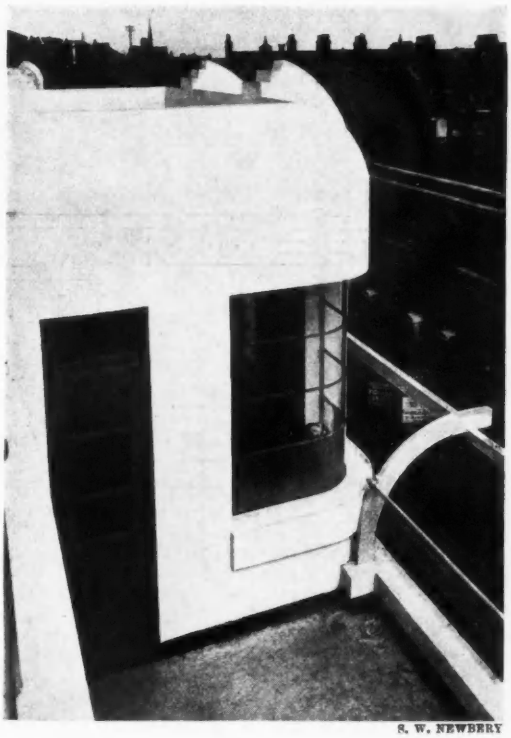
The building is of steel frame construction. Externally, up to first floor level, it is faced with polished glazed cement, with stainless steel lettering, and above, with "off white" glazed cement. Steel windows have been used, the sashes being painted green. The roof is covered with asphalt.

The ground floor contains fifteen shops, and the five upper floors are devoted to offices.

Above is a view of the Middlesex Street façade.

STREET, ALDGATE, E.C.

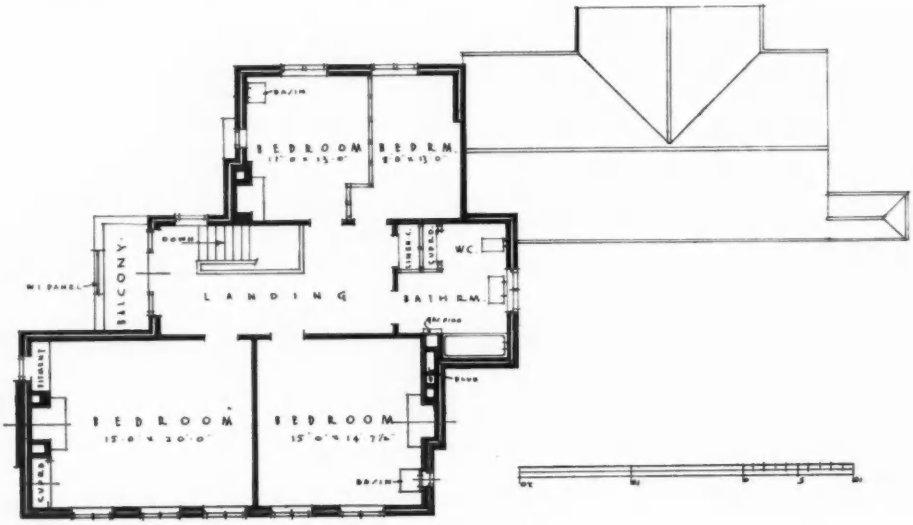
DESIGNED BY H. VICTOR KERR



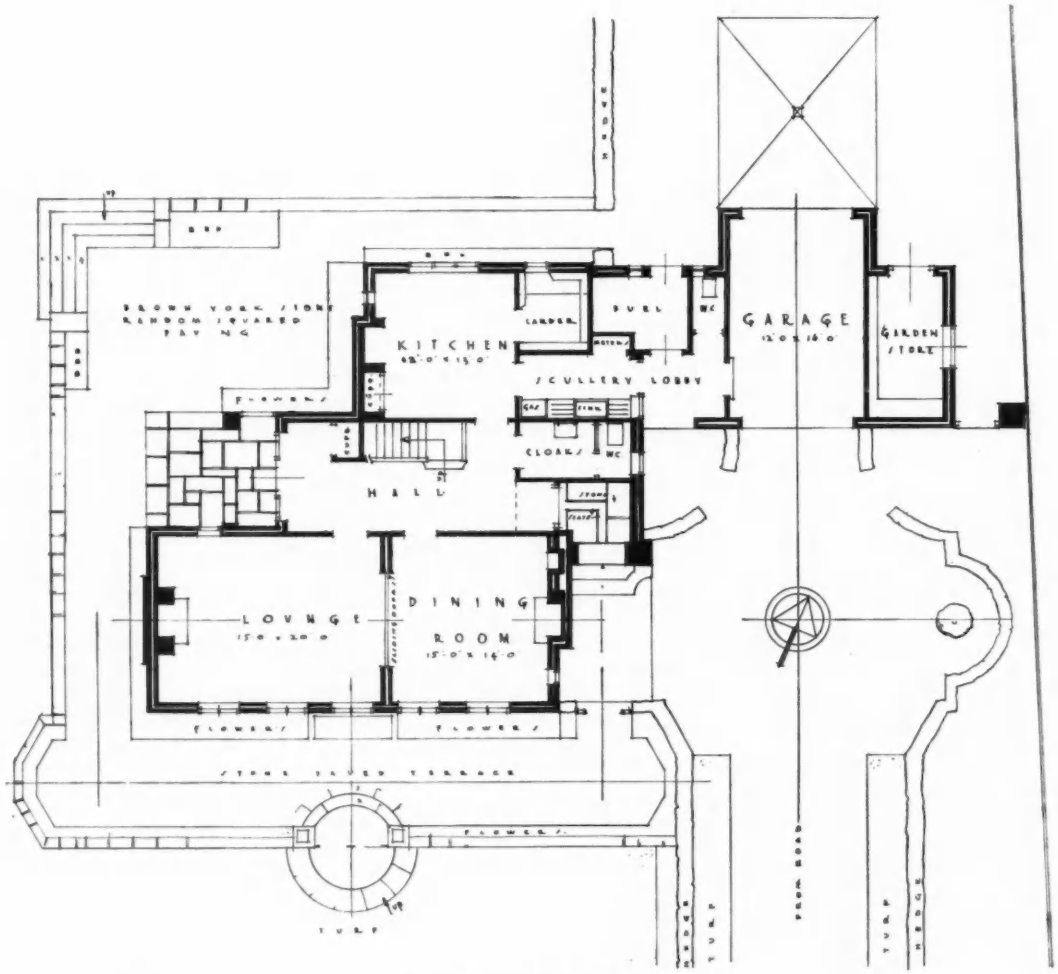
S. W. NEWBERY

The photograph reproduced at the top of this page is a view looking along the Middlesex Street elevation at fourth- and fifth-storey levels. Above is a detail photograph of the exit doors on the fourth floor, showing a part of the gantry; and, on the left, is a worm's-eye view of one of the two entrances in the main façade.

HOUSE AT HAGLEY, WORCESTERSHIRE:

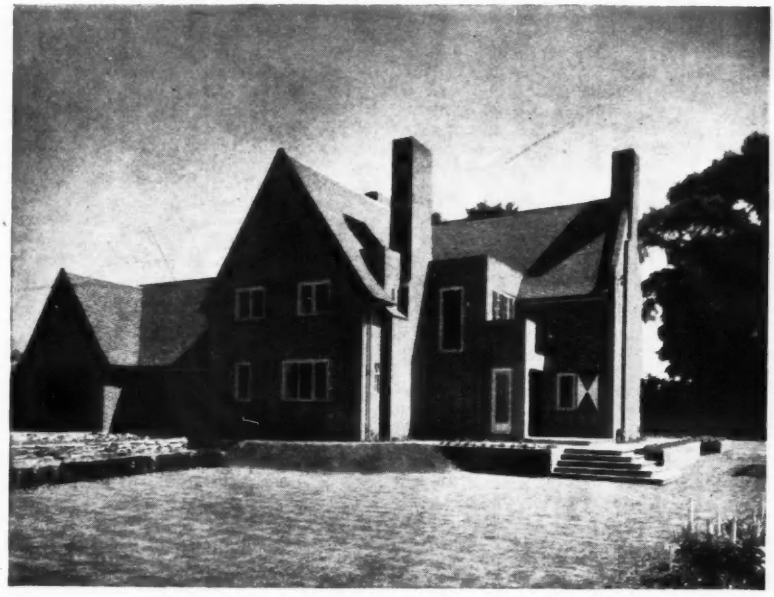


FIRST FLOOR PLAN



GROUND FLOOR PLAN

BY FOLKES AND FOLKES



This house was built for a client who possessed a limited site and stipulated that he should have as much uninterrupted use of it as possible. The architects therefore decided to restrict the "traffic" to and from the house to one side of the site, hence the grouping of entrances, garages, etc , at one end. Another stipulation was a balcony to command a fine view looking west ; and a loggia was also desired.

The walls are of 12 in. cavity construction. The facings, in Sussex bond of 2¼" local bricks, are a brown-red colour with flush joints. Standard metal windows are set in painted wood frames ; and the roof is covered with red hand-made sand-faced tiles. Above is a view from the north-west.

IN THAT CONTINGENCY

The following abstracts of inquiries represent a number of those recently submitted to the Building Research Station. The information given in the replies quoted is based on available knowledge. It has to be borne in mind that further scientific investigations may in the course of time indicate directions in which the replies might be supplemented or modified. Moreover, the replies relate to the specific subject of each inquiry, and are not necessarily suitable for application to all similar problems. Crown Copyright reserved.

Use of Expanded Metal Lathing for Plastering on Ceilings

¶ *A FIRM of surveyors stated that, in order to avoid the possibility of ceilings falling or cracking badly, they proposed to use expanded metal lathing in place of the usual wood laths. Advice was sought as to whether this was likely to achieve the desired result, and whether any precautions should be taken to avoid staining.*

Cases of fallen ceilings are the most common building troubles of which reports are received at the Station, and the great majority are found to be due to the shearing of the keys of a weak lime plaster. The plastering material it is proposed to use in this instance is not stated, but there is little doubt that this is of greater importance than the choice of lathing.

The traditional material for plastering on ceilings was lime and sand with the addition of hair. A non-hydraulic lime has, however, no chemical set and depends for hardening on drying out and subsequently on the slow process of carbonation on exposure to the carbon dioxide in the atmosphere. If each coat is allowed ample time to dry thoroughly before the next is applied and is undisturbed by vibration during this period, adequate strength to support the ceiling can be obtained. In former times this was usually possible, and successful work was carried out in lime plaster. But under modern conditions, sufficient time is rarely allowed between successive coats for the development of strength and, in addition, the undercoat is frequently subjected to vibrations during its critical early life owing to the presence of other trades such as plumbers, electricians, etc., while plastering is in progress.

As a result of the great number of reports received of failures of lime plaster ceilings, and taking into account the change in conditions of building, it is now recommended that for plastering on lathing on ceilings a material should be used which has a definite chemical set, and one capable of developing adequate strength at an early age.

It is acknowledged that the failures usually reported occur in cases where wood laths have been used, and definite information on lime plastering applied to expanded metal lathing is not available. It seems likely, however, that the reason for fewer failures with metal lathing is that this is much less frequently used, rather than that it has especial merits for this purpose. It is recommended, therefore, with expanded metal as with wood lathing, that a plaster having definite setting properties should be used rather than a straight lime-sand mix.

It should, perhaps, be pointed out that the addition of hair in the proportions commonly employed nowadays provides little or no strength to the set plaster, its function being to assist in application by reducing droppings and also in the formation of well-shaped keys.

Satisfactory early strength can be obtained by gauging a lime undercoat with Portland cement or by using certain calcium sulphate plasters. Portland cement mixes tend to shrink in drying, and under unfavourable conditions they are likely to crack and may even cause cracking of the key necks ; such mixes, therefore, are rather less satisfactory than the calcium sulphate plasters, which may actually undergo a small net expansion during setting. Owing to the danger of corrosion, however, caution is necessary if calcium sulphate plaster is used on metal lathing. This danger will be referred to again below.

Calcium sulphate plasters are of two different classes (*a*) Anhydrous, (*b*) Hemihydrate (Plaster of Paris). Hemihydrate plasters are obtainable with retarded set and in this form are suitable for use in undercoats. Only certain of the anhydrous plasters could be used in this way and, in the absence of a British Standard Specification, or of any generally accepted classification, it is necessary to obtain the advice of the manufacturers as to the suitability of any particular plaster for use in undercoats.

If a less hard finish is required than would be obtained with a calcium sulphate plaster and one which would probably be less expensive, lime may be used with a gauging of cementitious material. For this gauging, the retarded hemihydrate type of calcium sulphate plaster is suitable but, owing to the accelerated set of the plaster when used in conjunction with lime, certain precautions are necessary. A note on the subject of gauging lime plasters with this type of calcium sulphate plaster has been prepared and copies may be had from the Building Research Station. This note includes details of the proportions suggested.

With regard to cracking : any first undercoat of lime or of lime gauged with plaster is almost sure to crack either on wood or metal lathing. If this coat is allowed to dry and crack before applying a further coat, the latter should be relatively, though not necessarily entirely, immune from cracking. Although a richer mix is required on metal lathing, which tends to increase the shrinkage, it is not impossible that cracking of plaster over expanded metal would be less than that over wood laths which themselves are bound to move to some extent when wetted.

With regard to staining : metallic lathing made of iron is naturally likely to rust if not completely covered and if in a damp situation. The tendency to rust is largely inhibited if free lime is present. If totally covered in lime or cement mortar, the risk of rust staining is negligible, but calcium sulphate plasters, particularly the so-called "Keene's cement," which have a small quantity of an acid accelerator added during manufacture, accelerate the rusting of iron, and the iron rust stains may penetrate for some distance, producing unsightly discolourations. Such plasters should not therefore be used in direct contact with expanded metal lathing, but they may be used for finishing if the lathing is embedded in a first undercoat of Portland cement or cement and lime mortar. Lime plaster gauged with a calcium sulphate plaster is, however, generally protective for a very long time if kept dry.

To summarize the points discussed above :—

1 : The nature of the plastering material is

of greater importance in ensuring the safety of ceilings than the nature of the lathing. A material capable of developing strength within a few hours should be used.

2 : Though it is possible that expanded metal might form a better base for lime plaster than wood laths, it is very doubtful whether this alone would ensure safety, and we recommend a material as above for use with either type of lathing.

3 : Rust stains should not develop if a lime or gauged lime plaster is used and if this does not subsequently become wet. There is a danger of corrosion if calcium sulphate is used in direct contact with ferrous metal.

Mortars for Pointing Brickwork

¶ *A FIRM of builders required coloured mortars, particularly in light shades, for pointing the brickwork of houses in an estate where facing bricks of various colours were being used. They assumed that a mortar of Portland cement and sand would be the most weather resistant, and sought information as to the merits of white or coloured Portland cement-sand mixes as compared with other mortars.*

It is scarcely possible to reply to this inquiry without discussing the mortar used for setting the bricks. In general, it may be taken that if a separate material is to be used for pointing, this should not be denser than the jointing mortar.

Investigations in progress at the Station indicate that a number of advantages may be derived from the use of a lime or gauged lime mortar rather than a dense Portland cement mortar. These advantages may be summarized as follows :—

1. The weather-resisting properties of the wall are superior.
2. The likelihood of efflorescence occurring on the surface of the brickwork is reduced.
3. The weathering qualities and durability of the brickwork are improved.
4. A more workable mixture may be obtained.

It is found that moisture seldom penetrates a brick wall through capillary channels in the body of the bricks themselves, but more often by way of fine hair cracks in the joints or between the jointing material and the brick. Such cracks are found to occur less with lime than with cement mortars. In addition, the more porous lime mortar will more readily absorb any water which may enter by cracks before it has penetrated the wall.

The crystallization of soluble salts on the wall surface, which is the cause of efflorescence, is usually objected to on account of its unsightly appearance on a brick surface, but it may also lead to the disintegration of the bricks.

The choice of a mortar has considerable bearing on the question of efflorescence. For instance, less soluble salts may often be introduced by a lime mortar than by cement mortar. Also, a dense impermeable mortar causes all the salts, both from the bricks and the mortar, to crystallize on the face of the brick, whereas with a porous mortar the salts are more likely to be deposited mainly on the joints. In this way there will be less disfigurement of the wall, and the salts are only able to injure the mortar, which is more easily replaced than the bricks.

It is considered, therefore, that a pointing of Portland cement and sand is itself likely to be more permanent than one of lime, yet nevertheless its use tends to lessen the life of the wall as a whole.

A non-hydraulic lime having no chemical set does not develop high strength, so that in cases where heavy loads are to be carried it may be necessary to use Portland cement in conjunction with very strong bricks. In ordinary small domestic building, such as is here under consideration, the mortar acts principally as a bedding material to take up irregularities in the bricks, and no high degree of strength is required. Sufficient strength may be obtained by using a moderately hydraulic lime suitably handled, or a non-hydraulic lime gauged with a small proportion of Portland cement.

A suitable mortar in this instance would be one consisting of non-hydraulic lime and sand, gauged with cement in the proportion of 1 part cement to 3 parts lime by volume. The proportion of sand to cement and lime combined should be about 3:1 by volume, but this would depend on the quality of the sand, the degree of workability required, and also, to some extent, on whether lime putty or dry hydrated lime were used. Although different limes vary considerably in workability, as a general rule a lime putty has a higher sand-carrying capacity than a hydrated lime.

If a separate pointing material is required a similar mix may be used.

The question of colour is one which cannot be gone into in detail without more knowledge of the requirements. The colour of the joint depends largely on the method of finishing. Thus, with a weathered or struck joint which is compressed into the joint with the flat of a steel trowel the colour of the cementing material which is brought to the surface will be predominant. If the joint is struck off flush or finished in such a way that a more open texture is obtained, the colour of the sand will influence the final appearance. The latter finish is preferable from the practical point of view, and is often considered desirable for appearance.

A mortar composed as above, if mixed with a light coloured sand and finished with an open texture, would probably give as light a colour as required, though, if desired, a white cement could be used for gauging. Other colours could be obtained by the addition of pigments or by the use of coloured cements for gauging, due attention being paid to the colour of the sand used.

Corrosion of Steel Joists embedded in Breeze Concrete

¶ *A FLAT roof had been constructed some twenty years ago with rolled steel joists and concrete composed of coke breeze and Portland cement. The roof was covered with asphalt.*

A recent examination revealed bad corrosion of the steel joists ; the webs were almost entirely destroyed and the flanges laminated. Over and along the steel joists cracks were found which had been filled with a bituminous composition suggesting that rain water had penetrated at some time.

Other flats constructed at the same time with similar materials appeared, from a superficial examination, to be sound.

Information was sought as to the cause of the corrosion and whether the penetration of water had played a part.

Without doubt the corrosion of the steel joists was primarily caused by the breeze concrete. This subject is fully dealt with in Building Research Special Report No. 15, "The Corrosion of Steel by Breeze and Clinker Concretes," which may be obtained from H.M. Stationery Office, Adastral House, Kingsway, London, W.C.2, price 6d. net.

Breeze and clinker aggregates contain varying proportions of sulphur compounds such as sulphides, and these seem to be the constituent responsible for the attack. Tests have been made on the corrosive properties of coal residues having sulphur contents varying from 0.24 per cent. to 1.62 per cent., and the degree of rusting produced has been found to be roughly in order of sulphur content. In addition to the presence of sulphides, etc., oxygen and moisture are involved in the process of corrosion, but the structure of breeze and clinker concrete is such that a sufficient supply of these is generally provided. These concretes are usually much more porous than a good quality of sand or ballast concrete, so that an abundant access of oxygen, which is a necessary participant in the reaction, will occur. Furthermore, it has been found that corrosion may occur quite independently of the access of liquid moisture to the concrete. Breeze, and to a less extent clinker, can absorb moisture from the atmosphere, so that there is progressive rusting of embedded steel under apparently dry indoor conditions.

Practical experience and laboratory investigation alike show the undesirability of using coal residue in concrete which is to be used in contact with, or reinforced by, steel. The best type of clinker we have been able to procure, well-fused and containing only 0.24 per cent. of sulphur—much below the average content—is slightly corrosive.

Marked access of liquid moisture to a breeze concrete will increase the rate of corrosion, and we agree that cracks in the asphalt roof would hasten the attack. It is not impossible that the cracking over the joists may have been due to the rusting of the steel, since this involves a marked expansion.

Although other roofs constructed of similar materials show no signs of unsoundness we think it would be well to make a close examination. As pointed out above, the penetration of liquid moisture through the asphalt is not a necessary prerequisite to corrosion. There is also the possibility of some condensation of moisture on the underside of asphalt roofs, and this may be a factor in the present case.

●

The Architectural Museum of Kolomenskoye

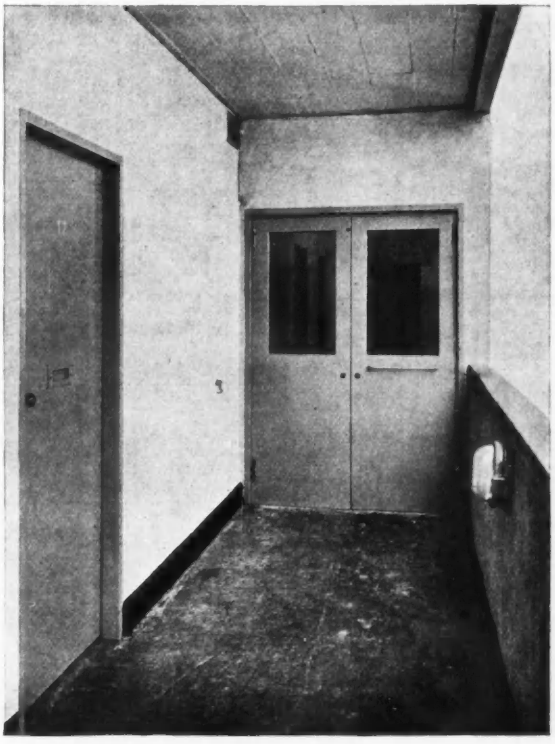
The wooden house in which Peter the Great lived during his three visits to Archangel, to watch the building of the Novodvin fortress, is to be transported to Moscow in the near future to be erected in the out-of-doors architectural museum at Kolemenskoye.

Kolomenskoye was one of the imperial suburban estates. It is situated five kilometres south of Moscow on the high bank of the Moscow River. With the passing of centuries the little village has accumulated a wealth of architectural monuments. On the estate are two exceptionally good examples of Russian architecture—the Church of the Resurrection (1531) and the Church of John the Baptist (1529). The first was built by Russian masons after the style of Russian wooden architecture. (The Church of St. Basil in Moscow, put up twenty years later, was built on the same lines.)

The Sokolin Tower, built in the seventeenth century, is an interesting museum of Russian art, chiefly in wood. Among the articles exhibited is a model of the seventeenth-century wooden palace at Kolomenskoye.

WORKING DETAILS : 125

MISCELLANEOUS DETAILS • FLATS IN HAMPSTEAD • WELLS COATES

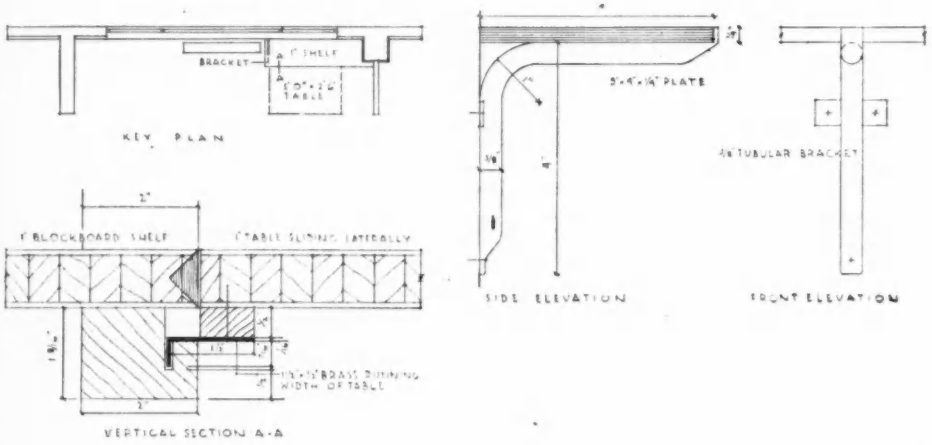


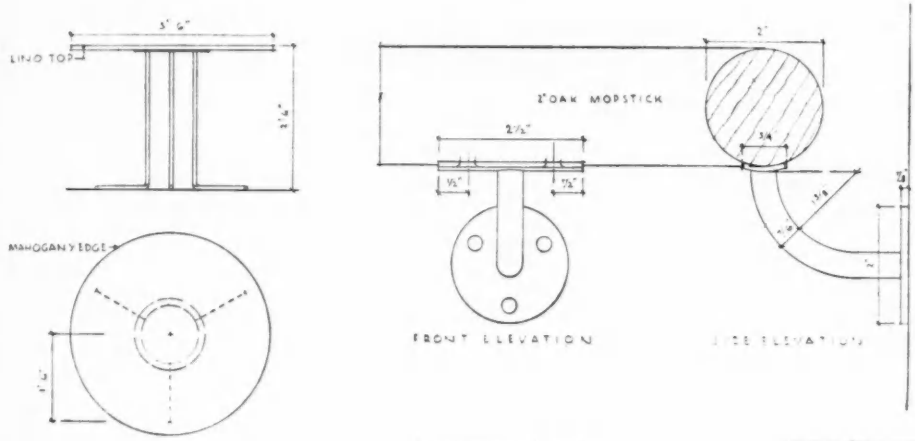
Overleaf are drawings of a number of miscellaneous equipment details from Lawn Road Flats, Hampstead : a sliding table, which is a standard fitting in the " minimum flat " (see photograph above) shown in section through the slide ; a circular free-standing table of steei and laminated wood ; the support for glass shelving in bathrooms, etc., consisting of metal tubing bent to form a bracket with its end flattened and formed into a lip keeping the shelf in place ; and the standard staircase hand-rail in circular oak section supported by metal brackets.

The metal door-trim is also shown with methods of finishing. It is used for all the flat entrances, as in the photograph on the right.

WORKING DETAILS : 126

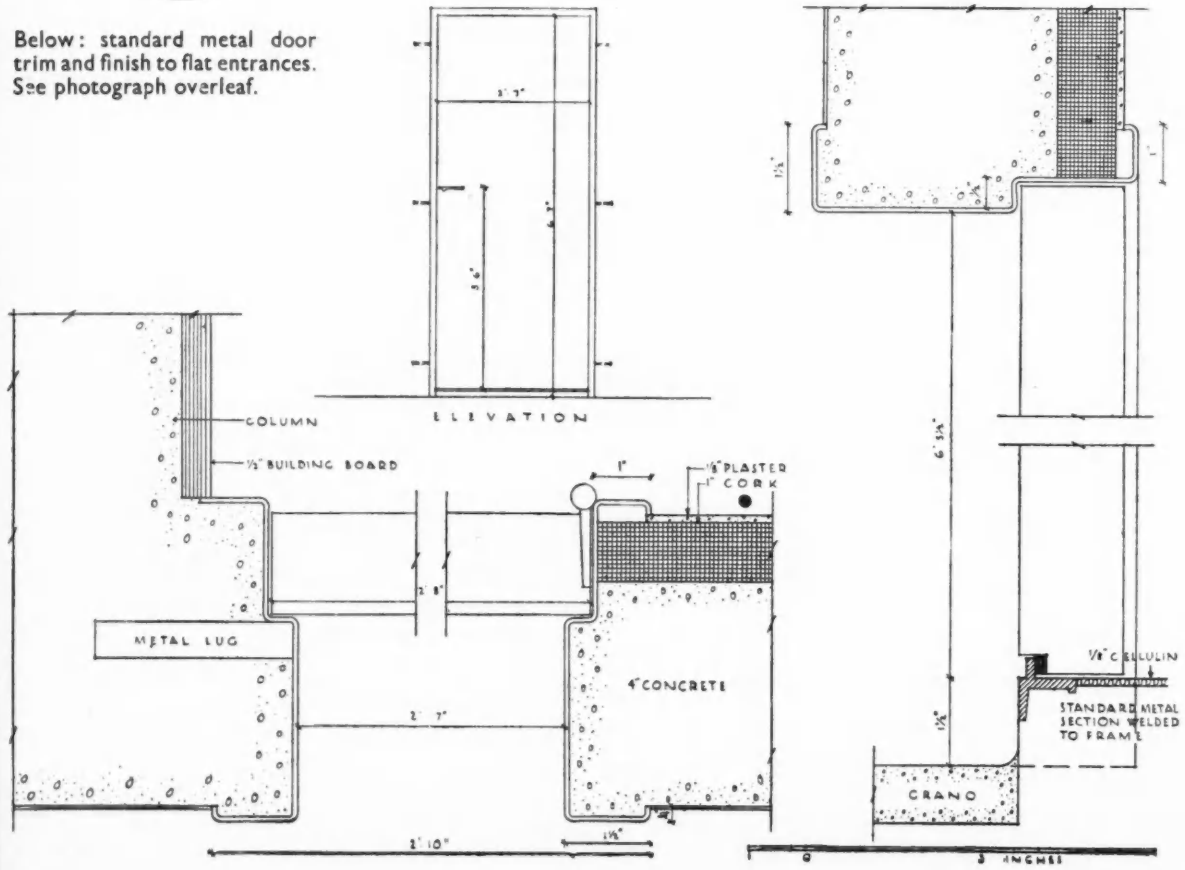
MISCELLANEOUS DETAILS • FLATS IN HAMPSTEAD • WELLS COATES





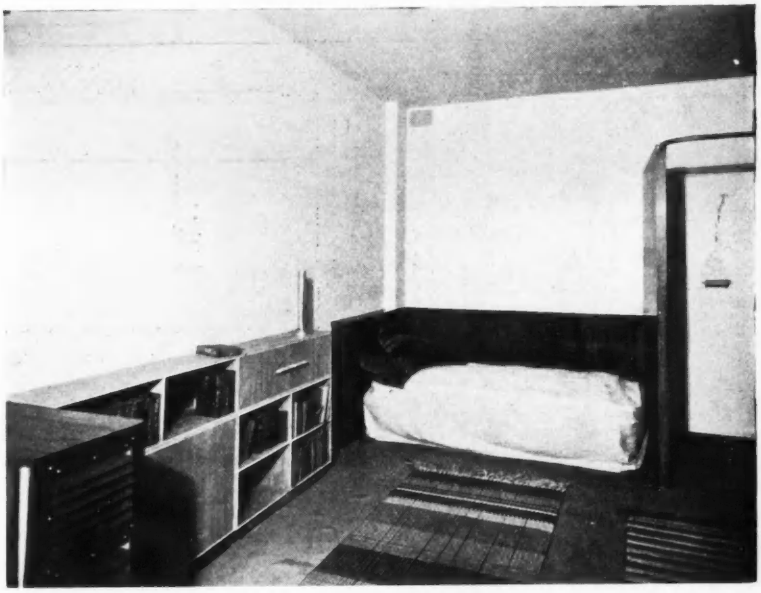
Left : some equipment details from Lawn Road Flats, Hampstead : sliding table, free-standing circular metal table, glass shelving and handrail. See description overleaf.

Below : standard metal door trim and finish to flat entrances. See photograph overleaf.



WORKING DETAILS : 127

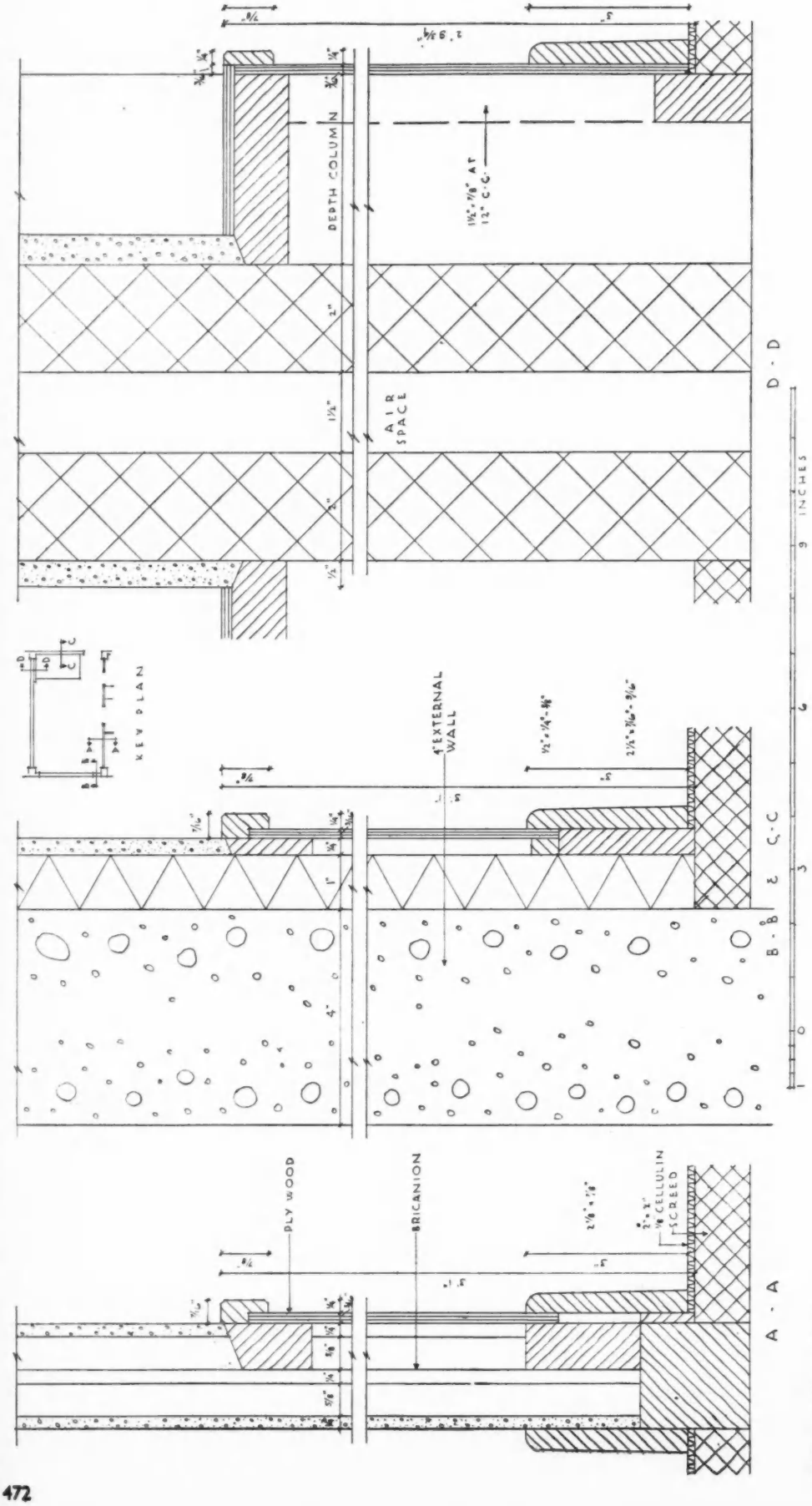
PARTITION WALLS • FLATS IN HAMPSTEAD • WELLS COATES



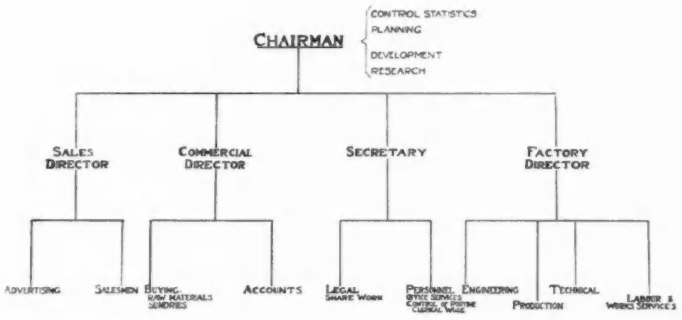
In and between the " minimum flats " in Lawn Road Flats, Hampstead, various types of partition and wall finish are used, according to position. Overleaf are sections through each of the four walls of the living room, two of them being structural and two non-structural. Above is a view of the living room.

WORKING DETAILS : 128

PARTITION WALLS • FLATS IN HAMPSTEAD • WELLS COATES



Sections through each of the four walls of the standard living room in the "minimum flat" at Lawn Road, Hampstead. See key plan, also on this page, and photograph overleaf.



TRADE NOTES

[*BY F. R. S. YORKE, A.R.I.B.A.*]

Office Equipment

IN a paper delivered at the National Conference on Office Management, and reported in *Industry Illustrated* for September, 1934, Mr. S. Hamilton Price stressed the importance of the organization of the office, which, he said, had in England taken second place, whilst the emphasis had been on organization in the factory.

•

In the first place office planning must be such that routine clerical work is all under the control of one office manager. The offices should be contained in one building, preferably in a single, large and open room, with a portion at one side partitioned off for machines for work including typing, calculating and duplicating. The office work should progress from one department to another without going backwards and forwards. Space should be allowed for increases in business and an estimate of such increase formed at the outset. There should also be additional accommodation for dealing with sudden rushes of work, such as that entailed in special advertising campaigns, general circularizing of customers, and stocktaking.

•

The general lay-out should be such that the main central office is sectionalized into groups, determined by the classes of work handled; each section arranged for sequences of operations, in progressive order; but in view of the fact that it is essential to keep all machines as fully occupied as possible, the whole of the machine work for all sections will be pooled. Machines will not be attached to individual clerks, but those wanting machine work done will send it to the part of the machine room alongside their section.

•

The opposite side of the main room to that allotted to the machines is suggested as filing space for all departments.

•

Fifty to 60 sq. ft. per person is suggested as adequate, this including space for passages, and any small cabinets that may be required by certain individuals.

•

A typical lay-out of routine work is given thus :—

1 *Purchases and Supplies*
Enquiries.
Requisitions.
Orders or contracts.
Traffic and delivery instructions.
Stores records.
Invoices.
A.P.V.

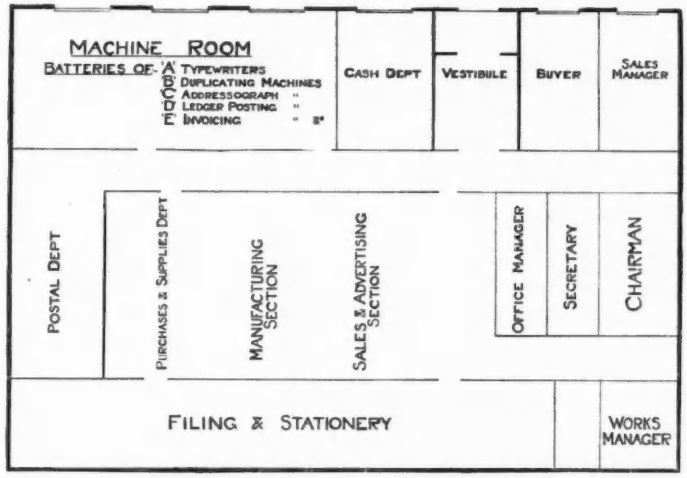
2 *Manufacturing*
Stock records.
Plant records.
Time and wages records.
Operating and production ledgers.
General works returns.
Assembly of works figures.
Labour statistics.
Works employee dockets.

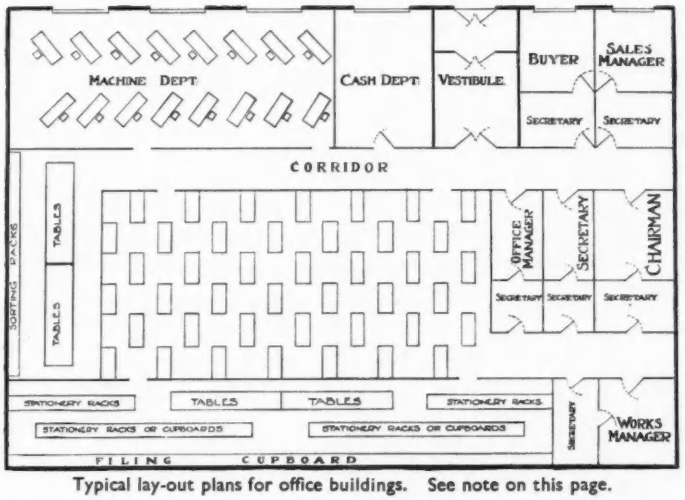
3 *Sales*
Stocks and deliveries.
Invoicing.
Ledgers.
Statistics.

4 *Cash.*
Receipts—Sales.
Sundries.
Payments—Wages and salaries.
Supplies.
Sundries.

Copper

The Copper Developments Association, which was formed in 1933 by the principal members of the British Copper Industry, includes among its activities the collection and dissemination of all kinds of information





Typical lay-out plans for office buildings. See note on this page.

relating to copper and to materials containing copper.

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With this object in view, it proposes to issue from time to time publications dealing with the technical and other aspects of the use of copper and its alloys in their many industrial and scientific applications.

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This month a nicely produced book entitled *Copper Through the Ages* makes its appearance, and although much of the historical information it contains may be of no direct practical use, it is of sufficient general interest to warrant recording in a permanent form.

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Considerable quantities of copper have been used in the past for such purposes as gutters and flashings, particularly during the eighteenth century and onwards, and although in England, in more recent years, copper has been too expensive for general purposes, its use for gutters and down pipes is accepted as a matter of course in Central European countries.

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At the present time the world-wide use of copper for such purposes is rapidly increasing, for in addition to its advantages from a technical point of view, its use results, since the recent fall in prices, in an important saving not only in first cost, but also in maintenance charges.

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For many years, on account of its exceptional resistance to corrosion and fouling, it has been necessary to employ copper for water pipes in the interests of health wherever the nature of the water is such that it may react to a serious and sometimes dangerous extent with other metals. The employment of thin walled tubes, the introduction of simpler jointing methods, and the present-day low price of copper, are factors which have combined to render available generally those advances in the technique of plumbing which have hitherto often been considered as luxuries. The corrosion resisting properties of copper tube, its smooth bore and the ease with which it can be installed are advantages which make it particularly suitable for use also in connection with drainage systems.

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Another purpose for which copper tubes are now being used to an increasing extent is conduit to contain the wires of electrical installations. For this purpose copper is cheap to instal, and since it is not subject to rusting or other deterioration, it provides a safe and permanent installation. The Bank of England is, I understand, being fitted throughout with copper tubing.

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Copper is also a useful material when applied as a metal facing to plywood, in which form it is found to provide a solution to many sheathing and structural problems. Among the many other uses for copper, bronze and copper alloys generally are: masonry cramps, wall ties and damp-courses, window-frames, shop window and similar fittings, balustrades and railings.

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At present about one-half of all the copper produced is used in the electrical industry, where it is employed mainly in the form of bars, wires or tubes for conductor purposes, although large quantities are also used in alloy form, such as brass for instrument and machine parts, bronze springs and castings, and in non-magnetic materials.

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Unlike many other metals, copper is not only easy to fabricate, but it can be jointed without any difficulty by soldering, brazing or welding. This characteristic is of the greatest importance not only in the jointing of electrical conductors, but also in the joining of copper water pipes, and similar operations.

The Stand of Aga Heat, Ltd., at the recent Building Trades Exhibition. Designed by Mrs. Darcy Braddell.

In 1931, only 17 per cent. of the copper imported into Great Britain was of Empire origin, but in the following year the proportion was increased to 40 per cent., while in 1933, 55 per cent. of the imported copper was produced within the Empire and it is probable that the proportion will continue to increase.

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The development of new sources of supply and the introduction of more efficient production methods have resulted in a very material reduction in the price of copper, which has recently been lower than at any time for at least 150 years.

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

Following are the names of the general contractors and some of the sub-contractors for the buildings illustrated in this issue :—

Chesham House, S.W.1 (pages 451-453). General contractors, W. H. Gaze and Son, Ltd. Quantity surveyor, A. J. H. Sprague. Sub-contractors : Hammond Bros. and Champness, lifts ; Troughton and Young, electrical ; Crittall Manufacturing Co., windows ; J. H. Nicholson & Co., Ltd., heating ; W. N. Froy and Sons, Ltd., sanitary fittings ; Rippers, Ltd., staircase fixed, and joinery ; The Plumbing Guild, Ltd., cold water supply ; Plastering, Ltd., plastering ; James Clark and Son, Vitrolite and glass finishings to bathrooms ; F. A. Norris & Co., Ltd., iron staircase ; Shaws Glazed Brick Co., faience ; N. F. Ramsay & Co., Ltd., door furniture ; Ragusa Asphalt Paving Co., Ltd., asphalte ; Horsley Smith & Co. (London), Ltd., oak flooring ; Bratt Colbran, grates ; Peter Jones, carpets, etc. ; Loft Ladders, Ltd., ladders ; Greenham Demolition Co., Ltd., demolition.

Commerce House, E. (pages 464-465). General contractors, Commercial Structures Co., Ltd. Sub-contractors : Alfred Williams & Co., Ltd., artesian well ; Synclocks, Ltd., clocks ; Rashleigh Phipps & Co., Ltd., electrical work ; Gas Light and Coke Co., gas ; Norris Warming Co., Ltd., heating ; Incinerator Co., incinerator ; Nettlefold and Sons, Ltd., ironmongery ; Garton and Thorne, Ltd., letter boxes, handrail to main stairs and lift enclosures ; J. and E. Hall, Ltd., lifts ; Turner-Hall & Co., Ltd., cement glazing ; Stuart's Granolithic Co., Ltd., reinforced concrete stairs and finish ; Fireproof Shutters and Doors, Ltd., double iron doors ; Fredk. Braby & Co., Ltd., iron staircases ; Matthew T. Shaw & Co., Ltd., steelwork ; G. Jennings, Ltd., sanitary fittings ; Sturtevant Engineering Co., Ltd., vacuum cleaning plant ; Crittall Manufacturing Co., Ltd., windows and borrowed lights ; Haywards, Ltd., lantern lights ; Crittall Manufacturing Co., Ltd., metal sashes ; Palmer's Travelling Cradle and Scaffolding Co., Ltd., cradles ; S. W. Farmer and Son, Ltd., letter chutes and roof guard rails.

House at Hagley (pages 466-467). General contractors, J. M. Tate and Son. Sub-contractors : Ducatt Heating Co., Ltd., heating and hot water ; Page and Bloomer, lighting and bells ; Charles R. Davies and Sons, Ltd., stonework ; Charles Dickens and Sons, Ltd., and K. S. Neale (Birmingham), wrought ironwork ; Hume Atkins & Co., Ltd., metal lamp ; Parker, Winder and Achurch, Ltd. ; sanitary ware and other fittings ; Essanbee Plaster Co., Ltd., lead r.w. heads ; G. T. Rackstraw, Ltd., panelling and mantelpieces ; Henry Hope and Sons, Ltd., windows ; J. W. D. Pratt, Ltd., tiles ; Mobberley and Perry, Ltd., bricks ; Bakers, Codsall, garden work.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

LEWISHAM. *Swimming Baths and Library.* At its meeting on 12th inst., the B.C. is to consider further the report by the joint Baths and Libraries Committees, and the comments of the Finance Committee thereon, regarding the proposed construction of swimming baths at Downham, at an estimated cost of £57,027, and a public library at Downham, at an estimated cost of £14,845.

SHOREDITCH. *Dwellings.* The Housing Committee of the B.C. reports that it understands that it is proposed by the L.C.C. to redevelop the Oakford Place and Haggerston Road clearance areas (Nos. 1 and 2) by the erection of five-storey block dwellings, and that it is anticipated that 260 dwellings, containing about 900 rooms and 26 shops, can be provided. The scheme will also allow for the widening and improvement of Haggerston Road, and for the closing of a number of narrow streets.

SHOREDITCH. *Tenements.* The Housing Committee of the B.C. reports that as authorized by the Council it obtained tenders for the erection of a block of dwellings, comprising six two-roomed flats, 12 three-roomed flats, and six maisonettes, and accepted the tender, £11,377, of Messrs. Mattock Brcs. for the work. The Committee has under consideration a report from the borough engineer suggesting an alteration in the plans for the buildings, providing for 12 two-roomed flats and 18 three-roomed flats, leaving out the maisonettes, and thus providing 30 tenements instead of 24 as in the original scheme. The estimated additional cost is £800. After careful consideration the Committee accordingly recommends that the plans be amended to provide the 30 tenements as suggested by the borough engineer and that the Council's previous resolution be varied accordingly.

SOUTHERN COUNTIES

NEWPORT (I.O.W.). *Housing.* The Corporation has purchased land at the price of £700, at Spring Gardens, Gunville, for housing purposes.

NEWPORT (I.O.W.). *Houses, Shops, etc.* Plans passed by the Corporation: Dairy and garage, Mew's Lane, for Mr. W. Jellis: two houses, Alderbury Road, for Mr. F. H. Jolliffe: shop, bakery, stores and offices, Carisbrooke Road, for Mr. F. Chiverton. Plans submitted: Six houses, Trevor Road, for Mr. J. H. Slater.

SWINDON. *Houses.* Plans passed by the Corporation: Six houses, Cricklade Road, and four houses, Liddington Street, for Messrs. Bishop and Fisher; four houses, Carlisle Avenue, and three houses, Cheyney Manor Road, for Messrs. E. H. Bradley and Sons; two houses, Downs View Road, for Messrs. Pope Bros.; four houses, Scarborough Road, for Mr. E. W. Beard.

NORTHERN COUNTIES

BLACKPOOL. *Town Planning Scheme.* The Corporation has considered an amended density plan for the Warbreck Hill estate, submitted by Messrs. R. Fielding and Son, and agreed to the area being divided into four land units in accordance with the provisions of the town planning scheme. The Town Planning Committee of the Corporation is to make a survey of the borough with a view to making recommendations for the zoning of sites as open spaces.

BLACKPOOL. *Appointment.* At the General Purposes Committee of the Corporation the Town Clerk reported that as instructed he had communicated with the Royal Institute of British Architects requesting the nomination of an expert to examine and report upon the suitability or otherwise of certain sites for a proposed new town hall, and that the President of the Institute had nominated Professor S. D. Adshead, F.R.I.B.A., as such expert. The Council accepted the nomination, at a fee of 200 guineas.

BLACKPOOL. *Stadium.* The Aerodrome Committee of the Corporation has referred to the General Purposes Committee for further consideration the proposal to proceed with the scheme for the erection of a stadium in the vicinity of the aerodrome.

BLACKPOOL. *Cloakrooms, etc.* Mr. J. C. Derham, on behalf of the Blackpool Winter Gardens and Pavilion Co., Ltd., has submitted plans to the Corporation for the erection of cloakrooms and conveniences in Leopold Grove.

BOOTLE. *Houses.* The Corporation is to prepare a scheme for the erection of houses in Aintree Road.

BOOTLE. *Church.* The Bethel Evangelistic Society Incorporated is to erect a church at Breeze Hill.

CARLISLE. *Shops.* The Corporation has agreed to sell shopping sites at Lediard Avenue, Currock House estate, to Mr. J. Armstrong and to Messrs. Johnstone and Parkin.

CARLISLE. *Pleasure grounds.* At the Estates Committee of the Corporation the town clerk reported that the Ministry of Health had issued formal approval to the appropriation of about 13 acres at the Newtown-Raffles housing estate for the purposes of public walks and pleasure grounds.

CARLISLE. *Houses, Shops, etc.* Plans passed by the Corporation: Eight houses, Orton Road, for Messrs. J. Laing and Son, Ltd.; four washhouses, London Road, for Messrs. Benwell and Slack; shops, Orton Road, for Border Engineering Contractors, Ltd.; house, Scotland Road, for Messrs. A. Blakeley and Sons; new premises, Lowther Street, for Mr. F. Martindale, on behalf of Messrs. D. Thomson and Sons, Ltd.; estate layout, Knowefield estate, for Mr. I. Graham, on behalf of Messrs. J. Laing and Son, Ltd.; two houses, Beechwood Avenue, for Messrs. A. Blakeley and Sons; two houses, Upperby Road, and six houses, Manor Road, for Mr. R. I. Hoodless; two houses, Knowefield Avenue, for Messrs. A. Blakeley and Sons; four houses, Brunton Crescent, for Mr. F. Martindale, on behalf of Mr. E. J. Hill; land development, London Road, for Messrs. Cavaghan and Gray, Ltd.; six houses, Percy Road, and four houses, Dalston Road, for Mr. S. W. B. Jack, on behalf of Messrs. J. Laing and Son, Ltd. Mr. Gilbert Hill, through his solicitors, Messrs. Clutterbuck, Trevenen and Mawson, has purchased land at Uppersby Road from Carlisle Corporation for the erection thereon of 20 houses.

CARLISLE. *Roads.* The Corporation has acceded to a request from the Border Engineering Contractors, Ltd., for the Corporation to take over roads on the Inglewood building estate, which is in course of development by the company.

SOUTH SHIELDS. *Houses and Shops.* Plans passed by the Corporation: Two houses, Newcastle Road, for Mr. F. W. Wills; shop, Moore Avenue, for Messrs. J. H. Morton and Son; six houses, West Avenue, for Messrs. R. Thornton and Sons; 11 houses, Banbury Terrace, for Mr. F. W. Newby; four houses, Forster Avenue, for Mr. John Christie; five shops, Cauldwell Road, for Messrs. Henderson Bros.; shop, Prince Edward Road, for Messrs. E. Jones and Son; two houses, Wyngarth estate, for Messrs. Carruthers and Son. The Corporation is obtaining a site of four acres at Lisle Road for housing purposes.

SOUTHPORT. *Shops and Offices.* At the Estates Committee of the Corporation an offer was submitted from Messrs. Ellis and Sons, estate agents, on behalf of a multiple firm, to take a portion of certain shop premises with rooms over and storage accommodation, together with a goods lift thereto, if and when such premises are erected by the Corporation on the vacant portion of the old market site. The Committee accordingly recommends that the vacant portion of the site be developed by the Council by the erection of a four-storey building comprising six shops with office and other accommodation above, subject to satisfactory arrangements being made with the multiple firm for the lease of a portion thereof, and that designs for the erection of a suitable building be open to competition by architects practising or residing within the borough.

STRETFORD. *Houses, Factory, Garages, etc.* Plans passed by the Corporation: 16 houses, Bradfield Road, for Mr. H. Grimshaw; transformer house, off Park Road, for Messrs. D. Anderson and Son, Ltd.; factory, Mellors Road, for Davis Engineering Co., Ltd.; works extensions, Trafford Park Road, for Lancashire Dynamo and Crypto Co., Ltd.; 12 garages, Talbot Road, for Residential Flats, Ltd.; shop, 143, Barton Road, for Mr. M. Goodman.

STRETFORD. *Library.* The Corporation has obtained sanction from the Ministry of Health for the scheme for a new library in King Street, and the Corporation has instructed the architect to obtain tenders for the work.

WALSALL. *Houses.* The Housing Committee of the Corporation recommends the Council to approve plans prepared by the Borough Engineer for the development of the Delves (South) estate by the erection thereon of approximately 438 houses, and that tenders be obtained for the work.

SCOTLAND

GLASGOW. *Swimming Pool.* The Corporation is to consider the question of the construction of an additional swimming pool at Shettleston.

GLASGOW. *Demolition.* The Housing Committee of the Corporation is to clear the ground formerly occupied by the Petershill Football Club at Elmvale Row, and remove the terracing, at an estimated cost of £1,200. The Committee has authorized the housing director to obtain tenders for the work.

The Stand of the Thames Board Mills, Ltd., at the Building Trades Exhibition, held recently at Olympia.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a spearate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE	S. Wales & M.	1 5	1 0½
A	Aberdeen	Scotland	1 6	1 1½
A_1	Abergavenny	S. Wales & M.	1 5	1 0½
A_2	Abingdon	S. Counties	1 4	1 0
A	Accrington	N.W. Counties	1 5½	1 1½
A	Addlestone	S. Counties	1 4	1 0
A	Adlington	N.W. Counties	1 5½	1 1½
A	Airdrie	Scotland	*1 5½	1 1½
C	Aldeburgh	E. Counties	1 1½	10½
A	Altrincham	N.W. Counties	1 5½	1 1½
B	Appleby	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
B_2	Aylesbury	S. Counties	1 2½	11
B_1	BANBURY	S. Counties	1 3	11½
B_1	Bangor	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley	Yorkshire	1 5½	1 1½
B	Barnstaple	S.W. Counties	1 3½	11½
A	Barrow	N.W. Counties	1 5½	1 1½
A	Barry	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley	Yorkshire	1 5½	1 1½
A_2	Bedford	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley	Mid. Counties	1 4½	1 0½
B_2	Bicester	S. Counties	1 2	10½
	Birkenhead	N.W. Counties	*1 7	1 2½
A	Birmingham	Mid Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn	N.W. Counties	1 5½	1 1½
A	Blackpool	N.W. Counties	1 5½	1 1½
A	Blyth	N.E. Coast	1 5½	1 1½
B_1	Bognor	S. Counties	1 3	11½
A	Bolton	N.W. Counties	1 5½	1 1½
A_2	Boston	Mid. Counties	1 4	1 0
A	Bournemouth	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford	Yorkshire	1 5½	1 1½
A_1	Brentwood	E. Counties	1 5	1 0½
A	Bridgend	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater	S.W. Counties	1 3	11½
A_1	Bridlington	Yorkshire	1 5	1 0½
A	Brighouse	Yorkshire	1 5½	1 1½
A	Brighton	S. Counties	1 4	1 0
A	Bristol	S.W. Counties	1 5½	1 1½
B_2	Brixham	S.W. Counties	1 2½	11
A_2	Bromsgrove	Mid. Counties	1 4½	1 0½
B_1	Bromyard	Mid. Counties	1 2	10½
A	Burnley	N.W. Counties	1 5½	1 1½
A	Bursiem	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury	N.W. Counties	1 5½	1 1½
A	Buxton	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE	E. Counties	1 5	1 0½
B_1	Canterbury	S. Counties	1 3	11½
A	Cardiff	S. Wales & M.	1 5½	1 1½
A	Carlisle	N.W. Counties	1 5½	1 1½
B	Carmarthen	S. Wales & M.	1 3½	11½
B	Carnarvon	N.W. Counties	1 3½	11½
A	Carnforth	N.W. Counties	1 5½	1 1½
A	Castleford	Yorkshire	1 5½	1 1½
B	Chatham	S. Counties	1 3½	11½
A	Chelmsford	E. Counties	1 4	1 0
A	Cheltenham	S.W. Counties	1 4	1 0
A	Chester	N.W. Counties	1 5½	1 1½
A	Chesterfield	Mid. Counties	1 5½	1 1½
B_1	Chichester	S. Counties	1 3	11½
A	Chorley	N.W. Counties	1 5½	1 1½
B_1	Cirencester	S. Counties	1 3	11½
A	Clitheroe	N.W. Counties	1 5½	1 1½
A	Clydebank	Scotland	1 5½	1 1½
A	Coalville	Mid. Counties	1 5½	1 1½
A_2	Colchester	E. Counties	1 4	1 0
A	Colne	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay	N.W. Counties	1 4½	1 0½
A_1	Consett	N.E. Coast	1 5	1 0½
A_2	Conway	N.W. Counties	1 4½	1 0½
A	Coventry	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A	Cumberland	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_2	Denbigh	N.W. Counties	1 4	1 0
A	Derby	Mid. Counties	1 5½	1 1½
A	Dewsbury	Yorkshire	1 5½	1 1½
B	Didcot	S. Counties	1 3½	11½
A	Doncaster	Yorkshire	1 5½	1 1½
B_2	Dorches	S.W. Counties	1 2½	11
A	Driffield	Yorkshire	1 4	1 0
A_2	Droitwich	Mid. Counties	1 4½	1 0½
A	Dudley	Mid. Counties	1 5½	1 1½
A_2	Dumfries	Scotland	1 5	1 0½
A	Dundee	Scotland	1 5½	1 1½
A	Durham	N.E. Coast	1 5½	1 1½
A_2	EASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale	S. Wales & M.	1 5	1 0½
A	Edinburgh	Scotland	1 5½	1 1½
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter	S.W. Counties	*1 4½	1 0½
B	Exmouth	S.W. Counties	1 3½	11½
A_3	FELIXSTOWE	E. Counties	1 4	1 0
A_3	Filey	Yorkshire	1 4	1 0
A	Fleetwood	N.W. Counties	1 5½	1 1½
B_1	Folkestone	S. Counties	1 3	11½
A	Frodsham	N.W. Counties	1 5½	1 1½
B_2	Frome	S. W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham	S. Counties	1 3½	11½
A	Glasgow	Scotland	1 6	1 1½
A_2	Gloucester	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	Gosport	S. Counties	1 4½	1 0½
A_2	Grantham	Mid. Counties	1 4	1 0
A_1	Gravesend	S. Counties	1 5	1 0½
A	Greenock	Scotland	*1 5½	1 1½
A	Grimsby	Yorkshire	1 5½	1 1½
B	Guildford	S. Counties	1 3½	11½
A	HALIFAX	Yorkshire	1 5½	1 1½
A	Hanley	Mid. Counties	1 5½	1 1½
A	Harrogate	Yorkshire	1 5½	1 1½
A	Hartlepools	N.E. Coast	1 5½	1 1½
B	Harwich	E. Counties	1 3½	11½
B_1	Hastings	S. Counties	1 3	11½
A_2	Hatfield	S. Counties	1 4½	1 0½
B	Hereford	S.W. Counties	1 3½	11½
A_2	Hertford	E. Counties	1 4½	1 0½
A	Heysham	N.W. Counties	1 5½	1 1½
A	Howden	N.E. Coast	1 5½	1 1½
A	Huddersfield	Yorkshire	1 5½	1 1½
A	Hull	Yorkshire	1 5½	1 1½
A	ILKLEY	Yorkshire	1 5½	1 1½
A	Immingham	Mid. Counties	1 5½	1 1½
A_2	Ipswich	E. Counties	1 4½	1 0½
B_2	Isle of Wight	S. Counties	1 2	10½
A	JARROW	N.E. Coast	1 5½	1 1½
A	KEIGHLEY	Yorkshire	1 5½	1 1½
B	Kendal	N.W. Counties	1 3½	11½
B	Keswick	N.W. Counties	1 3½	11½
A_2	Kettering	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn	E. Counties	1 3	11½
A	LANCASTER	N.W. Counties	1 5½	1 1½
A_1	Leamington	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B	Lewes	S. Counties	1 2	10½
A_2	Lichfield	Mid. Counties	1 4½	1 0½
A	Lincoln	Mid. Counties	1 5½	1 1½
	Liverpool	N.W. Counties	*1 7	1 2½
A_2	Llandudno	N.W. Counties	1 4½	1 0½
A	Llanelly	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12–15 miles radius)		1 6½	1 2
A	Long Eaton	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A	Luton	E. Counties	1 4	1 0
A	Lytham	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone	S. Counties	1 3½	11½
A_3	Malvern	Mid. Counties	1 4	1 0
A	Manchester	N.W. Counties	1 5½	1 1½
A	Mansfield	Mid. Counties	1 5½	1 1½
B_1	Margate	S. Counties	1 3	11½
A	Matlock	Mid. Counties	1 4	1 0
A_1	Merthyr	S. Wales & M.	1 5	1 0½
A	Middlesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich	N.W. Counties	1 4½	1 0½
B_2	Minehead	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe	N.W. Counties	1 5½	1 1½
A_2	NANTWICH	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson	N.W. Counties	1 5½	1 1½
A	Newcastle	N.E. Coast	1 5½	1 1½
A	Newport	S. Wales & M.	1 5½	1 1½
A	Normanton	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs	Mid. Counties	1 5½	1 1½
A	North Shields	N.E. Coast	1 5½	1 1½
A_1	Norwich	E. Counties	1 5	1 0½
A	Nottingham	Mid. Counties	1 5½	1 1½
A	Nuneaton	Mid Counties	1 5½	1 1½
A_3	OAKHAM	Mid. Counties	1 4	1 0
A	Oldham	N.W. Counties	1 5½	1 1½
A_3	Oswestry	N.W. Counties	1 4	1 0
A_2	Oxford	S. Counties	1 4½	1 0½
A	PAISLEY	Scotland	*1 5½	1 1½
B_3	Pembroke	S. Wales & M.	1 2	10½
A	Perth	Scotland	*1 5½	1 1½
A_2	Peterborough	E. Counties	1 4½	1 0½
A	Plymouth	S.W. Counties	*1 5½	1 1½
A	Pontefract	Yorkshire	1 5½	1 1½
A_1	Pontypridd	S. Wales & M.	1 5	1 0½
A_2	Portsmouth	S. Counties	1 4½	1 0½
A	Preston	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING	S. Counties	1 4½	1 0½
B	Reigate	S. Counties	1 3½	11½
A	Retford	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A	Ripon	Yorkshire	1 4	1 0
A	Rochdale	N.W. Counties	1 5½	1 1½
B	Rochester	S. Counties	1 3½	11½
A_1	Ruabon	N.W. Counties	1 5	1 0½
A	Rugby	Mid. Counties	1 5½	1 1½
A_2	Rugeley	Mid. Counties	1 4½	1 0½
A	Runcorn	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS	E. Counties	1 5	1 0½
A	St. Helens	N.W. Counties	1 5½	1 1½
B_2	Salisbury	S.W. Counties	1 2½	11
A_1	Scarborough	Yorkshire	1 5	1 0½
A	Scunthorpe	Mid. Counties	1 5½	1 1½
A	Sheffield	Yorkshire	1 5½	1 1½
A	Shipley	Yorkshire	1 5½	1 1½
A_2	Shrewsbury	Mid. Counties	1 4½	1 0½
A_2	Skipton	Yorkshire	1 4½	1 0½
A_2	Slough	S. Counties	1 4½	1 0½
A_1	Solihull	Mid. Counties	1 5	1 0½
A_2	Southampton	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport	N.W. Counties	1 5½	1 1½
A	S. Shields	N.E. Coast	1 5½	1 1½
A_1	Stafford	Mid. Counties	1 5	1 0½
A	Stirling	Scotland	1 6	1 1½
A	Stockport	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud	S.W. Counties	1 3½	11½
A	Sunderland	N.E. Coast	1 5½	1 1½
A	Swansea	S. Wales & M.	1 5½	1 1½
A	Swindon	S.W. Counties	1 4	1 0
A_1	TAMWORTH	N.W. Counties	1 5	1 0½
B	Taunton	S.W. Counties	1 3½	11½
A	Teesside Dist.	N.E. Counties	1 5½	1 1½
A_3	Teignmouth	S.W. Coast	1 4	1 0
A	Todmorden	Yorkshire	1 5½	1 1½
A_1	Torquay	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall	Mid. Counties	1 5½	1 1½
A	Tyne District	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall	Mid. Counties	1 5½	1 1½
A	Warrington	N.W. Counties	1 5½	1 1½
A_1	Warwick	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby	Yorkshire	1 4½	1 0½
A	Widnes	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester	S. Counties	1 3½	11½
A_2	Windsor	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester	Mid. Counties	1 4½	1 0½
A_3	Worksop	Yorkshire	1 4	1 0
A_1	Wrexham	N.W. Counties	1 5	1 0½
A	Wycombe	S. Counties	1 4	1 0
B_1	YARMOUTH	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . per hour	1 7
Carpenter . . . . "	1 7
Joiner . . . . "	1 7
Machinist . . . . "	1 8
Mason (Banker) . . . . "	1 7
" (Fixer) . . . . "	1 8
Plumber . . . . "	1 7
Painter . . . . "	1 6
Paperhanger . . . . "	1 6
Glazier . . . . "	1 7
Slater . . . . "	1 7
Scaffolder . . . . "	1 8
Timberman	1 5
Navvy . . . . "	1 2½
General Labourer . . . . "	1 2½
Lorryman . . . . "	1 5
Crane Driver . . . . "	1 6
Watchman . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . per ton	2 2 0
Blue Lias Lime . . . . "	1 16 6
Hydrated Lime . . . . "	3 0 9
Portland Cement, in 4-ton lots (d/d site, including Paper Bags) . . "	1 18 0
Rapid Hardening Cement, in 4-ton lots (d/d site, including Paper Bags) . "	2 5 6
White Portland Cement, in 1-ton lots "	8 15 0
Thames Ballast . . . per Y.C.	6 3
¾" Crushed Ballast . . . "	6 9
Building Sand . . . . "	7 3
Washed Sand . . . . "	8 3
2" Broken Brick . . . . "	8 0
½" " " . . . . "	10 3
Pan Breeze . . . . "	6 6
Coke Breeze . . . . "	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . . per F.R.	0 9	1 1
Bends . . . each	1 9	2 6
Taper Bends . . "	3 6	5 3
Rest Bends . . "	4 3	6 3
Single junctions . . "	3 6	5 3
Double . . . "	4 9	6 6
Straight channels . per F.R.	1 6	2 6
¾" Channel bends . each	2 9	4 0
Channel junctions . "	4 6	6 6
Channel tapers . "	2 9	4 0
Yard gullies . "	6 9	8 9
Interceptors . "	16 0	19 6
IRON DRAINS:		
Iron drain pipe . per F.R.	1 6	2 6
Bends . . . each	5 0	10 6
Inspection bends . "	9 0	15 0
Single junctions . "	8 9	18 0
Double junctions . "	13 6	30 0
Lead wool . . lb.	6	—
Gaskin . . "	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . Per M.	2 18 0
Grooved do. . . . "	3 0 0
Phorpres bricks . . . "	2 17 3
" Cellular bricks . . "	2 17 3
Stocks, 1st quality . . "	4 11 0
" 2nd " . . "	4 2 6
Blue Bricks, Pressed . . "	8 17 6
" Wirecuts . . "	7 17 6
" Brindles . . "	7 0 0
" Bullnose . . "	9 0 0
Red Sand-faced Facings . . "	6 18 6
Red Rubbers for Arches . . "	12 0 0
Multicoloured Facings . . "	7 10 0
Luton Facings . . . "	7 10 0
Phorpres White Facings . . "	3 17 3
" Rustic Facings . . "	3 12 3
Midhurst White Facings . . "	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . "	21 0 0
Headers . . . . "	20 10 0
Bullnose . . . . "	27 10 0
Double Stretchers . . "	29 10 0
Double Headers . . "	26 10 0
Glazed Second Quality, *Less* . "	1 0 0
" Buffs and Creams, *Add* "	2 0 0
" Other Colours . . "	5 10 0
2" Breeze Partition Blocks . per Y.S.	1 7
2½" " " " . . "	1 10
3" " " " . . "	2 1
4" " " " . . "	2 6

MASON

The following d/d F.O.R. at Nine Elms:	s. d.
Portland stone, Whitbed . . F.C.	4 4½
" " Basebed . . "	4 9
Bath stone . . . . "	2 11
York stone . . . . "	6 6
" " Sawn templates . . "	7 0
" " Paving, 2" . . . F.S.	1 8
" " " 3" . . . "	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . per M.	28 17 6
22" × 12" Marchionesses . "	24 10 0
20" × 10" Countesses . . "	19 5 0
18" × 10" Viscountesses . "	15 10 0
18" × 9" Ladies . . . "	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
" " green " "	24 7 4
Best machine roofing tiles . "	4 10 0
Best hand-made do. . . "	5 0 0
Hips and valleys . . . each	9½
" hand-made . . . "	10
Nails, compo . . . lb.	1 4
" copper . . . "	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . as 1" F.S.	9
Deal, Joiner's . . . " "	5
" " 2nds . . " "	4
Mahogany, Honduras . . " "	1 3
" African . . " "	1 1
" Cuban. . . " "	2 6
Oak, plain American . . " "	1 0
" Figured " . . " "	1 3
" Plain Japanese . . " "	1 2
" Figured " . . " "	1 5
" Austrian wainscot . " "	1 6
" English . . . " "	1 11
Pine, Yellow . . . " "	1 0
" Oregon . . . " "	4
" British Columbian . " "	4
Teak, Moulmein . . " "	1 3
" Burma . . . " "	1 2
Walnut, American . . " "	2 3
" French . . . " "	2 3
Whitewood, American . " "	1 1
Deal floorings, ⅞" . . Sq.	18 6
" ⅞" . . "	1 1 6
" 1" . . "	1 2 0
" 1¼" . . "	1 5 0
" 1½" . . "	1 10 0
Deal matchings ⅝" . . "	14 0
" ¾" . . "	15 6
Rough boarding ⅞" . . "	1 4 0
" 1" . . "	18 0
" 1½" . . "	1 6 0

Plywood, per ft. sup.

—Thickness	⅛"	¼"	⅜"	½"
Qualities .	AA.A.B.	AA.A.B.	AA.A.B.	AA.A.B.
	d. d. d.	d. d. d.	d. d. d.	d. d. d.
Birch. .	4 3 2	5 4 3	7½ 6 4½	8½ 7 6
Alder. .	3½ 3 2	5 4 3	6½ 5½ 4½	8 7 6
Gaboon Mahogany	4 3 3	6½ 5½ 4½	9½ 7½ –	1/0½ 10 –
Figured Oak 1 side	8½ 7 –	10 8 –	11½ – –	1/6 – –
Plain Oak . 1 side	6½ 6 –	7½ 7 –	9½ – –	1/– – –
Oregon P.ne	5 4 –	5½ 5 –	6 – –	– – –

	d.
Scotch glue . . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:
(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	¼"	½"	1"	1¼"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
" 3"-11½" long "	7	9	1/3	1/8	3/–
Long screws, 12"-23½" long "	11	1/3	2/2	2/10	5/3
" " 3"M-½" long "	8	10	1/5	1/11	3/6
Bends . . . . "	8	11	1/7½	2/7½	5/2
Springs not socketed . "	5	7	1/1½	1/11½	3/11
Socket unions . . "	2/–	3/–	5/6	6/9	10/–
Elbows, square . . "	10	1/1	1/6	2/2	4/3
Tees . . . . "	1/–	1/3	1/10	2/6	5/1
Crosses . . . "	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples "	3	4	6	8	1/3
Diminished sockets . "	4	6	9	1/–	2/–
Flanges . . . . "	9	1/–	1/4	1/9	2/9
Caps . . . . "	3½	5	8	1/–	2/–
Backnuts . . . . "	2	3	5	6	1/1
Iron main cocks . . "	1/6	2/3	4/2	5/4	11/6
" " with brass plugs "	—	4/–	7/6	10/–	21/–

Discounts:

TUBES.	Per cent.		Per cent.
Gas . . .	65	Galvanized gas .	52½
Water . . .	61½	" water	47½
Steam . . .	57½	" steam	42½
FITTINGS.			
Gas . .	57½	Galvanized gas	47½
Water .	52½	" water	42½
Steam	47½	" steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ⅜" . . "	8 6
" " ½" . . "	8 3
" " ⅝" . . "	8 0
" " ¾" . . "	7 6
" " ⅞" . . "	7 6
" " 1" . . "	7 6
" " 1¼" . . "	7 6
" " 1½" . . "	7 6

	3" s. d.	4" s. d.
Cast-iron rain-water pipes of ordinary thickness metal . . F.R.	8	10
Shoes . . . . each	2 0	3 0
Anti-splash shoes . . "	4 6	8 0
Boots . . . . "	3 0	4 0
Bends . . . . "	2 7	3 9
" with access door . . "	—	6 3
Heads . . . . "	4 0	5 0
Swan-necks up to 9" offsets . "	3 9	6 0
Plinth bends, 4½" to 6" "	3 9	5 3
Half-round rain-water gutters of ordinary thickness metal . . F.R.	5	6
Stop ends . . . . each	6	6
Angles . . . . "	1 7	1 11
Obtuse angles . . . "	2 0	2 6
Outlets . . . . "	1 9	2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	18 6
" drawn pipes . . . "	17 0
" soil pipe . . . "	18 6
" scrap . . . "	10 6
Solder, plumbers' . . . lb.	9½
" fine do. . . . "	1 0
Copper, sheet . . . "	8½
" tubes . . . "	11

L.C.C. soil and waste pipes:	3"	4"	6"
Plain cast . . F.R.	1 0	1 2	2 6
Coated . . "	1 1	1 3	2 8
Galvanized . . "	2 0	2 6	4 6
Holderbats . . each	3 10	4 0	4 9
Bends . . . "	3 9	5 3	10 3
Shoes . . . "	2 10	4 4	9 6
Heads . . . "	4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . per ton	2 5 0
Plaster, coarse . . . "	2 10 0
" fine . . . "	4 15 0
Hydrated lime . . . "	3 0 9
Sirapite . . . . "	3 6 0
Keene's cement . . . "	5 0 0
Gothite Plaster . . . "	3 6 0
Thistle Plaster . . . "	3 6 0
Sand, washed . . . Y.C.	11 6
Hair . . . . lb.	6
Laths, sawn . . . bundle	2 4
" rent . . . "	3 9
Lath nails . . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft.	s. F.S.	2½
" " 26 oz. " "	"	3
Flemish, Arctic, Figured (white)*	"	7
Blazoned glasses . .	"	2 6
Reeded; Cross Reeded	"	11
Cathedral glass, white, double-rolled, plain, hammered, rimpled, waterwite		6½
Crown sheet glass (n/e 12 in. x 10 in.)	"	2 0
Flashed opals (white and coloured)	" 1 0 and	2 0
⅛" rough cast; rolled plate . .	"	5½
⅛" wired cast; wired rolled . .	"	9½
⅛" Georgian wired cast. . .	"	11
⅛" Polished plate, n/e 1 ft. . .	" † 10 to	‡1 1
" " 2 . .	" †1 2 "	‡1 4
" " 4 . .	" †2 3 "	‡2 6
" " 8 . .	" †2 9 "	‡3 2
" " 20 . .	" †3 7 "	‡4 2
" " 45 . .	" †3 11 "	‡4 7
" " 100 . .	" †5 0 "	‡5 7
Vita glass, sheet, n/e 2 ft. . .	"	1 3
" " over 2 . .	"	1 9
" " plate, n/e 2 ft. . .	"	3 0
" " 7 . .	"	5 0
" " 15 . .	"	6 0
" " over 15 . .	"	7 6
"Calorex" sheet 21 oz., and 32 oz.	" 2 6 and	3 6
" rough cast ⅛" and ¼"	" 8½ "	1 0
Putty, linseed oil . .	lb.	3

* *Colours*, 1d. F.S. *extra.*
†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s d.
White lead in 1 cwt. casks . . cwt.	2 6 0
Linseed oil . . . . gall.	2 2½
Boiled oil . . . . "	2 4½
Turpentine . . . . "	4 1½
Patent knotting . . . "	14 0
Distemper, washable . . cwt.	2 6 0
" ordinary . . "	2 0 0
Whitening . . . . "	4 0
Size, double . . . firkin	3 0
Copal varnish . . . gall.	13 0
Flat varnish . . . "	14 0
Outside varnish . . . "	16 0
White enamel . . . "	1 15 0
Ready mixed paint . . "	13 6
Brunswick black . . .	7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR

		£ s. d.
Digging over surface n/e 12" deep and cart away	Y.S.	2 9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.	8 6
" to form basement n/e 5' 0" deep and cart away	"	9 0
" " 10' 0" deep and cart away	"	9 6
" " 15' 0" deep and cart away	"	10 0
If in stiff clay	add "	6
If in underpinning	"	4 0
Planking and strutting to sides of excavation	F.S.	1 0
" " to pier holes	"	5
" " to trenches	"	5
" " extra, only if left in	"	3
Hardcore, filled in and rammed	Y.C.	10 0
Portland cement concrete in foundations (6-1)	"	1 6 0
" " (4-2-1)	"	1 12 6
" " underpinning	"	1 16 0
Finishing surface of concrete, spade face	Y.S.	7

DRAINLAYER

		4" s. d.	6" s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
" junctions	"	3 9	4 6
Gullies and gratings	"	16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER

	£ s. d.
Brickwork, Flettons in lime mortar	Per Rod 27 10 0
" " in cement	" 28 15 0
" Stocks in cement	" 35 0 0
" Blues in cement	" 52 0 0
Extra only for circular on plan	" 2 0 0
" backing to masonry	" 1 10 0
" raising on old walls	" 2 0 0
" underpinning	" 5 10 0½
Fair Face and pointing internally	F.S. 1½
Extra over fletton brickwork for picked stock facings and pointing	" 8
" " " red brick facings and pointing	" 11
" " " blue brick facing and pointing	" 1 4
" " " glazed brick facings and pointing	" 3 6
Tuck pointing	" 7½
Weather pointing in cement	" 3
Slate dampcourse	" 10
Vertical dampcourse	" 1 1

ASPHALTER

	s. d.
½" Horizontal dampcourse	Y.S. 4 6
½" Vertical dampcourse	" 6 9
½" paving or flat	" 4 0
1" paving or flat	" 5 6
1" × 6" skirting	F.R. 1 6
Angle fillet	" 2
Rounded angle	" 2
Cesspools	Each 5 0

MASON

	s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C. 17 9
Bath stone and do., all as last	" 13 6
Artificial stone and do.	" 13 0
York stone templates, fixed complete	" 10 6
" thresholds	" 13 6
" sills	" 1 0 6

SLATER AND TILER

	£ s. d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr. 3 10 0
Do., 18" × 9"	" 3 7 0
Do., 24" × 12"	" 3 17 0
Westmorland slating, laid with diminished courses	" 6 0 0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	" 3 0 0
Do., all as last, but of machine-made tiles	" 2 16 0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	" 4 6 0
" " " " " " (green)	" 4 15 0

CARPENTER AND JOINER

	£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr. 2 5 0
Shuttering to sides and soffits of beams	F.S. 8
" to stanchions	" 8
" to staircases	" 1 8
Fir and fixing in wall plates, lintols, etc.	F.C. 3 9
Fir framed in floors	" 4 6
" " roofs	" 6 6
" " trusses	" 7 6
" " partitions	" 8 6
½" deal sawn boarding and fixing to joists	Sqr. 1 14 6
1" " " " "	" 1 17 6
1½" " " " "	" 2 3 0
3" × 2" fir battening for Countess slating	" 9 6
Do. for 4" gauge tiling	" 12 0
Stout feather-edged tilting fillet	F.R. 4½
Patent inodorous felt, 1 ply	Y.S. 2 3
" " " 2 "	" 2 9
" " " 3 "	" 3 3
Stout herringbone strutting to 9" joists	F.R. 10½
1" deal gutter boards and bearers	F.S. 1 2
1½" " " "	" 1 6
2" deal wrought rounded roll	F.R. 8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr. 2 1 0
1¼" do.	" 2 10 0
1½" do.	" 2 17 0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S. 1 6
1¼" do.	" 1 9

CARPENTER AND JOINER—*continued*

	s. d.
1½" deal moulded sashes of average size	F.S. 1 9½
2" " " " "	" 1 11½
1½" deal cased frames double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ⅝" parting beads, and with brass faced axie pulleys, etc., fixed complete	" 3 7
2" " " " "	" 3 10
Extra only for moulded horns	Each 6
1½" deal four-panel square, both sides, door	F.S. 2 0
2" " " " "	" 2 8
1½" " but moulded both sides	" 2 4
2" " " " "	" 3 0
4" × 3" deal, rebated and moulded frames	F.R. 1 0
4½" × 3½" " " "	" 1 4
1¼" deal tongued and moulded window board, on and including deal bearers	F.S. 1 9
1¼" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	" 2 6
1½" deal moulded wall strings	" 2 1
1½" " outer strings	" 2 4
Ends of treads and risers housed to string	Each 1 9
3" × 2" deal moulded handrail	F.R. 1 3
1" × 1" deal balusters and housing each end	Each 2 0
1½" × 1½" " " "	" 2 9
3" × 3" deal wrought framed newels	F.R. 1 3
Extra only for newel caps	Each 6 0
Do., pendants	" 6 0

SMITH AND FOUNDER

	£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt. 15 6
Riveted plate or compound girders, and hoisting and fixing in position	" 19 6
Do. stanchions with riveted caps and bases and do.	" 19 0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	" 17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S. 11
Wrot-iron caulked and cambered chimney bars	Per cwt. 1 10 0

PLUMBER

	£ s. d.
Milled lead and labour in flats	cwt. 1 12 0
Do. in flashings	" 1 15 6
Do. in covering to turrets	" 2 3 0
Do. in soakers	" 1 7 6
Labour to welted edge	F.R. 3½
Open copper nailing	" 3
Close " "	" 4

	½" s. d.	¾" s. d.	1" s. d.	1¼" s. d.	2" s. d.	4" s. d.
Lead service pipe and fixing with pipe hooks F.R.	10	1 0	1 3	2 0	2 10	—
Do. soil pipe and fixing with cast lead tacks	—	—	—	—	—	5 6
Extra, only to bends Each	—	—	—	—	2 0	6 9
Do. to stop ends "	6½	8	9	11	1 0	—
Boiler screws and unions "	3 3	3 9	5 0	8 0	—	—
Lead traps "	—	—	—	6 3	8 9	—
Screw down bib valves "	6 9	9 6	11 0	—	—	—
Do. stop cocks "	7 0	9 6	12 6	—	—	—

	£ s. d.
4" cast-iron ½-rd. gutter and fixing	F.R. 1 0
Extra, only stop ends	Each 1 0
Do. angles	" 1 6
Do. outlets	" 2 9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R. 1 2
Extra, only for shoes	Each 1 3
Do. for plain heads	" 5 6

PLASTERER AND TILING

	s. d.
Expanded metal lathing, small mesh	Y.S. 2 0
Do. in n/w to beams, stanchions, etc.	" 2 9
Lathing with sawn laths to ceilings	" 1 3
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	" 1 5
Do. vertical	" 1 7
Rough render on walls	" 1 2½
Render, float and set in lime and hair	" 1 9
Render and set in Sirapite	" 1 11
Render, backing in cement and sand, and set in Keene's cement	" 2 9
Extra, only if on lathing	" 4
Keene's cement, angle and arris	F.R. 6
Arris	" 1½
Rounded angle, small	" 3
Plain cornices in plaster, including dubbing out, per 1" girth	" 1½
1" granolithic pavings	Y.S. 3 6
1½" " "	" 4 6
6" × 6" white glazed wall tiling and fixing on prepared screed	" 17 6
9" × 3" " " " "	" 1 2 6
Extra, only for small quadrant angle	F.R. 8

GLAZIER

	s. d.
21 oz. sheet glass and glazing with putty	F.S. 7½
26 oz. do and do.	" 8½
Flemish, Arctic Figured (white) and glazing with putty	" 1 1
Cathedral glass and do.	" 1 2
Glazing only, British polished plate	" 7
Extra, only if in beads	" 2
Washleather	F.R. 4

PAINTER

	s. d.
Clearcolle and whiten ceilings	Y.S. 6
Do. and distemper walls	" 9
Do. with washable distemper	" 1 1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	" 3 3
Do. on woodwork	" 3 6
Do. on steelwork	" 3 0
Do. and brush grain and twice varnish	" 5 6
Stain and twice varnish woodwork	" 1 11
Stain and wax-polish woodwork	" 4 6
French polishing	F.S. 1 2
Stripping off old paper	Piece 2 9
Hanging ordinary paper	from 2 9

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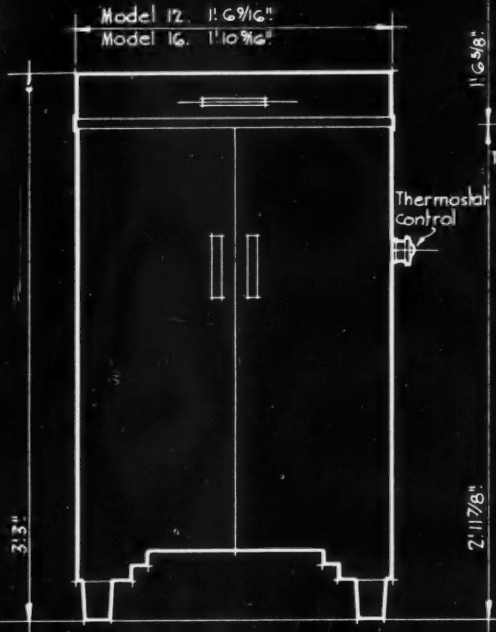
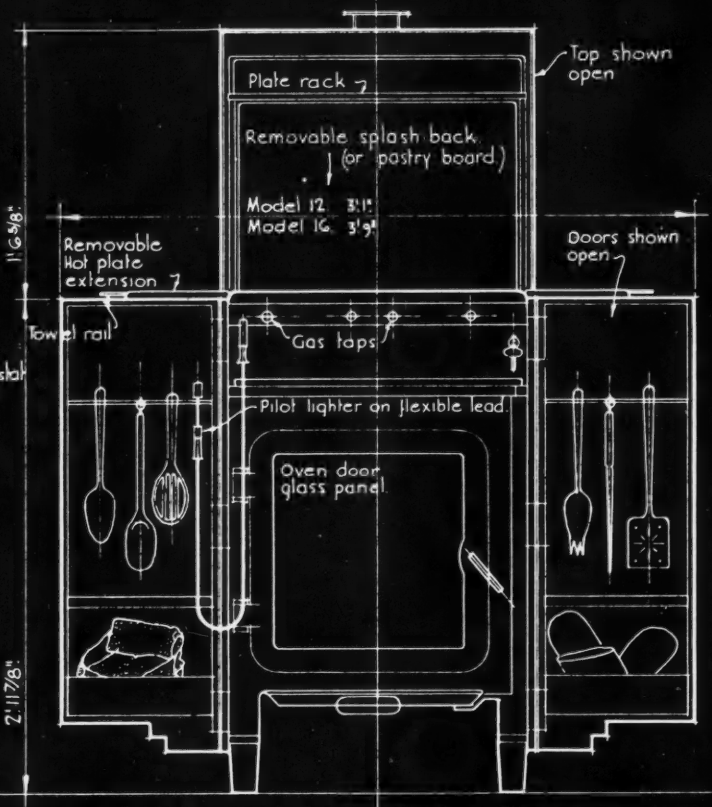
MODELS: Nº 12, small.
Nº 16, large.

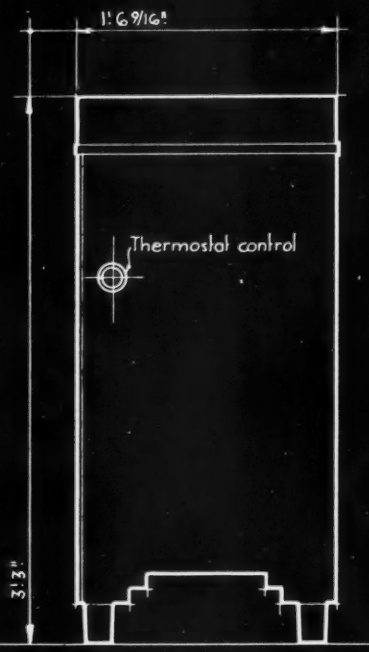
Dimensions given are common to both models unless otherwise noted.



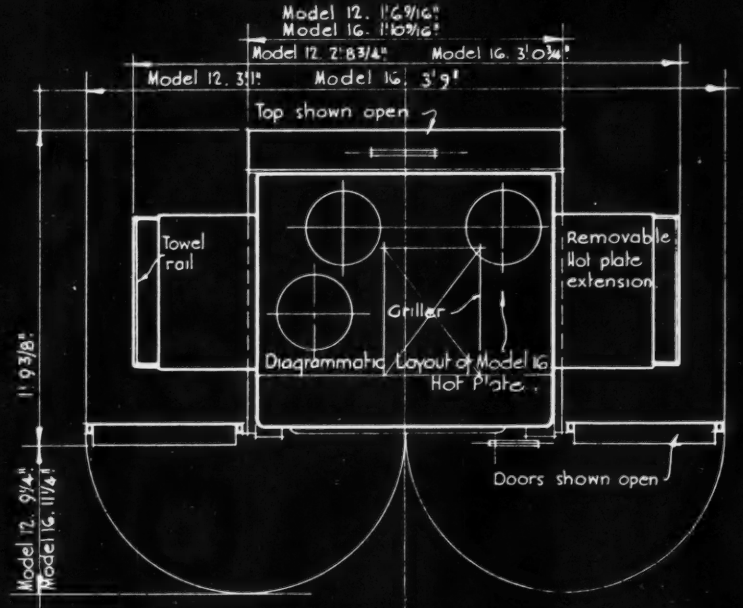
FRONT ELEVATION · CLOSED.



FRONT ELEVATION · OPEN.



SIDE ELEVATION · CLOSED.



DIAGRAMMATIC PLAN SHOWING COOKER OPEN.

The Kabineat Cooker and case complete with all equipment are standard. If the full range of equipment is not desired the following deductions can be made.

1. Automatic cooking control.
2. Cromium plated detachable Plate Rack and Enamel Back Splasher.
3. Armour Plate Glass Door.
4. Stainless Steel Extension Brackets with Chromium plated cloth Rail.
5. Metro Pilot Lighter.
6. Four Containers holding six essential Kitchen Implements, Asbestos Oven Mitt, and double-ended Oven Cloth.
7. 7-piece selected set Pyrex Ovenware.

Information from Sidney Flavel & Co Ltd.

INFORMATION SHEET : COOKERS : KABINEAT GAS COOKERS

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1

THE ARCHITECTS' JOURNAL
LIBRARY OF PLANNED INFORMATION

INFORMATION SHEET
• 147 •
GAS COOKERS

Name of Product : "Kabineat" Cooker

Types Illustrated : Nos. K.12 and K.16

Specifications and Details of Finishes :

Exterior in "Foochow" heat-resisting synthetic enamel in six British Colour Council standard colours. Special colours can be supplied to order.

Exterior Fittings in stainless steel and chromium plate.

Body of Oven Exterior in Sicilian Grey mottled acid-resisting porcelain enamel.

Interior, porcelain enamel lined and packed with slag wool.
Burners, bars and carriers in grey porcelain enamel.
Taps, chromium-plated and of superior London-made quality.
Flavel high speed pressed steel double reversible grill.

Plate Rack and Frame in chromium plate, back splasher in white porcelain enamel.

Extension Brackets in stainless steel mounted on chromium-plated cloth rails. Flavel-Sugg automatic cooking control in steel bronze with black bakelite dial. "Metro" home pilot lighter in steel bronze.
Kitchen utensils in mirror finish white-metal "Celebrity" brand. Kitchen knife in "Eye-Witness" stainless steel.

Capacities :

K.12 for 1 to 4 persons.
K.16 for 5 to 9 persons.
Dia. of Gas supply : ½ inch.

OVERALL DIMENSIONS

Size	Closed			Height when open	Width Hotplate extended
	Wide	Deep	High		
No. 12	18¾"	18¾"	39"	4' 6¼"	2' 8¼"
No. 16	22¾"	18¾"	39"	4' 6¼"	3' 0½"

INSIDE DIMENSIONS

Size	Oven door opening		Oven inside			Hotplate burners		
	Wide	High	Wide	High	Deep	Large	Small	Grill
No. 12	12"	17"	14"	18¼"	15"	1	1	1
No. 16	16"	17"	18"	18¼"	15"	2	1	1

Name of Manufacturers : Sidney Flavel & Co., Ltd.
Address : Eagle Foundries, Leamington
Telephone : 100 Leamington
London Showrooms : 38 Welbeck Street, W.1
Telephone : Welbeck 2838

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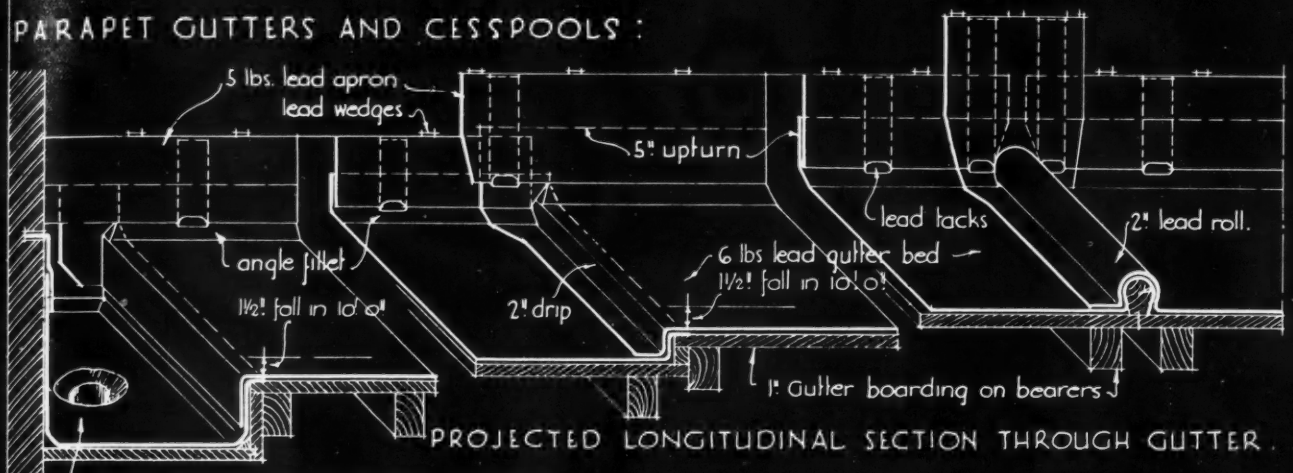
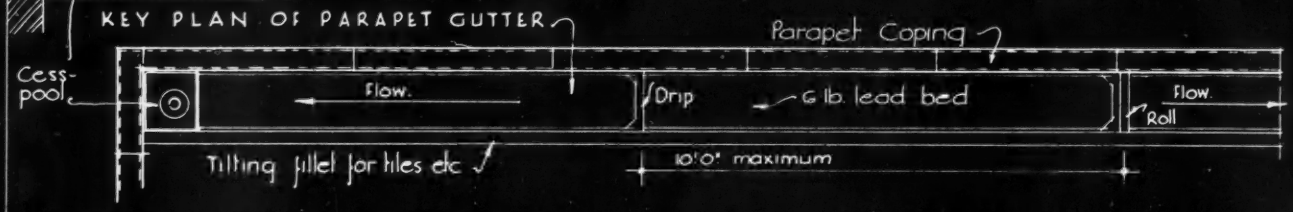
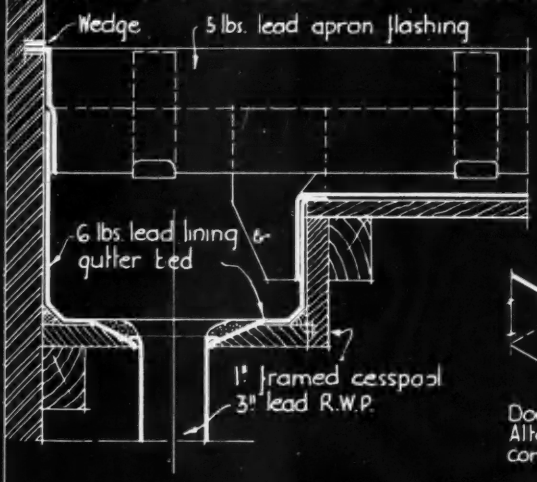
PARAPET GUTTERS AND CESSPOOLS :

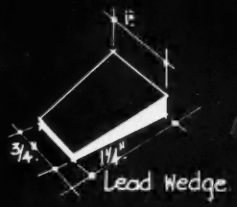


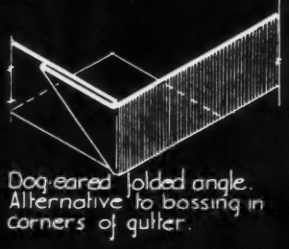
PROJECTED LONGITUDINAL SECTION THROUGH GUTTER.



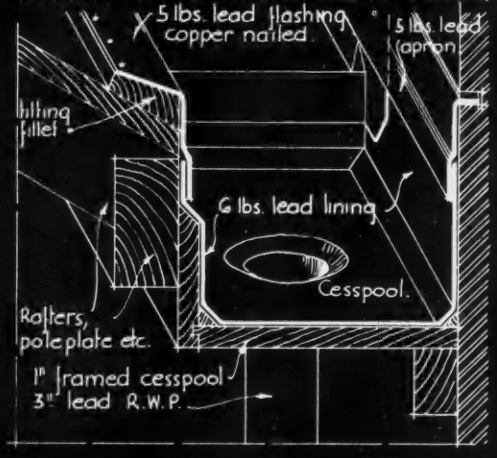
SECTION THROUGH END OF GUTTER.

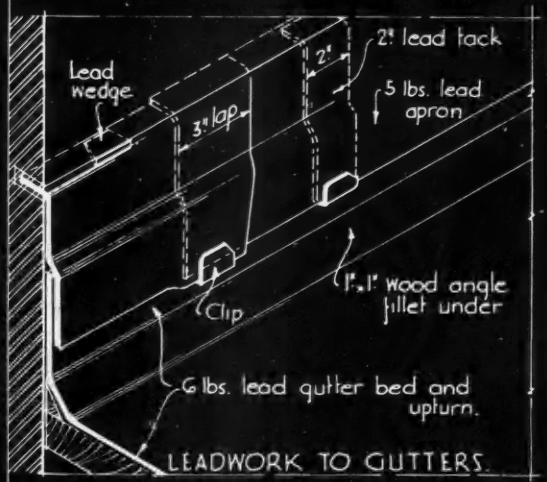




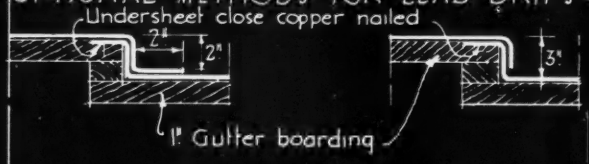


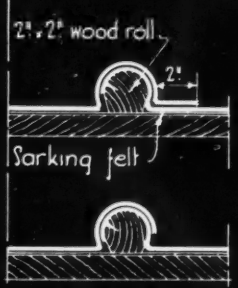
TRANSVERSE SECTION AT END OF GUTTER.



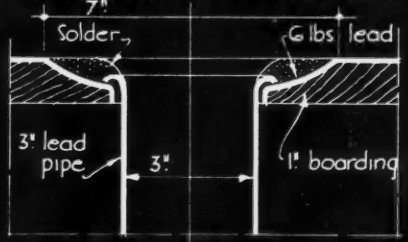


OPTIONAL METHODS FOR LEAD DRIPS & ROLLS.





WIPED CESSPOOL OUTLET.



Information from the Lead Sheet & Pipe Development Council.

INFORMATION SHEET : THE USE OF LEAD IN BUILDING CONSTRUCTION.1.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1

Supplement to THE ARCHITECTS' JOURNAL for September 27, 1934

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 148 •

LEAD IN BUILDING CONSTRUCTION

Type of Product : Lead Sheets

Description :

Lead is a heavy metal, its density being about 710 lb. per cubic foot. It is also soft and malleable and easily fused. Lead used for roof work is in the form of milled sheet, rolled from slabs of cast lead which, in the process, become sheets of uniform thickness.

Sheets for the building industry are usually made in a width of 8 ft. and a length of about 40 ft., but it is possible to roll sheets up to 12 ft. in width. The weight of a sheet naturally varies according to the poundage, but for convenience of handling it seldom exceeds 20 cwt.

Lead is rolled in thicknesses corresponding to a weight of from 3 to 10 lb. per foot super, but nothing thinner than 5 lb. lead should be used for roof plumbing of a permanent nature, and it is unusual to employ lead heavier than 8 lb. per foot super.

This Sheet is the first of a series on the uses of Lead in building construction, and shows the various flashing and jointing details connected with parapet gutters and cesspools. Lead possesses ideal properties for this purpose, and its usefulness for covering surfaces which frequently change in direction is apparent. It will bend, "draw" and "shape" readily, and yet with proper treatment maintains its shape and position so as to form a reliable and durable covering. It should, however, be permitted to expand and contract freely, and for this contingency fixing should be along any two adjacent edges only, thus leaving a free bodily movement.

The wood boarding of a lead-lined gutter should be divided into lengths of 7 to 9 ft. as shown, made to fall at least 1 in. in every 10 ft., and be broken by square or splayed drips 2 in. or more deep. In long lengths of gutter it is usual to fall towards either end, with a roll of one of the types illustrated in the middle. This necessitates cesspools at both ends, but increases the head room under them by half the total falls required and enables the use of smaller down-pipes.

The tacks or clips used to prevent apron flashings being lifted by strong winds should be heavier lead than that generally used, say 7 or 8 lb. by 2 in. wide. They are tucked into the stone raglets or brick joints for 1½ in. before the apron is laid, and afterwards dressed over this sheet and trimmed to size. Apron flashings are held in position by the small lead wedges shown at suitable intervals, the open joint being then pointed with oilmastic or Portland cement.

Source of Information : Lead Sheet and Pipe Development Council

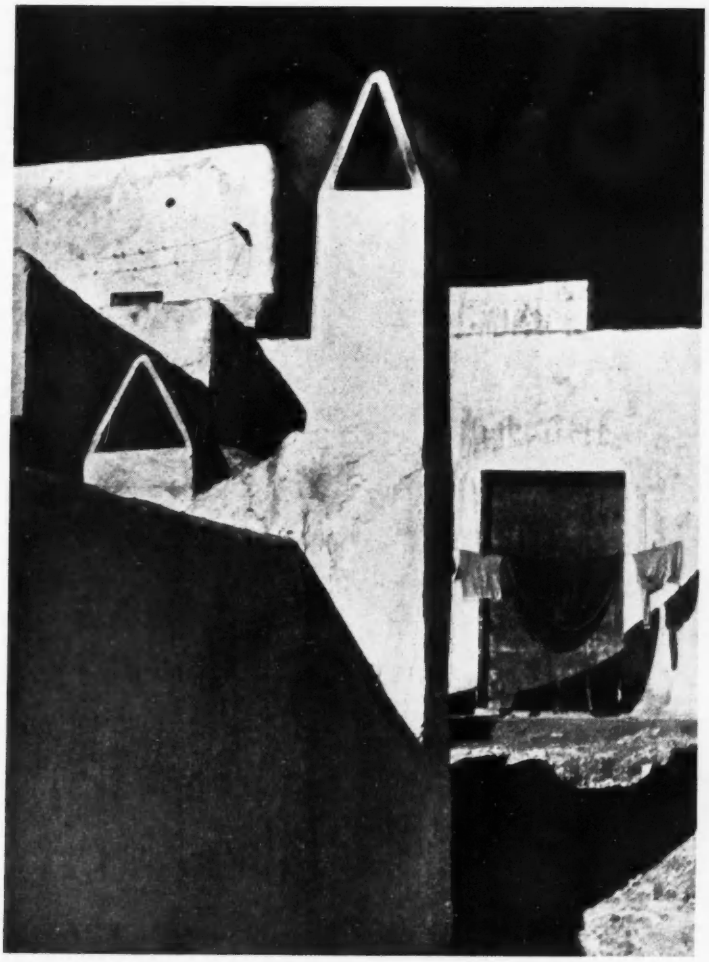
Address : Golden Cross House, Charing Cross, W.C.2

Telephone : Whitehall 7264

720.5
v.80 pt.2

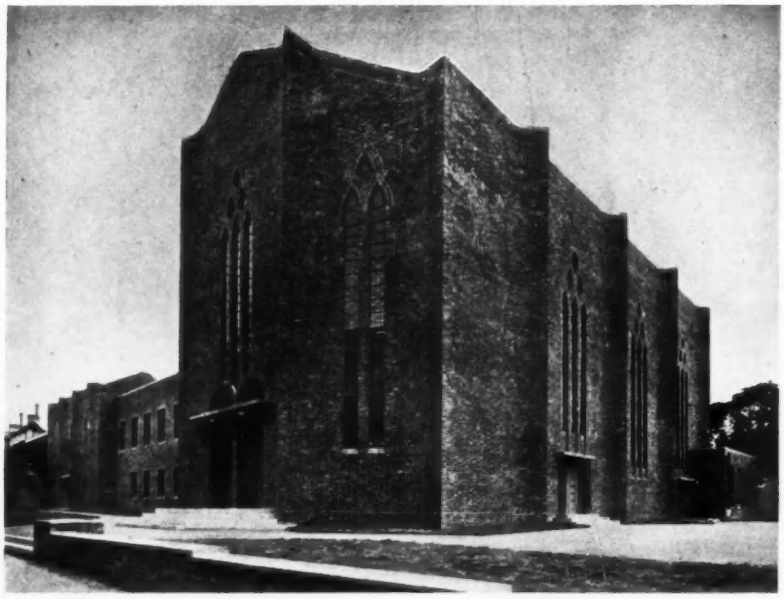
AUTOCHTHONOUS MODERNISM

ARCHITECTURE IN THE BALEARIC ISLANDS



The aboriginal architecture of the Balearic Islands, however primitive in function, seems to possess the same formal characteristics as the more sophisticated modernism on the Continent. The cubic forms have sprung in the same way from structural employment of a material well within its limitations, though in this case an autochthonous material replaces the scientifically evolved concrete of whose natural architectural expression it is probably the earliest European prototype.

This photograph was taken on Iviza, one of the Balearic Islands, and is to be seen at the Exhibition of Camera Art by Baron Mario Bucovich which began last Friday. The exhibition is at Sunderland House, Curzon Street, W., and will remain open until October 18.



S. W. NEWBERY

SUTTON BAPTIST CHURCH AND SUNDAY SCHOOL

This new Baptist Church and Sunday School, in Cheam Road, Sutton, was opened on Saturday last. Externally the building is faced with greyish red bricks, relieved by natural coloured concrete copings and hoods over the doors. The upper photograph is a general view, taken from Cheam Road; and the lower shows the interior, looking into the Choir. The Church, for which the architects are Welch, Cachemaille-Day and Lander, is further illustrated on pages 486-489 of this issue.

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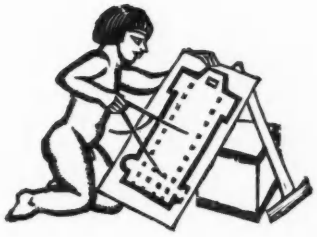

ARCHITECTURAL TRADE UNIONISM

THE news, announced last November, that the Association of Architects, Surveyors and Technical Assistants was withdrawing from its representation in the R.I.B.A. was the first intimation most of the profession had of disagreement between these two bodies. Actually, it appears, the chief point of disagreement between them—a workable definition of the difference between their respective functions—has been under discussion since a year previously; and the October issue, published this week, of *The Keystone* (the A.A.S.T.A.'s official journal) prints an account of the various meetings, arguments and communications that have passed between the two bodies. The article in *The Keystone* sets forth also the views of the A.A.S.T.A. on the implications of the same controversy, and the Association's interpretation of the attitude of the R.I.B.A.

As the matter is bound to be the subject of further discussion now that the details have been printed for all to see (and, indeed, because it is of the greatest importance to architects who are members of the Association) it seems timely to try to extract the essential points of disagreement from the mass of argument, misunderstanding and accusations of mal-organization through which the disagreement has been expressed.

The one question on which everything depends is, it appears, that of architectural trades unionism, and the following extract from *The Keystone's* article describes how the question arose :

> In the autumn of 1932 the Directors of the Co-operative Wholesale Society informed the A.A.S.T.A. that the R.I.B.A. had been recognized as a Trade Union by the Trades Union Congress. This statement was surprising. We should make it clear that the R.I.B.A. was not in any way a consenting party, and had no knowledge of this. In November, 1932, the Secretary of the Association wrote to the Secretary, R.I.B.A., stating that he wished to attend a meeting of the Executive Committee of the Institute in order to explain the position, pointing out that this recognition of the R.I.B.A. as a Trade Union contained implications which might be dangerous from the Institute's standpoint. At that time the Secretary of the A.A.S.T.A. was a member of the R.I.B.A. Council, and had a right to attend a meeting of the Executive Committee of the R.I.B.A., but the Secretary of the Institute did not comply with the request, and nothing was done. This brings us to the question : What is a trade union ?
>
> In the wider sense a Trade Union is an organization which seeks to protect the interests of employees, more especially with regard to the conditions of employment and remuneration. These two elements determine the status, which is inseparable. An organization which seeks legal or State recognition as being competent to protect the interests of employees may be registered under Trade Union Acts, provided it is an organization of employees. There are Acts which definitely refer to Trade Unions as such, but there are other Acts that refer to organizations which aim at protecting the interests of employees and also refer to unregistered Trade Unions. Naturally the latter Acts have a wider significance, and cannot be evaded by an organization merely deciding that it will not call itself a Trade Union. The A.A.S.T.A. is a registered Trade Union for purely legal reasons, and being so registered, it is armed with legal protection or immunity.
>
> Latterly there have been signs that the R.I.B.A. was inclined to disregard the essential position of the A.A.S.T.A. in the profession, and persons on the administration of the Institute began to act as though the Institute had competence of its own to protect the interests of those employed on a salary. This was an irregular state of affairs, and had much to do with the A.A.S.T.A. officially withdrawing its representatives from the Institute in November, 1933. It is obvious that employers are not entitled to appoint themselves as the guardians of employees' interests.

The rest of the article deals chiefly with the organization of the discussions that were found necessary and with reporting details of various attempts at mutual *rapprochement*. If all these and the accusations and counter accusations that the controversy has occasioned are eliminated, this question of the trade union function of the Association becomes their only serious difference with the Institute. If the Association confines itself to seeking a decision on this simple question, and does not allow itself to digress into resentment about alleged maltreatment in the past, and if the Institute examines, without standing on its dignity, the possible benefit a harmonious relationship with the Association might bring to its employee-members (who form a very large, if not a very vocal, section), satisfactory agreement ought soon to be reached. Publicly expressed controversy of this kind is good, provided it brings about a settlement. Each of these bodies has more important work to do than to quarrel with the other. Their common object is the advancement of the interests of their profession, and they can best fulfil it by co-operation rather than by divergence of effort.

The Architects' Journal
Westminster, S.W.1
Telephones: Victoria
9212-7
Telegrams:
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London

NOTES & TOPICS

PROFESSOR ABERCROMBIE ON TOWN PLANNING

THE Town and Country Planning Summer School, founded by Dr. Thomas Adams a year ago, has come to the end of a busy session at Oxford.

*

Speaking there last week, Professor Patrick Abercrombie let fly at the complacent respect with which many people regard the progress of town planning in England. "We have what one might call tactics of town-planning, but not yet sufficient, or at any rate, very little, strategy. Battles have been won on tactics, but not whole campaigns. . . . We are preventing evils of bad development rather than positively initiating good."

*

Exactly. Town-planning is acting negatively and restrictively. Until it *creates*, by planning and through a national town-planning board, nationally, it is wasting half the time and money put into it, and will continue to crawl along at its present deplorable rate. I will go further and say that unless it becomes active enough to promote *construction* and involves architects actively, then it is only a minor activity.

*

It has no policy except *don't*, and it hardly knows how a town should be run today, still less how to build one.

NEW FLATS FOR LIVERPOOL

I have just been looking at the drawings of the new Liverpool flats, as published in the press.

*

They appear to me to be rather heavy going. Rather a stressing of the balcony lines with the heavy hand of enthusiastic modernism that reminds one too much of the less good features of Vienna.

*

Liverpool has adopted the gallery approach, it seems, and banked heavily on the living room approach, which up to a point and in the present circumstances is a wise thing to do, especially where private family balconies are thrown in.

*

Finally I think we will, like the Germans, revert to the inside staircase approach, but in a new and more civilized form. But that we cannot do with full success until we have made practical politics of a system of refuse disposal from the inside of flats on lines similar to the Garchey system which was shown at the New Homes for Old Exhibition at Olympia, and is used in so many of the large housing schemes in France.

R.I.B.A. *versus* A.A.S.T.A.

It is some months now since I made some remarks upon this matter, and hoped that the two bodies would find some basis upon which their differences could be settled. The latest information suggests that the unfortunate position is much as it was.

*

The October number of *The Keystone* (the journal of the A.A.S.T.A.) contains a statement of that body's attitude and a history of the events which have led up to the present deadlock. The full details are not given, but the statement is quite lucid, although I should have liked to have been able to see a similar document detailing the workings of the R.I.B.A. minds.

*

Some of them, to be candid, stare at one from between the lines of *The Keystone*. The real trouble, it appears, is petty jealousy supervening on petty dignity ; and there seems to be no reason why, by a little generous sacrifice on both sides, the two bodies could not patch up their respective sores and work not only quite amicably, but very vigorously and successfully, together.

*

It is rather saddening to see two such institutions so far forgetting themselves as to squabble over comparative trifles when there is so much work waiting to be done. Already it has emerged that, in the words of *The Keystone*, "on the main issue there is no difference of opinion between the Council of the Association and the Council of the R.I.B.A."

*

Very well then !

MR. DAWBER IN FRANCE

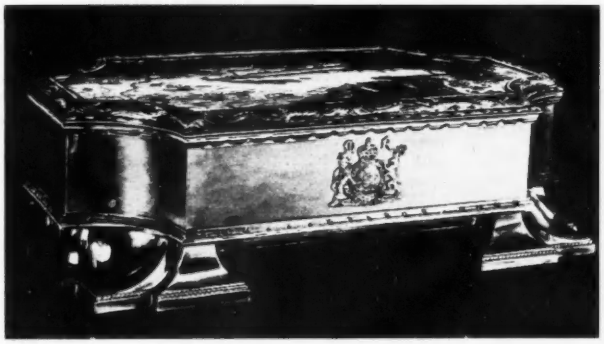
How delighted I was to read in the correspondence column of *The Times* a long letter from Mr. Guy Dawber, recounting, as one friend might to another, the delights of a motor holiday through Western France.

*

This column is in the main a formidable affair, and except for the odd parsonic nature note, is not given to this sort of a letter. I imagine that the editor must have succumbed in a fit of overpowering nostalgia to the charm of Mr. Dawber's so happy phrases. As I did, too, having gone over the same roads a year ago in happy company.

*

There was, of course, a sting in the tail. It is the beastly French habit of painting advertisements over the



ART IN INDUSTRY: 1934—*When H.M. the Queen launched the new Cunarder last week, the builders, Messrs. John Brown, presented her with a stainless steel casket mounted in gold and silver-gilt. This is it: the lower picture shows the design on the lid. The casket was designed and executed by Omar Ramsden.*

complete sides and sometimes even the roofs of roadside buildings, be they ever so lovely in their setting.

*

It is a beastly habit this of writing DUBONNET in three-foot letters on a house built delicately for the graver tastes of the eighteenth century. The French are as bad as we are, and the only grace to save them lies in numbers. You realize this when you drive the car off the boat at Dover and strike homewards. Compared with France the English road is a nightmare.

PLANNING

The current number of *Planning*, issued by P.E.P, contains an analysis of unemployment which, for the first time in my knowledge, is definitely related to employment; and surveyed over a long enough period to give a picture not so gloomy as that which arises from the subjective scrutiny of what we presume to call an entirely active disease, but which in some considerable part is only a negative result.

*

Employment is actually still expanding, and we have the remedy against unemployment in the removal from the work pool of the millions of young people and the many older people who take jobs away from the able-bodied and middle-aged.

*

Again, of course, crops up the question of public works and again that same decision: that works started merely to give work lose money, but that if we will look to our resources with an eye to the future of our national economy we will find public works that will yield new sources of wealth while they absorb our idle man power.

WORK BY COPNALL

Today, October 4, Sir Giles Gilbert Scott is to open the exhibition of Bainbridge Copnall's recent work. It will consist of working drawings of the interior and exterior sculpture of the new R.I.B.A. building.

*

The show will be interesting. Copnall is unquestionably able, although his work does not please everybody; and the R.I.B.A. scripture has excited a good deal of discussion already.

*

You can see the drawings for it at the Storran Gallery (opposite Harrods) any time before October 20.

BUILDING DEVELOPMENT AT CLIFTONVILLE

I took a walk the other day along the seafront at Cliftonville. On the outskirts was the inevitable rush of building development.

*

Most of the new houses were of the usual Jerrybethan type, but I found one or two that had "gone modern." Curious to see what they were like inside, I approached the entrance gate of an empty one—and stopped short. On it, written in large letters in chalk, was the command: KEEP OUT OF THIS. I slunk away abashed by the disarming frankness of the builder. Later I was told—whether it was true I don't know—that the public had shown so much interest in the modern and so little in the olde worlde houses that the builder had grown tired of answering enquiries.

OLYMPIA SIDESHOW

On the last night of the Building Exhibition I was led, by a feeling of boredom and a junior salesman, away up some back stairs to look at the Hairdressers' show next door.

*

Admirable uniformity of stands and a lay-out that made me want to look at practically everything; all arranged by Joseph Emberton.

*

I don't pretend for a moment that uniform stands would be any use at the Building Exhibition, but I *do* hope that a few managing directors found their way through as well, and came away with some idea of what *planning* can do for an exhibition.

*

And I noticed, by the way, that the hairdressers have a Registration Council, too.

DINNER

What a nice little dinner we had together: the judges of the Venesta stand competition and the happy winners of cash prizes all met together the other night, and I was invited too—a table ringed in youth all bent towards the plywood age. The remarkable things about that competition were the startling advance in the average knowledge of the technique of plywood design as evidenced in drawing after drawing, and the extreme youth of the competitors.

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

"In 1932 the Directors of the Co-operative Wholesale Society informed the A.A.S.T.A. that the R.I.B.A., had been recognized as a Trade Union by the Trades Union Congress" 481

The results of three limited competitions 485

"... The inadequacy of the R.I.B.A. room at the Building Exhibition ..." 490

No fewer than 532,321—or 46·4 per cent.—of the total number of houses in Scotland are houses of one and two rooms 498

EXHIBITION: THE ARTS AND SOCIAL CONDITIONS

The first exhibition held by the British Section of the Artists' International opened yesterday at No. 64 Charlotte Street. The Exhibition consists of paintings, drawings and sculpture, and photographic and architectural work collected under the title "The Social Conditions and Struggle of Today." The works are selected in relation to this title and include an architectural exhibit planned to indicate the manner of attacking the housing problem under different political creeds, and the social conditions resulting from each.

Selections from the Exhibition will be sent to represent Great Britain at a forthcoming international exhibition in the U.S.S.R. The Exhibition is open from 10.30 a.m. to 8.15 p.m. daily (including Saturdays and Sundays) until October 17.

SIR HILTON YOUNG'S TOUR

A tour of English cities and towns is now being made by Sir Hilton Young, the Minister of Health, in order to discuss with local authorities the progress of slum clearance schemes.

On October 1-2 he visited Plymouth. Yesterday he journeyed to Bradford; and today he is due at York. The rest of his programme is as follows:—October 5, Durham; October 8 and 9, Birmingham; October 10-12, Sheffield; October 13, Reading (for opening of library); October 15, Wolverhampton; October 16, Stoke; October 17-18, Manchester; October 18-19, Liverpool; October 19, Manchester (second visit); October 20, Rochdale; October 25, Norwich.

THE ADVISORY PANEL SYSTEM

The Advisory Panel System was discussed by Sir Percy Hurd, M.P., at a luncheon given by the Council of the National Association of Building Societies at the Hotel Great Central, London, last week.

By the advisory panel system, he said, it was sought to enable housing authorities and builders generally to serve their own and the public interests by obtaining, at their own doors so to speak, expert counsel on choice of sites, designs, materials, and so on. Without in any way trespassing on the powers and functions of local authorities or their officials, it was found possible to be of great assistance in securing better buildings at the same or less cost, and preserving the amenities of town and countryside alike.

"The process we are advising," Sir Percy Hurd added, "is the setting up of a principal advisory panel or committee in each county, composed of architects, builders, and others, who would in turn organize advisory sub-panels in all local government areas, so that the advice may be given promptly and delay avoided.

"Our sole object is to be helpful to those who are dealing with a very difficult problem."

THE ARCHITECTS' DIARY

Thursday, October 4

R.I.B.A. *Architects' Unemployment Committee. At 7 Bedford Square. Exhibition of work done under the Architects' Emergency Scheme. Open until further notice.*

SOUTH WALES INSTITUTE OF ARCHITECTS (CENTRAL BRANCH) AND INSTITUTE OF BUILDERS. *At the Engineers' Institute, Park Place, Cardiff. "Italy—Old and New." Lantern lecture by F. R. Yerbury, Hon. A.R.I.B.A.* 7.15 *p.m.*

ARTISTS' INTERNATIONAL. *At 64 Charlotte Street, W.1. Exhibition: "Social Conditions and Struggle of Today." Until October 17. Daily (inc. Sundays), 10.30 a.m. to 8.15 p.m.*

Friday, October 5

TOWN PLANNING INSTITUTE. *At Birmingham. Sixteenth Annual Country Meeting. Opening day. Until October 7.*

HOUSING AND HEALTH EXHIBITION. *Kelvin Hall, Glasgow. Open until October 27.* 11 *a.m. to 10 p.m.*

STORRAN GALLERY, 106 *Brompton Road, S.W. Exhibition of Mr. Bainbridge Copnall's working drawings of his sculpture on the new R.I.B.A. Building. To be opened by Sir Giles Gilbert Scott, R.A., P.R.I.B.A., at 5 p.m. Open until October 22. 10 a.m. to 6 p.m. (Saturdays: 10 a.m. to 1 p.m.)*

Saturday, October 6

ARCHITECTURAL ASSOCIATION. *At 36 Bedford Square, W.C.1. "Building England, 1, The Countryside." By G. A. Jellicoe, A.R.I.B.A., A.A.Dip.* 3 *p.m.*

ROYAL PHOTOGRAPHIC SOCIETY. *At 35 Russell Square, W.C.1. Annual International Exhibition. Last day.*

ST. PAUL'S ECCLESIOLOGICAL SOCIETY. *Visit to St. Martin, East Horsley; West Horsley Place and St. Mary the Virgin, West Horsley, Surrey.* 2.30 *p.m.*

SPOLIATION OF THE COUNTRYSIDE

Mr. G. H. Jacks, F.R.I.B.A., speaking at the Town and Country Planning School at Oxford last week, said that the immediate concern of town-planners should be with the rapid development of large tracks of hitherto unspoiled country which was taking place. "There never was a time like the present for this sort of thing. It is probable that in the year which ends next March the record of building will reach 350,000 houses, apart from slum clearance, which will probably double that figure.

"Ninety per cent. of these houses will be designed and erected by persons who lay no claim to any architectural training. While a good proportion of the houses are a great advance on Victorian housing development, there is much, especially among the smaller houses, which is to be regretted.

"Some of them are mean in every way and not worth the small sums asked for them. It is this type which specially calls for control. They are a disgrace to a town and ruinous to the amenities of the country.

"There is now scarcely a village which has not been marred by some unnecessary ugliness, often not cheap but simply out of place and inharmonious and which can be prevented under existing powers. Neither councillors nor the majority of officials are trained as architects. It is a serious admission that in large areas of England and Wales councils are either not able or are unwilling to provide competent advice as to how this control of the appearance of buildings is to be exercised."

R.A. EXHIBITION OF BRITISH ART IN INDUSTRY, 1935

The selection for exhibits for all sections of the above Exhibition, to be held at Burlington House, Piccadilly, W.1, during January-March, 1935, will shortly take place.

We understand that no articles will be accepted for selection unless the appropriate entry form has been sent in. Each entry requires a separate form.

Entry forms are obtainable from the Hon. Organizing Secretary, R.A. Exhibition of British Art in Industry, Burlington House, W.1.

SOUTHEND FRONT TO BE EXTENDED

The Southend Corporation has approved a scheme for the extension of the front from Chalkwell to Leigh, at an estimated cost of £180,000. The scheme will include the construction of a car path, bathing pavilions, bathing beach, etc.

£81,000 ENTERTAINMENT HALL FOR BEXHILL

The Bexhill Corporation has accepted the tender, £81,032, of Rice and Son, Ltd., for the erection of an entertainments hall on the coastguard site.

The architects are Messrs. Serge Chermayeff and Erich Mendelsohn, whose scheme was placed first in a competition held some six months ago.

THE BUILDING EXHIBITION

We understand that over 125,000 persons attended the recent Building Trades Exhibition at Olympia.

Nearly 1,000 architects are stated to have signed the register in the R.I.B.A. Clubroom, and the register of the Incorporated Association of Architects and Surveyors bore 800 signatures.

LIVERPOOL AIRPORT

An expenditure of £100,000 on Liverpool Airport in the next two years is recommended by the Speke Estate sub-committee of the Liverpool Finance Committee. A

new lay-out was approved last week and, subject to the approval of the City Council, the Air Ministry and other Government departments concerned, it is the intention to put the work in hand at once.

The new lay-out takes the Hamburg aerodrome more or less as a model, but it is believed that the Liverpool Airport will show considerable improvements on the Hamburg one. Behind the concrete "apron," the new lay-out provides for new control buildings, one large hangar to house together nine of the biggest aeroplanes, a site for a second hangar of similar size, two spacious parking places, and internal roads. Out of a total of about 450 acres included in the airport, some twenty acres are now proposed to be treated. Mr. A. D. Jenkins, City Land Steward and Surveyor, has designed the lay-out.

LIVERPOOL ARCHITECTURAL SOCIETY

The eighty-seventh session of the Liverpool Architectural Society opens on October 17 with the presidential address by Lt.-Col. Ernest Gee, F.R.I.B.A. An interesting programme of lectures has been arranged for the following six months.

Mr. L. H. Keay, F.R.I.B.A., on "Housing," Mr. Nigel Norman, B.A., on "Aerodromes," and Mr. Lionel G. Pearson, F.R.I.B.A., on "Hospitals," are to be heard in the first half of the session.

In the second half, Professor L. P. Abercrombie, M.A., F.R.I.B.A., will speak on "Town Planning," Mr. Howard Robertson, F.R.I.B.A., S.A.D.G., will discuss "Exhibitions," Mr. G. L. Pilkington is to talk on "Glass," and after the annual general meeting, Mr. W. G. Newton, M.A., F.R.I.B.A., is to lecture on "Schools."

SCIENTIFIC AND INDUSTRIAL RESEARCH

Sir John Cadman, G.C.M.G., D.SC., M.INST.C.E., and Sir James H. Jeans, D.SC., LL.D., F.R.S., have been appointed members of the Advisory Council to the Committee of the Privy Council for Scientific and Industrial Research.

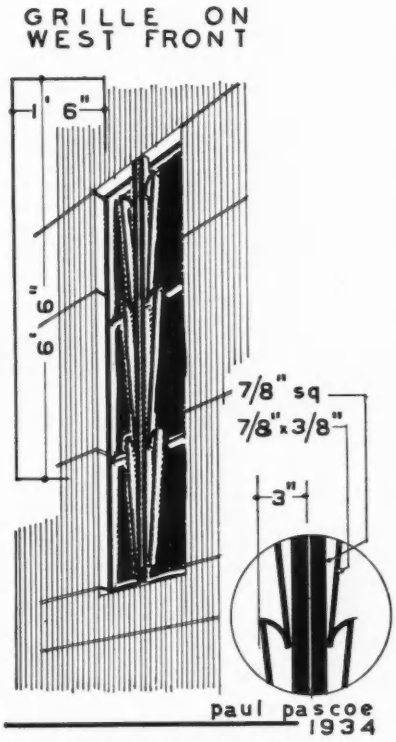
Sir Arthur Balfour, Bart., K.B.E., J.P., Sir William H. Bragg, O.M., K.B.E., D.SC., F.R.S., and the Right Hon. Lord Rayleigh, SC.D., F.R.S., have retired from the Council on the completion of their terms of office.

COMPETITION

NEWS

METHODIST COLLEGE MEMORIAL HALL, BELFAST

Mr. R. S. Wilshere, F.R.I.B.A., the assessor in the competition (limited to architects practising in Ireland) for a proposed



From the Horticultural Hall, Westminster, S.W. Designers: Easton and Robertson.

Memorial Assembly Hall at Methodist College, Belfast, has made his award as follows:—

Design placed First (£100): Mr. Alan H. Hope, of 86 Merrion Square, Dublin.

Design placed Second (£50): Mr. J. W. Buchanan, A.R.I.B.A., A.M.T.P.I., of 18 Ely Place, Dublin.

The drawings are now on exhibition at 7 College Square North, Belfast.

COUNCIL SCHOOL, BEDFORD

Mr. J. R. Leathart, F.R.I.B.A., the assessor in the limited competition for a proposed school, Bedford, has awarded first place to the design submitted by Mr. Louis de Soissons, F.R.I.B.A.

The winning design is illustrated on pages 506-507.

JOHN KEBLE MEMORIAL CHURCH

The design submitted by Mr. D. F. Martin-Smith, A.R.I.B.A., has been awarded first place in the limited competition for the proposed John Keble Memorial Church, Mill Hill. Mr. Edward Maufe, F.R.I.B.A., was the assessor.

The winning design is illustrated on pages 503-505.

The drawings are now on exhibition in the Church Hall, Reans Lane, Mill Hill, until October 11.

Competition Open

No date.—Proposed Public Offices, Bridge Road, Welwyn Garden City, for the Welwyn Garden City U.D.C. (open to architects of British nationality). Assessor: C. H. James, F.R.I.B.A. Premiums: £75, £35 and £25, for designs placed first, second and third, respectively. Conditions, etc., obtainable from B. H. Deamer, Clerk to the Council, Council Offices, Bridge Road, Welwyn Garden City (deposit £1 1s.).

Competitions Pending

Lay-out of, and scheme for building on the prison grounds, York, for the York Corporation. Premiums: £250, £150 and £100.

Town Hall, Knights Lane, Edmonton, for the Edmonton U.D.C.

Development of the Lumps Fort site, for the Portsmouth Corporation.

New college for technical, commercial and art studies, Birmingham, for the Birmingham Education Committee.

Central offices, Hertford, for the Herts C.C. Premiums: £350, £250 and £150.

Technical college, Bolton, for the Bolton Education Committee. Premiums: £500, £250 and £100.

Civic building in connection with the proposed scheme for a civic centre, Enfield, for the Enfield U.D.C.

Development of the Tuns Gate site, Guildford, for the Guildford T.C. (limited competition).

Rebuilding of Bishopsgate Police Station and Police Hospital, for the City of London Corporation. Premiums: £250, £100, and £50.

Town hall, for the Southall-Norwood U.D.C.

Municipal centre, Romford, for the Romford U.D.C.. Premiums: £250, £100 and £50.

Town Hall, Bury, for the Bury T.C. Assessor: J. Hubert Worthington, F.R.I.B.A.

R. I. B. A.

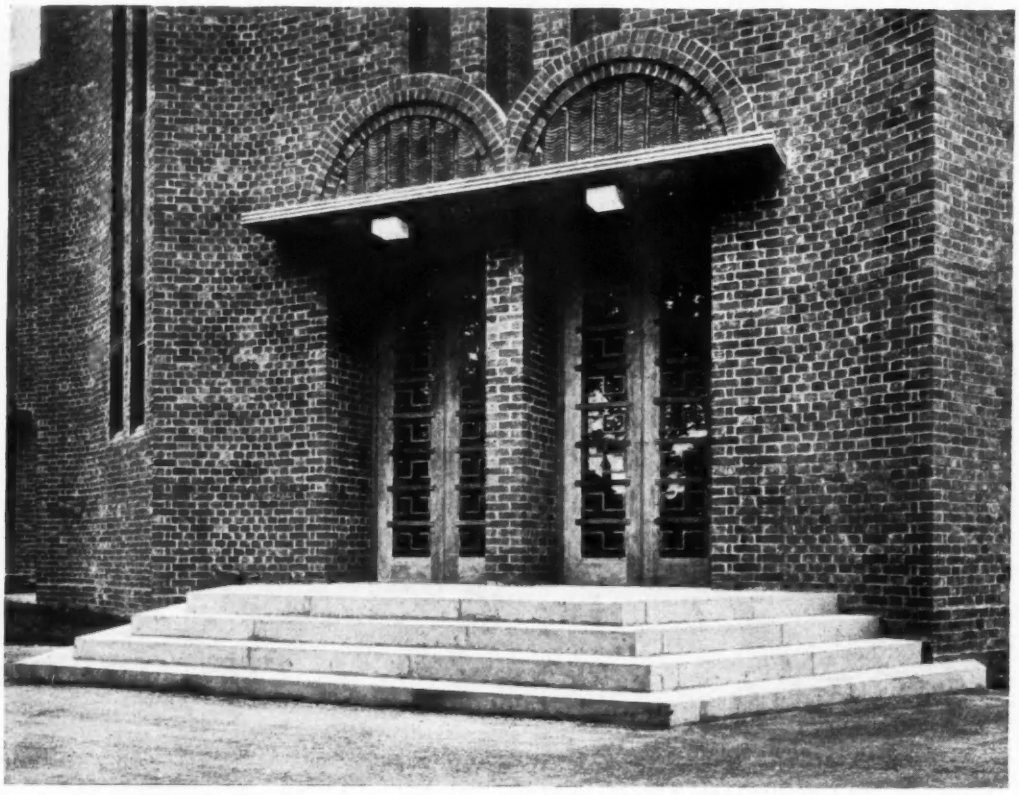
R.I.B.A. (ARCHIBALD DAWNAY) SCHOLARSHIPS

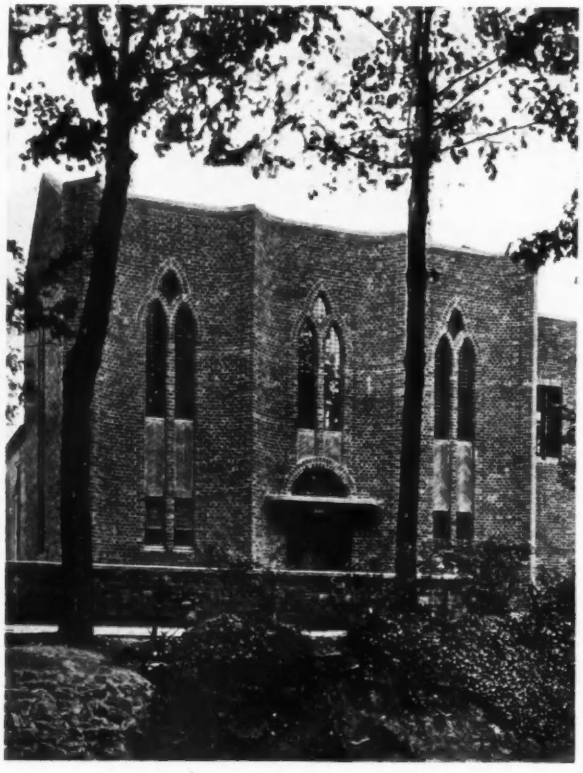
In accordance with the terms of the will of the late Sir Archibald Dawnay, the Royal Institute of British Architects have awarded two Scholarships of £50 for the academical year 1934–1935, one to Mr. A. M. Graham, of the School of Architecture, Edinburgh College of Art, and the other to Mr. H. E. A. Scard, of the Welsh School of Architecture, The Technical College, Cardiff.

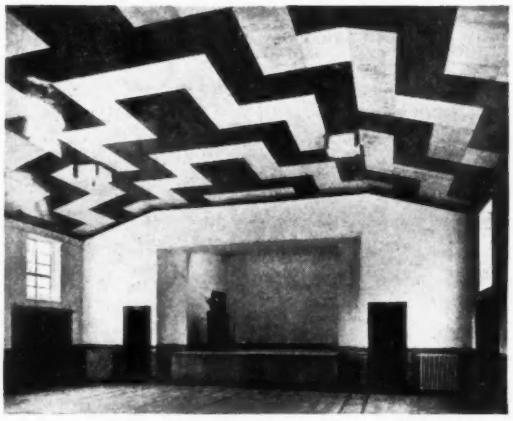
Mr. J. Holt, of the Armstrong College School of Architecture (University of Durham), Newcastle-upon-Tyne, and Mr. J. Muskett, of the Liverpool School of Architecture, University of Liverpool, who were awarded Scholarships of £50 each for the academical year 1933-1934, have been granted renewals of their Scholarships for the year 1934-1935.

The Scholarships are intended to foster the advanced study of construction and the improvement generally of constructional methods and materials and their influence on design.

SUTTON BAPTIST CHURCH





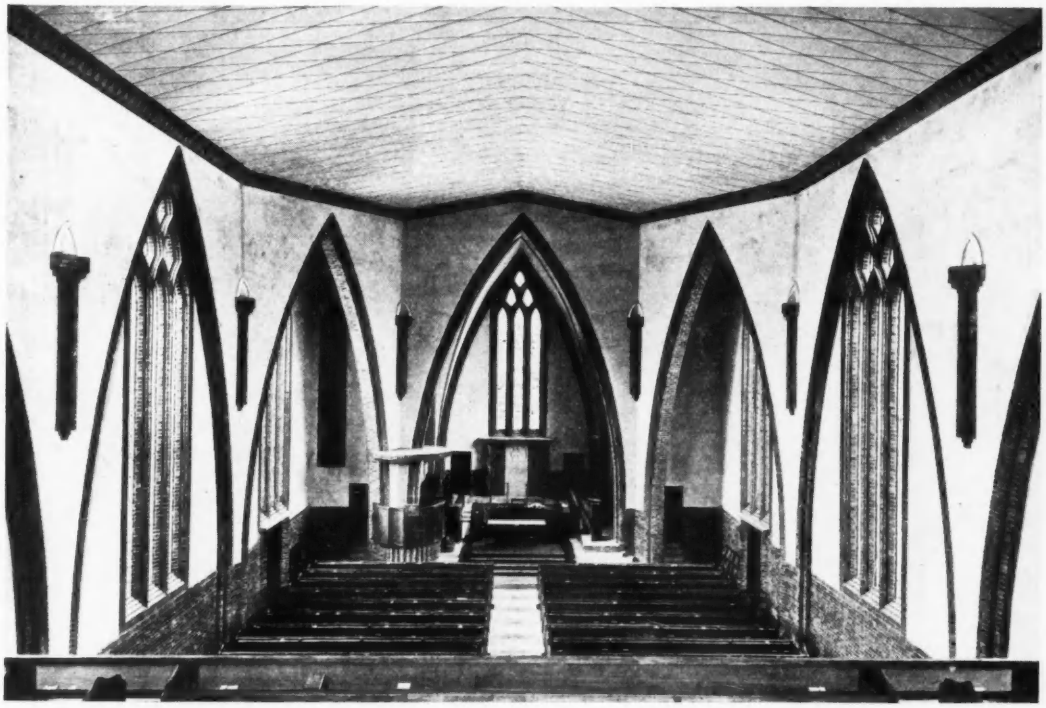


S. W. NEWBERY

The photographs show: top, the main entrance to the Church; left, the Hall and Sunday School; and the interior of the Hall and Sunday School, looking towards the platform.

DESIGNED BY WELCH, CACHEMAILLE-DAY AND LANDER

A N D S U N D A Y S C H O O L



S. W. NEWBERY

The building is faced externally with greyish-red bricks. Internally, the walls are finished in lime plaster, left rough with a wood float. All pews and fittings are of fumed oak. The ceilings in the Hall and Sunday School and Church Parlour have been carried out in plaster, wax-polished. In the case of the Hall and Sunday School, the ceiling is stained and waxed in dark and light patterns; the floor, of polished oak, is marked out for badminton.

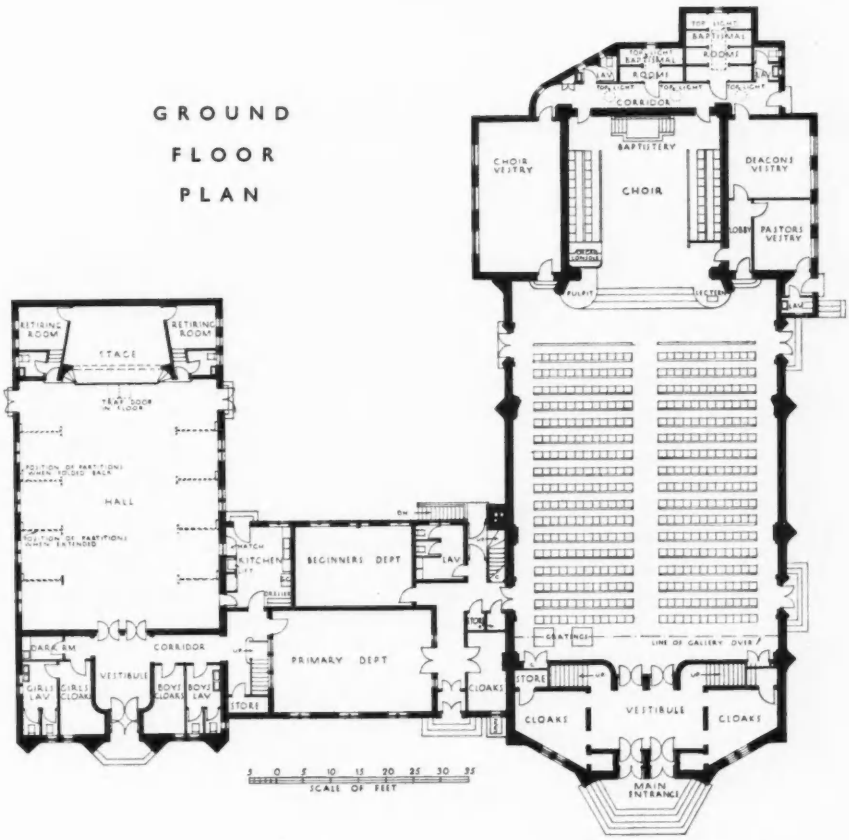
The Church Parlour is on the first floor, above the entrance to the Hall.

The organ is contained in a chamber above the choir vestry, the oak console being behind the pulpit. The organ has electro-magnetic action and an unusual feature is its silent luminous stop control.

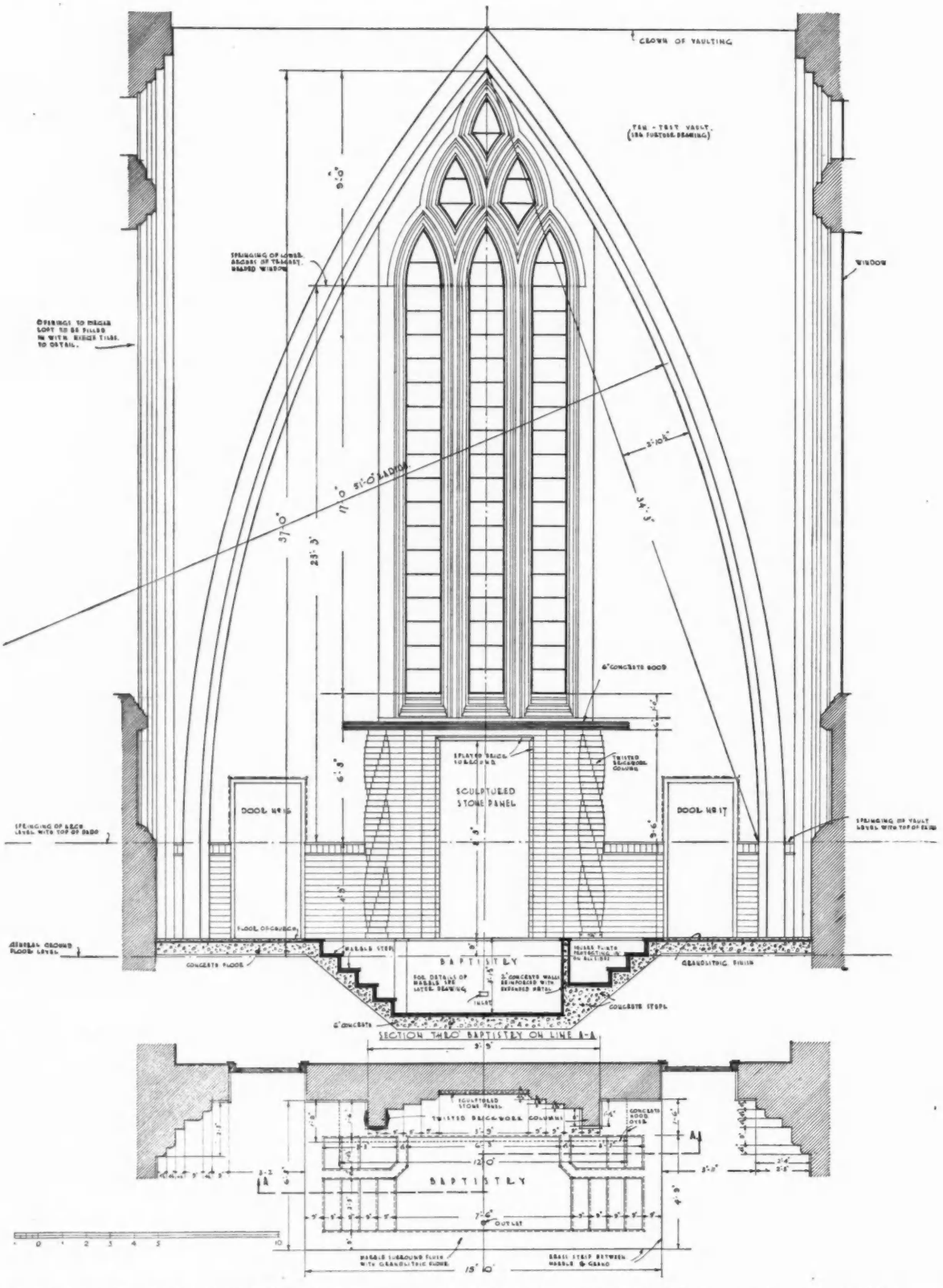
A stained glass window, representing scenes from Pilgrim's Progress, is the work of Mr. Christopher Webb.

Above is a view looking towards the Baptistery from the gallery.

GROUND FLOOR PLAN



SUTTON BAPTIST CHURCH: DESIGNED BY



SECTION THROUGH CHOIR, LOOKING TOWARDS THE BAPTISTERY

WELCH, CACHEMAILLE - DAY AND LANDER

The Baptistery. The panel, in Hopton Wood stone, was executed by Miss J. P. Allan.

LETTERS FROM READERS

THE NEW HOMES FOR OLD COMMITTEE
R. W. SAMPSON
HORACE FARQUHARSON, F.R.I.B.A.
ANDREW CARDEN
F. E. ROBSON
ARCHICONOMIST
LOUIS F. HURLEY

New Homes for Old

SIR,—May we ask you to give us an opportunity of expressing our deep indebtedness to Messrs. H. G., H. C. and H. R. G. Montgomery, for having again enabled us to produce a Housing Exhibition at the recent Building Exhibition at Olympia. With rare public spirit and generosity they placed the space of a whole gallery at our disposal, and provided liberally towards the cost of collecting and displaying our series of exhibits. We should like, therefore, to repeat the acknowledgments conveyed to them at the opening of the Exhibition by Lord Balfour of Burleigh, for the opportunity they have afforded our chairman, Miss J. G. Ledeboer, to organize this Exhibition. The ability with which she and her assistants carried out their purpose was amply repayed by the many praises we received at this addition to "New Homes for Old."

THE NEW HOMES FOR OLD COMMITTEE

The R.I.B.A. Club

SIR,—I should like to endorse the remarks of Mr. Eric Miles on the inadequacy of the R.I.B.A. room at the Building Exhibition—it really was a disgraceful little hole, quite unworthy of the Institute.

We have all heard that the bootmaker goes the worst shod, but that isn't any reason why the architect should be the worst-housed, especially in public, as it were.

If an architect did by any chance take a client into this little dog's hole, what would he think? We must not advertise as individuals, of course, but surely there can be no objection to a little show as a body. One felt positively ashamed of being in the place.

R. W. SAMPSON
Sidmouth

Salesmanship at the Building Exhibition

SIR,—In former years, as the interested visitor passed from stall to stall, he was able to locate the salesmen by the fact that they universally and continually smoked cigars—so he knew to whom to address his enquiries.

In these hard times the cigar is superseded by the cigarette; but as the general public can also afford cigarettes, it is often difficult to tell, on a popular stall, which are the salesmen and which the enquirers.

This year, on many stalls where I wished to make enquiries, I found groups of people busily talking, or aloof individuals standing about with a disinterested air, and I felt a natural hesitation to break in on either their conversations or meditations. It is embarrassing to ask a well-dressed person on a stand whether he can tell you anything about, say, a certain sanitary appliance, and then to find that he has nothing whatever to do with the exhibit.

I should like to suggest two things to the exhibitors which would certainly be helpful to the visitor, and which would, I venture to think, improve the sales :—

(*a*) That all representatives should wear some badge—either individual to the stand, or of a design common to all. It should be obvious and very clearly visible. A light coloured badge in the lapel of the coat would do admirably, and would be extremely simple to supply and easily removed when the salesman was not on duty. There could be nothing derogatory about this for, of course, no one is put forward as a salesman unless he is keen on his work, and anxious to extol his particular wares.

(*b*) That the representatives should remember that they should make an impression of keenness on the possible customer, and that the very fact of a salesman advancing, cigarette in mouth and hands in pockets, has a repelling effect on many an otherwise sympathetic enquirer.

If only these two points could be attended to, I am quite certain that these admirable exhibitions, out of which I generally get so much pleasure and profit, would prove even more useful than they are, both to buyers and to sellers.

HORACE FARQUHARSON
London

Economics and the Architect

SIR.—With reference to Mr. Darrell's letter of September 13, may I say :

1. That no social creditor would deny that B payments have been A payments in some past period of production. What is of importance, is, that unless these A payments (wages, salaries and dividends) have been saved (not invested), they will not be available to meet the cost of the final product.

2. Would Mr. Darrell be so kind as to explain what he means by his rather vague phrase, "his mistaken views on the nature of bank credit."

3. Mr. Darrell gives me the impression that he believes that the "velocity of circulation of money" is of importance under the present system of finance costing. In reality it has none. A unit of money invested may create more than one unit of debt, but as soon as it is spent on consumable goods it is on its way back to the bank for cancellation.

4. Mr. Darrell says that social credit distracts the attention of the masses from the real evils of existing society. Seeing that evils credit is continuously drawing attention to the existence of poverty in the midst of plenty and to the evils of wage slavery, and is focusing the attention of the masses on those responsible for the operation of the capitalist system, i.e., the bankers and finance capitalists, I should like to know what he considers these real evils to be.

5. It can be no accident that Mr. Darrell misrepresents clause 9 of the Douglas Scheme for Scotland, which should read as follows :—

"Wage rates in all organized industries will be reduced by 25 per cent. where such reduction does not involve a loss to the wage-earner exceeding 20 per cent. of the sums received in the form of national dividend. The wage rates ruling in 1928 to be taken as the basis against which reductions will be made."

Note, the National Dividend calculated on 1928 figures for Scotland alone were £75 per head of the population per annum.

6. It must be through complete ignorance of his subject that Mr. Darrell confuses a system which aims at giving economic liberty and security to all, with Fascism, which is the most highly developed form of economic and physical slavery that capitalism has yet produced.

ANDREW CARDEN
London

SIR,—In spite of the financial neo-Georgianism of Mr. Geoffrey Biddulph and the Victorianism of Mr. Darrell, the proposals of Major Douglas, after fifteen years of similar attacks, remain the purest expression of modernism in economics.

The essence of Douglasism is to shift the basis of national credit from the

arbitrary authority of International Finance acting through the Bank of England to a realistic basis of goods and services, a condition which has not been attained since the hey-dey of ancient Greece.

This needs the financing of consumption as well as production, for the burden of production is being rapidly lifted from the backs of consuming human beings to the backs of non-consuming machines.

Ancient Greece flourished on helotry; Modern Britain will flourish on machinery. But the wage slave must come into his *cultural inheritance of mobilized real credit* by a national dividend, coupled with a price reduction scheme to ensure that, at all times, the national credit is well and truly laid on its new basis of production and consumption.

What is needed is not an inflation of the price *level* but a scientific inflation of purchasing power, which involves the ratio between money and prices—a very different thing.

The Douglas proposals should make a strong appeal to apostles of the modern spirit in architecture. Awake! all lovers of stark form and pure function. Shed your light in this dark hour before the dawn of the modern Renaissance! All who do not feel this Olympian death grapple between Life and Money Power are surely the living-dead.

F. E. ROBSON
Gateshead-on-Tyne

SIR,—I am attacked on both flanks; on the one side by a communist and on the other by an orthodox economist. I will deal with one at a time.

Mr. Darrell—communist. He makes a very specious attack on the A plus B theorem. Admittedly it is subtle and not easy to grasp at one reading, but—try again, Mr. Darrell. That B payments are ultimately A payments is true, but he has forgotten the element of time.

The communist's usual statement that "the poor are poor because the rich are rich" can be exploded by a few figures anent the national income. Professor A. L. Bowley estimated Great Britain's total annual income over and above £150 per family at £250,000,000, which sum divided among the 10,000,000 families would benefit each by £25. Although these figures apply to the period immediately before the war, they are sufficient to prove the absurd discrepancy between real wealth and purchasing power. More recent figures can, I believe, be found in *Lloyd's Review* for July of this year.

Public Enemy No. 1 is not the so-called capitalist, but the banker. Thus Lenin: "In running the current account of a certain number of capitalists, the bank may seem to be undertaking only a technical process; but when these operations assume extensive proportions, the result is that a handful of monopolists control all the operations, both commercial and industrial, of capitalist society." The control of credit means the control of production and its distribution. It should therefore be in the hands of the people.

Social Credit claims that production can perfectly well be left to the individual, and that private enterprise is in itself not a bad thing. The trouble with the present system is not that it cannot produce the goods, but that it cannot distribute them. Communism would nationalize production (taking many years of reorganization) and then distribute the plenty, through a dictatorship, whereas Social Credit would distribute the existing plenty (taking a few weeks) and then consider how far reorganization of industry is necessary, through a *genuine* democracy. It is always nationalization of industry the communist talks of, never the nationalization of credit which controls industry.

I do not know who Mr. Darrell's wealthy landowners may be, nor his "most diehard littérateurs." I could give a long list of Social Creditors among the intelligentsia, including Professor Abercrombie, Professor Dobree, T. S. Eliot, Aldous Huxley, the Dean of Canterbury, Professor Herbert Read, Professor I. A. Richards, Compton Mackenzie.

And now once again Mr. Biddulph—orthodox economist. In reply to his points:—

1. I cannot understand this.
2. I agree.
3. Presumably by this Mr. Biddulph means he is an inflationist, but both inflation and deflation are expressions of the present unreality of our insane money system.
4. Whether or no Mr. Biddulph would be offered a fortune if he could refute A plus B-ism is not so interesting as the actual fact that in Australia, a very advanced Social Credit country, banks will present one with anti-Douglas literature to the value of 7s. 6d., and that they have been issuing anti-Douglas pamphlets to all their depositors. In this case, the printer must be making a fortune.

"In fact, about seven years ago, it (the A plus B theorem) was almost discarded by Douglas propagandists," writes Mr. B. The key-word is "almost."

"But enthusiasts so simple (or so doctrinaire) . . . ." *Tu quoque*, Mr. Biddulph!

5. See my previous letter.
6. I agree that Technocracy's first calculations were inaccurate, but if we accept the figures of the critics of Technocracy, we find them equally astonishing, and in every case Technocracy's basic thesis is confirmed out of its opponents' mouths. However that may be, here is a fact. "With the means that science has already placed at our disposal, we might provide for all the wants of each of us in food, shelter and clothing by one hour's work per week from school age to dotage." (Lord Leverhulme in 1918.) According to the engineer, J. L. Hodgson, in a paper read before the Royal Society in 1932—"since that date our average potential productivity has nearly doubled." One half hour's work per week should thus provide a minimum standard for all and one hour's work per week an overwhelming abundance.
7. I think that all war is fundamentally caused by one of two things: the desire for food or the desire for women. Other apparent reasons are merely symptoms. In Europe today it is caused by the desire for food—it is economic. Owing to the potential super-abundance of wealth in every country, war is now as artificial and out of date as our money system.

Admittedly imports should be encouraged, since they increase the real wealth of a country. But are they encouraged? What is the meaning of the so greatly desired "favourable balance of trade" but bigger export than import trade?

There is a certain kind of fish which exudes a black liquid as a defensive screen. The November fogs will soon be around us.

ARCHICONOMIST
London

This Arshetecture

SIR,—May I express the opinion that the paragraphs which appear weekly under the heading, "This Arshetecture," are in bad taste. They reveal a sarcastic superciliousness which should not exist in any profession and, above all, are not constructive in their criticisms.

Surely this is not the best method by which to make the architect more popular and "understandable" to the man in the street.

LOUIS F. HURLEY
Bangor

C

PLAN THE BUILDING EXHIBITION

OPINIONS OF EXHIBITORS

Last week and the week before we published a number of replies to an enquiry we had circulated among exhibitors at Olympia, asking their views on the advantages of a planned Exhibition. Below we print some further replies. No apology, we feel, is needed for giving so much space to discussion of this question. It is a serious question for the Building Industry, the Exhibition being the only opportunity it has in two years of presenting its products collectively to its customers, and, an examination of the manner of presentation having been undertaken, it must be done seriously and thoroughly. Next week we shall sum up the situation in the light of the opinions that have been expressed. Our letter to exhibitors was as follows :—

DEAR SIR,—" When it is seen how great are the advantages of employing an expert to solve this problem, then exhibitors will insist upon its being done. We believe that the organizer, Mr. Greville Montgomery, is alive to the fact that the Building Exhibition would be a more valuable thing if it were laid out according to the architect's idea of order and planning. It is, we understand, the attitude of the exhibitors themselves which prevents this much-needed organization. We ourselves are exhibitors in a humble way, and we do not hesitate to say that we would welcome a planned exhibition, even if it meant that our exhibit was placed in what we might consider a more unfavourable position. What do the other exhibitors think about it? We would be glad to know."

This paragraph is taken from the leader in our issue of September 6, which deals with the desirability of replanning the Building Exhibition, and which represents, we believe, the point of view of the architectural profession. May we ask you whether your firm is in favour of re-organizing the Exhibition or leaving it as it is?

THE ILLUSTRATED CARPENTER AND BUILDER

(Editor: Basil H. Tripp)

We are absolutely in favour of a planned Exhibition subject to reasonable freedom for exhibitors to study what they consider to be their own best interests in the actual design of a stand. In our view it should not be impossible to achieve a planned exhibition which also gave scope for each exhibitor to express his own individuality. That is our opinion, but I must make it clear that it is given without previous discussion either with the exhibition authorities or with other exhibitors, and it seems not impossible that once the subject came under thoroughgoing review all sorts of unsuspected obstacles and difficulties might be revealed.

I believe that in a recent exhibition, planned by an architect, the individual stands also were designed by him and the result was superb—I am speaking of the Advertising Exhibition a year or two ago. The whole scheme was strictly functional and was, I thought, admirably suited to the purpose of the exhibition although, of course, I should strongly object to having any one of the stands were it built outside in concrete and called a house. It would be as painful to me as an all-Tudor, all-Classic or all-Gothic Building Exhibition inside Olympia—yet I fear some exhibiting firms would be delighted with any one of these solutions, or even a combination of all three. The weak spot in your advocacy of a planned Exhibition is that the Exhibition exists to serve the exhibitors and not the exhibitors to serve the Exhibition, a point too often overlooked today by most reformers and revolutionists. No offence !

KELVINATOR LTD.

We ourselves are not in favour of a planned Exhibition, as suggested in your letter, as we consider the Exhibition as it is gives us more scope for displaying our products. We consider that the present lay-out of the Exhibition is ideal.

FRIGIDAIRE, LTD.

We are exhibitors at a number of London and provincial exhibitions, and our experience inclines us to view with some trepidation efforts to rationalize the lay-out of an exhibition. It is our experience that exhibitions are either planned without any regard to standardized exhibits, with the result that they are unsatisfactory from an artistic standpoint, or that the activities of exhibitors are so severely limited that all individuality in regard to stand design and decoration is killed.

We would look sympathetically on any steps that might be taken to eliminate the extremes of what would generally be regarded as ugly and inartistic, but we feel that reasonable latitude should be left to the exhibitor to ensure that his stand represents his own best ideas of the display necessary to ensure the success of the exhibition from his own individual standpoint.

INTERNATIONAL TIME RECORDING CO., LTD.

We should be in favour of replanning the Exhibition, as we believe this could be done with advantage to all concerned.

ACME WRINGERS LTD.

We are afraid we do not hold very pronounced views on the subject raised in your leader. On the one hand, there is no doubt that the general appearance of the Exhibition could be greatly improved by dealing with it in the manner you suggest, which, we take it, is pretty much what *The Daily Mail* people have done with the Ideal Home Exhibition which they run each year at Olympia. We think, however, the two Exhibitions can scarcely be regarded as parallel, inasmuch as one is almost entirely a Trade Exhibition and the other is purely an appeal to the public. In addition to this, practically everything on exhibition at, say, *The Daily Mail* Exhibition is of a more or less small portable nature; in other words, goods that lend themselves to displays in the ordinary shop sense, and on which the display can be made by an attractive setting. On the other hand, many of the exhibits at the Building Exhibition consist of building construction materials.

The writer was greatly impressed this year by the number of good individual stands there were, particularly of this latter type; in fact, they completely dwarfed the unattractiveness of the more or less ordinary stands like our own. There is no doubt that, if the whole Exhibition was treated as one uniform architectural effort, it would greatly increase the cost to exhibitors and we can quite understand that, while this might even appeal to an exhibitor like ourselves, firms with building material to display would be definitely antagonistic.

[*A final selection of letters from exhibitors on this subject will be published next week.* —ED., *A.J.*]

CAR SERVICE STATION AT STAINES

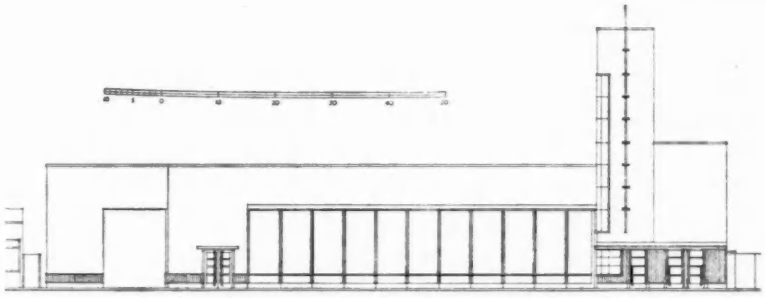
DESIGNED

BY

CAMERON

KIRBY

DELL AND WAINWRIGHT



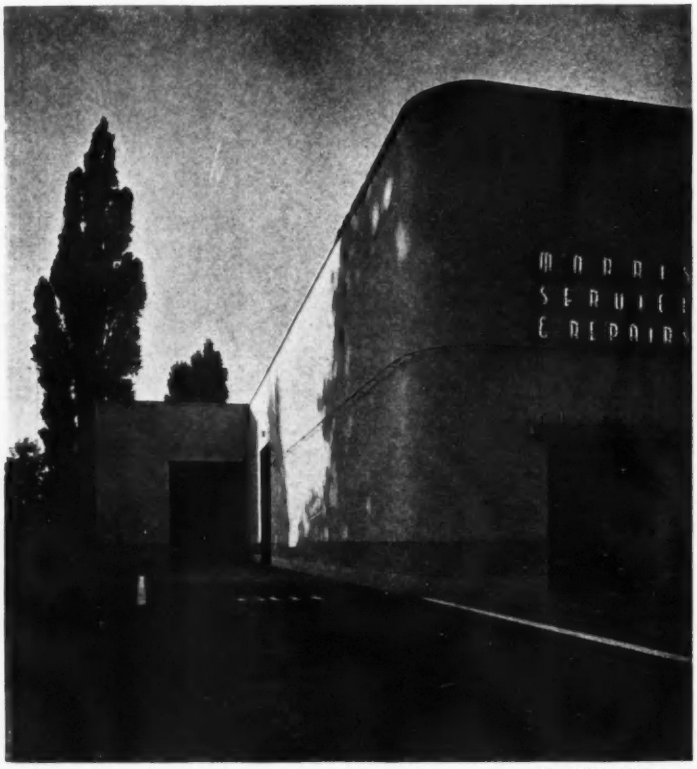
ELEVATION TO STREET

This is one of a series of car service stations now being erected for Messrs. Stewart and Ardern's throughout London, from the designs of Cameron Kirby. The aim of the architect has been to obtain a design which, although varying for each individual site, retains two features observable in them all. These features are the tower, and the wide-span shop-front. The latter is shown in the photograph reproduced above.

CAR SERVICE STATION

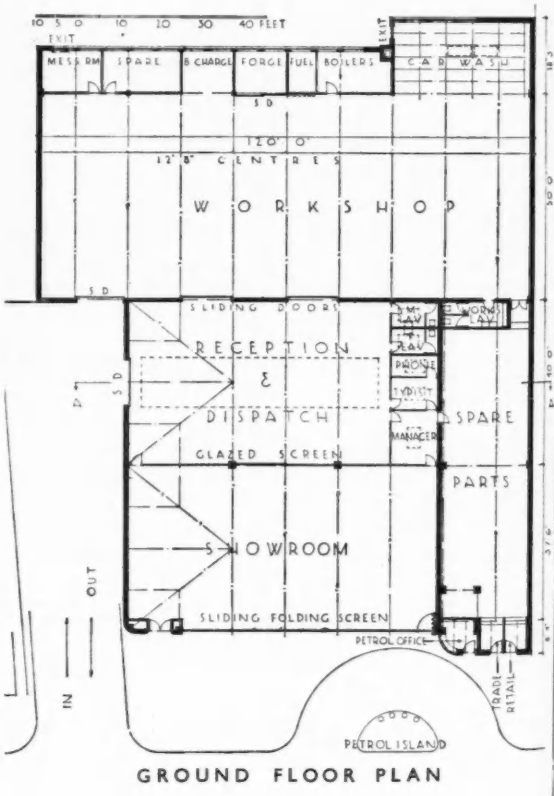
DESIGNED BY

CAMERON KIRBY



DELL AND WAINWRIGHT

The photographs show: top, the main elevation; bottom, the entrances to the showroom (right) and the service repair depot. The wide-span shop-front is approximately 60 ft. long by 14 ft. high and is fitted with a special type of sliding-folding door. This door (said to be the largest of its kind in Europe) enables the showroom to be opened out direct to the public, and allows cars to be taken out on to the forecourt. The building is of steel-framed construction, with an open lattice girder over the large front span. It is cased in brickwork and the front portion rendered in artificial Portland stone. The rear elevation has rustic flettons, distempered.



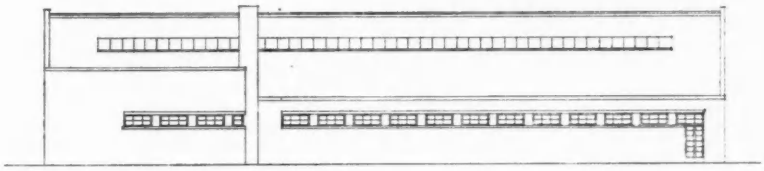
GROUND FLOOR PLAN

AT STAINES, MIDDLESEX

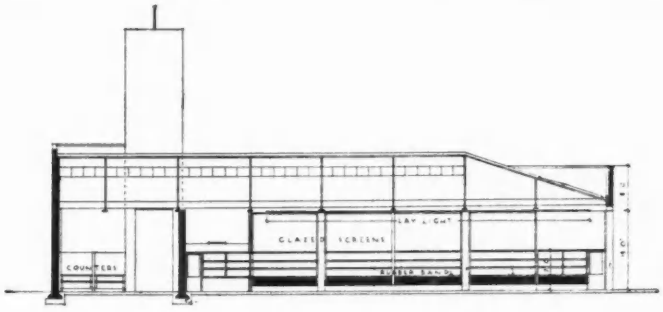
The showroom and reception bay, of which a photograph is reproduced on the right, are plastered and painted, and the floors are covered with terrazzo, with coved margin and skirtings. Running round the walls, slightly above floor level, is a rubber band, which has been specially designed to act as a buffer and prevent cars being damaged. Lighting is by means of 4 ft. diameter flush ceiling fittings with a 2 in. iridescent aluminium margin. Detail drawings of these lighting fittings are reproduced on page 502. The reception bay has a large lay-light, running the whole of its length, glazed with rough cast glass.

At the rear of the building is the workshop, off which are the forge, battery charging room and car washing bay. It has steel trusses, open roof, and large continuous roof lights on both sides of the ridge. The floor is of granolithic, with non-slip and dustless finish. The benches are in metal, and are portable. The spare parts store is fitted with a system of enamelled metal bins and racks. Heating generally is by hot air system from unit heaters.

DELL AND WAINWRIGHT



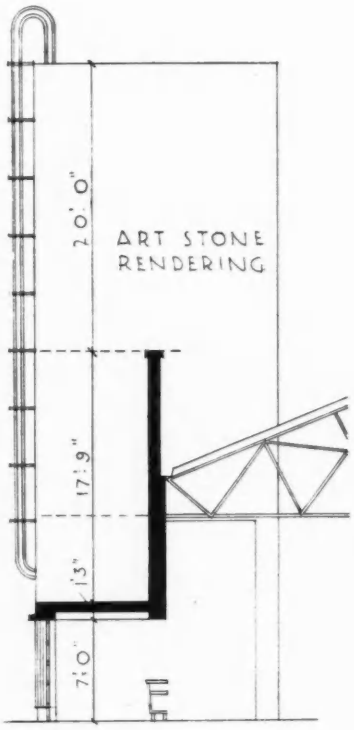
BACK ELEVATION



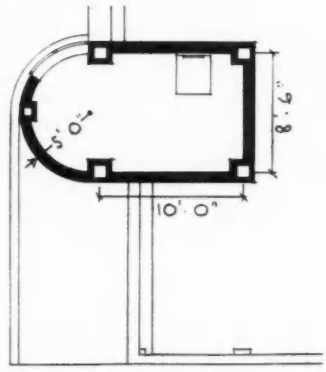
CROSS SECTION

CAR SERVICE STATION AT STAINES

DELL AND WAINWRIGHT



SECTION THROUGH TOWER



PLAN OF TOWER AT ROOF LEVEL

The tower, one of the two main features of the building, is approximately 45 ft. high from ground level. The vertical lettering, shown in the accompanying photograph, is illuminated at night by means of neon lighting.

DESIGNED BY CAMERON KIRBY

L I T E R A T U R E

TALKS ON DESIGN

[*By Frederick Gibberd*]

Design in Modern Life. Edited by John Gloag. London : George Allen and Unwin, Ltd. Price 10s. 6d. net.

"TRUE art consists in making a design which is suitable to its purpose." Thus wrote Sophia Beale in her *Amateur's Guide to Architecture*, published in 1887. Sophia's and the few voices of her contemporaries crying pitifully in the Victorian wilderness have multiplied and today, although we have some fine lines in electric candlesticks, grandfather clocks, gothic street lamps, and antique furniture ; and although architecture is practically in the hands of archæologists and speculators, there is at least a conscientious effort to make the public realize that " fitness for purpose " is the basis of design.

One of the most valuable of recent activities in this direction was a series of talks given by the B.B.C. called " Design in Modern Life " ; they took the form of dialogues between technicians and laymen and were so successful that Messrs. George Allen and Unwin have published a collection of them, rewritten as essays. The book consists of ten chapters edited by John Gloag, with contributions by R. Atkinson, Elizabeth Denby, E. Maxwell Fry, J. Laver, F. Pick, A. B. Read and Gordon Russell.

There is no continuity ; each chapter is complete in itself and is backed up by photographs, some of which are dull, but others are very happily selected, particularly those of Mr. E. Maxwell Fry, two of which are reproduced here.

At the back of the book are some beautifully drawn progress and period charts designed by Raymond McGrath, showing the evolution of the design of furniture, utensils, costume and transport.

Those who want a similar progress chart of architecture should turn to the illustration in John Betjeman's *Ghastly Good Taste*. The text is generally full of common sense, free from technical and arty jargon, and although architects may find many well-worn phrases, it must be remembered that repetition is one of the simplest ways of impressing an insouciant public. The one legitimate grouse that can be found against the book is its price. Ten shillings and sixpence will restrict its sale to a cultured minority who already appreciate a good book and in all probability have always a good sense of design. An edition is needed, at a third of the price, which might be distributed by some benefactor to every local council and to all who are in a position to influence public taste.

This form of house is now an anachronism and a fairy tale for tired business men. Wilfully so. From DESIGN IN MODERN LIFE.

The elementary type of cottage : a simple timber-framed structure, with wattle and daub filling and thatch roof. Picturesque, cramped, mean-windowed. The house of the landsman—built of materials lying and growing within the local radius, put together simply for simple needs. From DESIGN IN MODERN LIFE.

Publications Received

Some Eighteenth-century Birmingham Houses, and the men who lived in them. By Benjamin Walker. Oxford : Printed by John Johnson of the University Press. 1934.

Royal Society of Ulster Architects. Year Book, 1934-35. Belfast : William W. Cleland, Ltd.

Country Planning and Landscape Design. By Patrick Abercrombie. Liverpool University Press. London : Hodder and Stoughton. Price 1s.

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HOSPITAL BUILDINGS IN IRELAND

Mr. Vincent Kelly, F.R.I.B.A, F.R.I.A.I., in an article entitled " Hospital Planning of the Future," published in the seventy-fifth birthday number of *The Irish Builder and Engineer*, discusses the size and scope of the hospital building programme which is about to be undertaken in Ireland. " Owing to the success of the Irish Sweepstakes," he states, " hospital construction is developing into one of the major divisions of the building industry. At least fifty large voluntary hospitals in the cities have formulated schemes for rebuilding, and in each county allocations have been made for the building of a central county hospital, at least one district hospital, several cottage hospitals, and institutions for special purposes such as maternity, communicable diseases and children's clinics."

Other contributors to this issue include : Mr. J. Walter Becket, T.D. ; Mr. R. S. Wilshere, F.R.I.B.A., P.A.S.I. ; Mr. Manning Robertson, M.R.I.A.I. ; Mr. Dennis O'D. Hanna, B.A. ; and Mr. Joseph V. Downes, B.ARCH.

SLUM CLEARANCE: TWO STATEMENTS

MINISTER OF HEALTH

Sir Hilton Young (Minister of Health), speaking on September 28 at the opening of a block of flats at Stoke Newington, built by the Stoke Newington Metropolitan Borough Council, dealt with present progress with the work of slum clearance under the five years' programmes. He said:—

It has been suggested that the housing administration of the country is not "delivering the goods" in the matter of the slum clearance campaign. The suggestion is quite unfounded. The goods are being delivered, and faster than we expected. I will give figures that prove it.

The approved programmes of slum clearance provide for clearing some 280,000 houses and rehousing about 1¼ million people in five years from September, 1933—longer in London and some of the larger towns.

To complete the programmes we should have to deal with about 56,000 houses a year on an average.

That is an average: the actual number must be expected to be less than the average in the first year and more later.

I have estimated that to succeed with the programmes the housing authorities ought to have made orders under the Act covering about 40,000 houses before the end of this September. In fact the Orders made will cover some 50,000 houses. Monthly returns now show a rate of progress substantially exceeding 60,000 houses a year.

To have got up to this rate before the end of the first year surpasses all expectations. It promises success with the campaign in the appointed time.

I may mention that before the Government started the present drive in January last year, the total number of houses built to rehouse slum dwellers under the Act of 1930 was 6,944. The number now built is 25,000, building 17,500, and to be started in the immediate future 8,500, a total of 51,000.

It is due to the housing authorities of the country to make it perfectly clear that they are thus "delivering the goods," even in excess of expectation. We have but to keep up this rate of work in order to ensure the carrying out of the programmes.

SECRETARY OF STATE FOR SCOTLAND

Sir Godfrey Collins, C.M.G., M.P. (Secretary of State for Scotland) in a speech at a meeting of the Alloa Town Council on October 3, dealt with the present progress of slum clearance in Scotland. He said:—

For the clearance of the slums a generous subsidy has already been provided to local authorities by the State; and for the abatement of overcrowding the Government propose to introduce fresh legislation in the autumn. Beyond this, the provision of houses required for other needs will be left to unassisted private enterprise in the first place.

Slum Clearance.—The progress being made with slum clearance, though not yet fully accelerated, is encouraging. I appealed to local authorities in January last to wipe out their slums in five years. All but four local authorities have now submitted programmes. About 62,000 houses are needed to replace unfit houses, and during the next five years 47,600 houses, or 77 per cent. of the needs, are to be built. Several local authorities have, however, as the result of the appeal, undertaken to increase their proposals, if it is found possible to do so. Taking account of these additions, 92 per cent. of the slums in Scotland should be abolished in five years. The remaining 8 per cent. leaves a margin for the repair of houses that are capable of reconditioning. These are very satisfactory figures. No time has been lost in starting to translate these building-programmes into actual houses. Tenders for 9,910 replacement houses in all were approved during the first eight months of this year against 8,643 for the whole of 1933. The rate of completion is also increasing. There were 5,264 replacement houses completed in the first eight months of this year against 3,687 completed in the corresponding period of last year. The acceleration is more markedly apparent if we look at the whole period during which local authorities have been engaged in the work of slum clearance with assistance from the State. Whereas the number of replacement houses completed during the nine years from 1924 to 1932 was 19,699, the number completed during the twenty months since the end of 1932 was 12,463. These are heartening signs. But I cannot too strongly, or too often, emphasize the need for even greater expedition. We must aim at the completion of the slum clearance programme as early as possible in the five-year period to leave sufficient time for dealing with overcrowding. As much as three-fifths of the replacement programme must be completed by the end of 1935. The fact that the slum clearance subsidy is due for revision in about two years' time makes this doubly desirable.

Overcrowding.—I come now to overcrowding. The census returns for 1931 show that practically 15 per cent. of the population of Scotland are living more than three to a room, an appalling fact. On this low standard overcrowding is ten times worse in Scotland than in England. If we take more than two persons per room as the measure, no less than 35 per cent. of the population of Scotland is overcrowded. The percentage is much higher in particular areas. In Glasgow it is 42.3 per cent., in Barrhead 48.8 per cent., and in Motherwell 55.3 per cent. These are staggering figures and must no longer be tolerated.

The Bill which the Government propose to introduce to deal with overcrowding will lay down a national standard of accommodation. On the basis of that standard local authorities will be required to make a survey of their areas and to provide accommodation for overcrowded families so far as it is not already available or cannot be made available. Subject to certain conditions assistance will be provided from the State for rehousing purposes.

I would appeal for all possible steps to facilitate the attack on overcrowding. The clearance of the slums and the abatement of overcrowding is a single problem. It will best be solved by a co-ordinated effort—by taking account of all the available accommodation in the area. The closest co-operation with private property-owners will be necessary for this purpose. But local authorities themselves can at present do much within their own slum clearance schemes. I am alarmed to find that overcrowding is becoming common in houses—particularly in two-apartment houses—which have been erected by local authorities since the war. The continued provision of small houses will merely perpetuate the very evil which we desire to stamp out. No fewer than 532,321—or 46·4 per cent.—of the total number of houses in Scotland are houses of one and two rooms. Surely this is a sufficient number to meet, by a process of controlled filtration, the needs of those for whom houses of the size are suitable. In making housing plans it is not enough to look only at the needs of the families we have to deal with today. We are building not merely for those who will immediately occupy the houses, but for families who will require them during the next 60 years or more. During that time housing standards will continue to rise, as they have risen during the last 60 years. The proper separation of the sexes, for example, will be insisted on as a cardinal requirement. But this can rarely be satisfactorily achieved in a family accommodated in a house of two rooms. The Whitson report stated that the one-apartment house of the type now in existence stands condemned as unfit for habitation by a family. It is safe to predict that the generally accepted view will be the same about the two-apartment house in much less time than 60 years. There is, too, a point about the extra cost of building larger houses which is not always fully realized. The average price of two-apartment flats in tenders in 1933 was £254; that of three-apartment flats was £287. The corresponding figures for 1934, so far as it has gone, are £245 for two-apartment flats and £276 for flats of three apartments, a difference of, roughly, £30. But the capitalized value of the State subsidy at the present rate of interest is £164 for a two-apartment house and £273 for a three-apartment house. So that the net cost to the local authority, taking the subsidy into account, is for a two-apartment house £81, and for a three-apartment house £3, excluding the cost of land, roads, sewers, etc. Foresight and sound business alike counsel the elimination from State-aided schemes of houses with only two rooms.

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Parks and Advertising Signs in U.S.A.

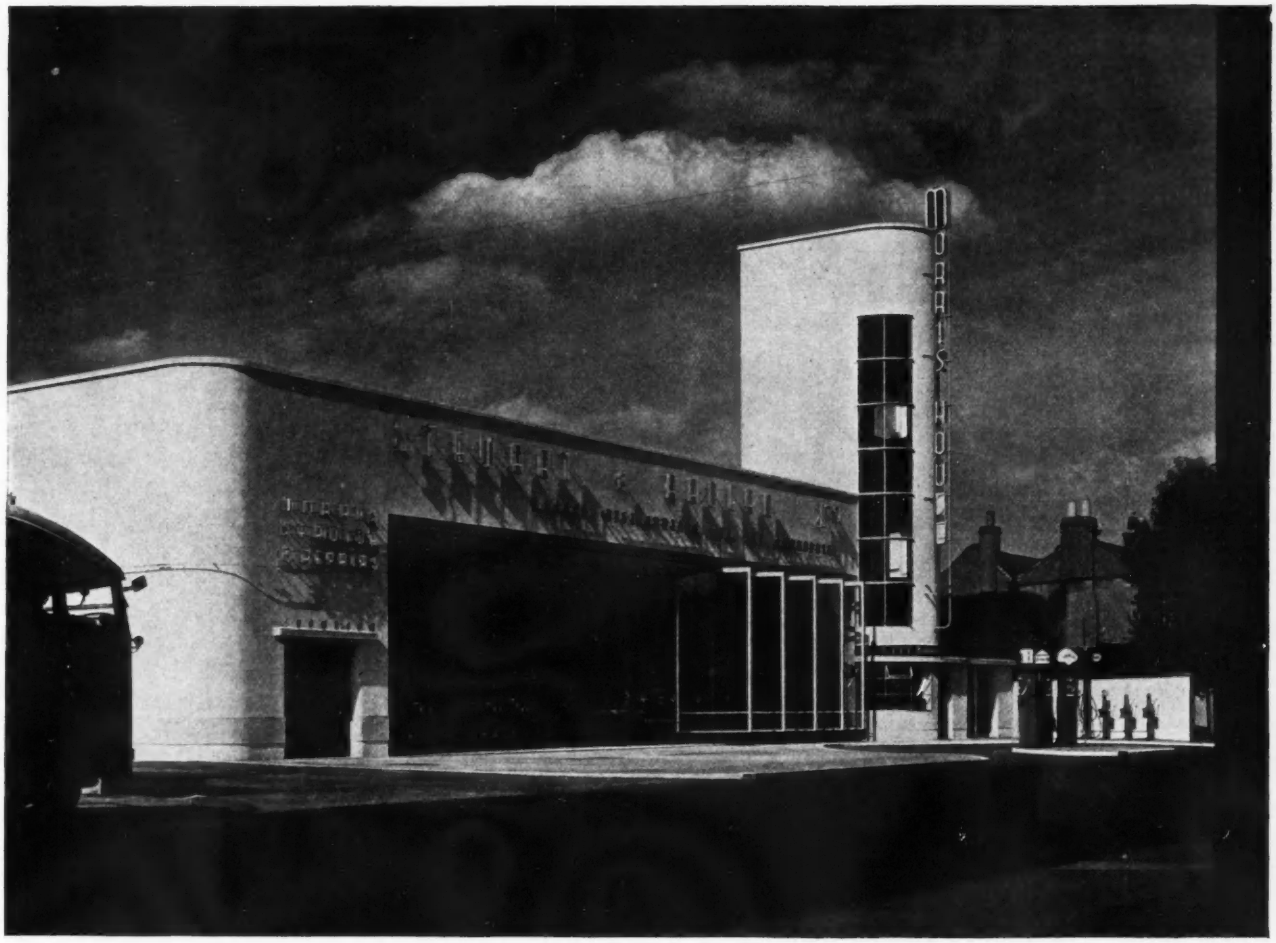
Under the heading of "Beauty of Parks not to be Marred by Advertising Signs," the current issue of *Stone* prints the following note: "The Long Island State Park Commission has officially adopted for the Long Island region the regulations prepared by the State Council of Parks prohibiting the erection or maintenance of advertising signs, structures and devices within 500 ft. of state parks and parkways except under written permit from the regional state park commission of the region in which the park or parkway is located. Permits are not required for the name plates of professional people, provided these signs are of a reasonable size and do not contain advertising matter. The State Council considers 12 in. by 24 in. a reasonable size for such name plates. Permits are not required for danger or warning signs, or for necessary direction signs, provided these signs are built to proper size and shape."

Change of Address

Messrs. H. A. F. Smith and C. E. Smart, Architects and Surveyors, have removed their offices to 48 High Street, Gosport (Telephone No.: 8582), where they will be pleased to receive trade catalogues.

WORKING DETAILS : 129

WALL STRUCTURE • CAR SERVICE STATION, STAINES • CAMERON KIRBY

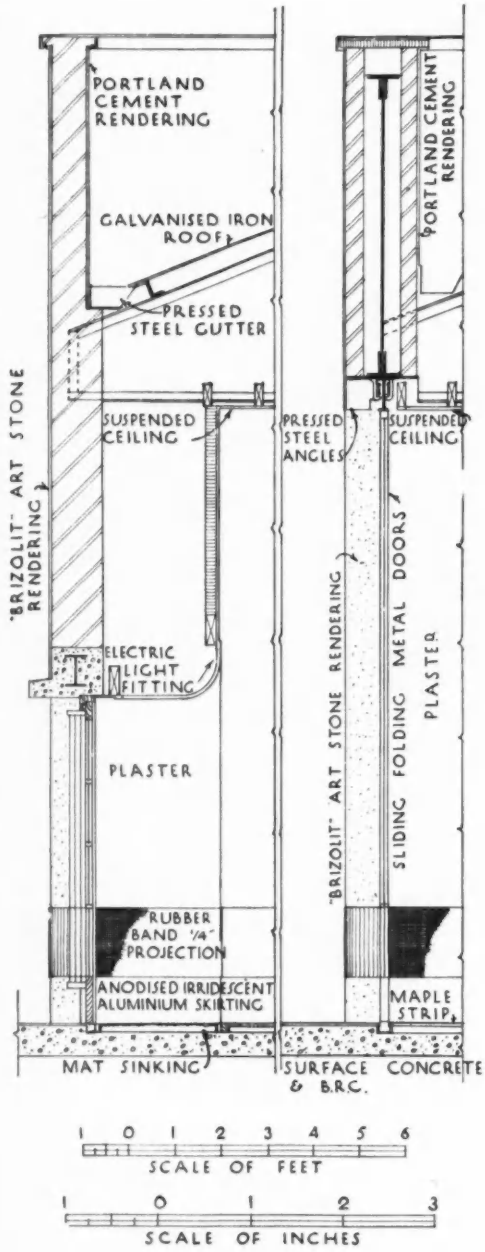


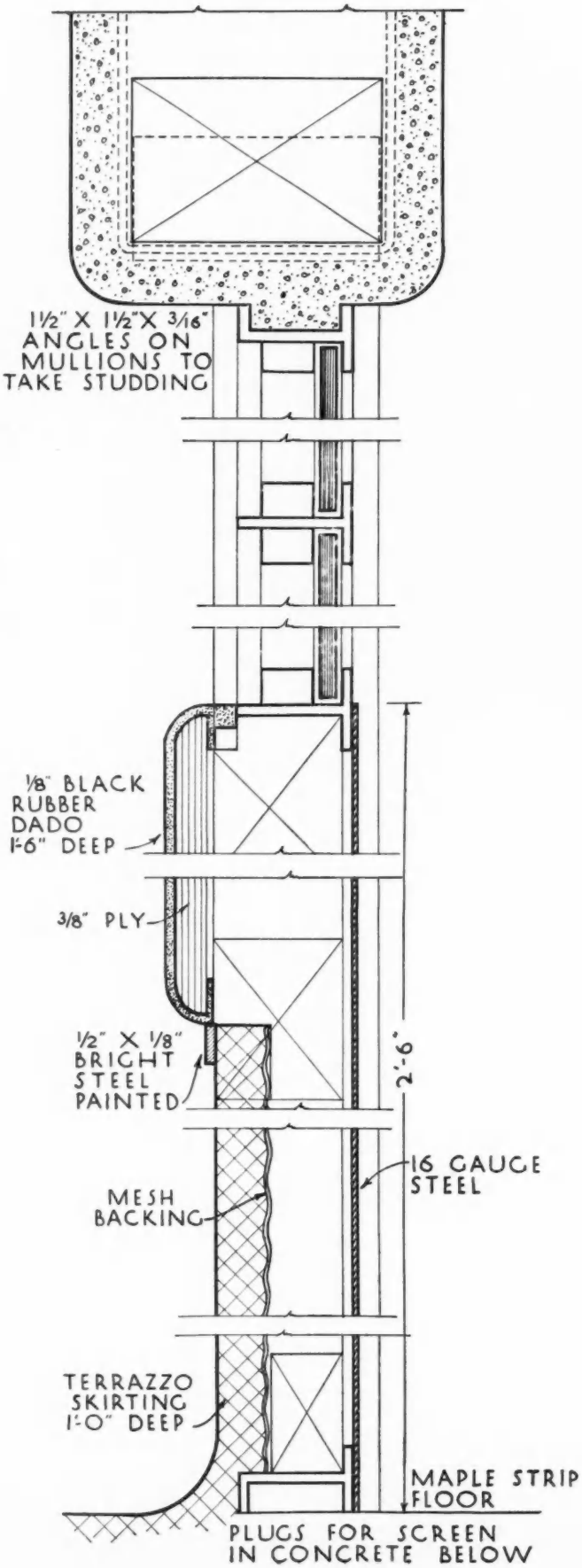
DELL AND WAINWRIGHT

The street elevation of the car service station, illustrated above, consists largely of sliding doors hung from a deep lattice girder. The drawings overleaf are: a section through the main beam showing the suspension of the doors on their sliding track, and a section through the entrance door on the left, showing the roof truss supports: the third section is through the internal partition between the showroom and the manager's office, the hard rubber on a plywood core acting as a "bumper" and preventing damage to the walls when the cars are moved about.

WORKING DETAILS : 130

WALL STRUCTURE • CAR SERVICE STATION, STAINES • CAMERON KIRBY





Sections through the main beam and entrance door, and the internal partition between the showroom and the manager's office.

WORKING DETAILS : 131

LIGHTING FITTINGS • CAR SERVICE STATION, STAINES • CAMERON KIRBY

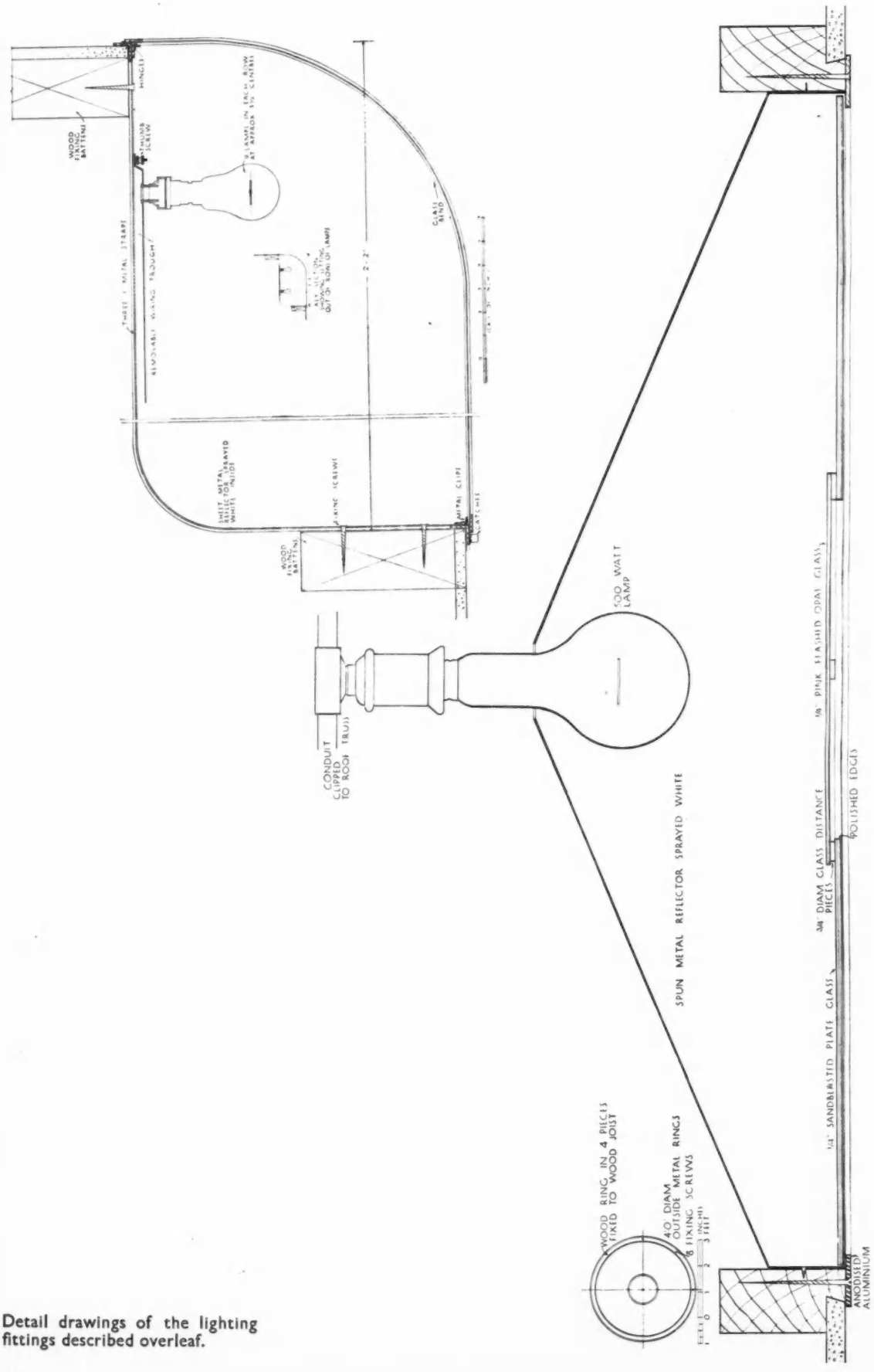
DELL AND WAINWRIGHT

Above is a night view of the car service station, lighting fittings for which are illustrated overleaf. The showroom measures 75 ft. by 37 ft. 6 in. and is 14 ft. to ceiling; the large circular light fittings are spaced at 13 ft. centres and give remarkably even illumination. The 500-watt lamps are cooled by air, which enters through the shallow angular space between the two sheets and passes into the roof space over the lampholder.

FILING REFERENCE:

WORKING DETAILS : 132

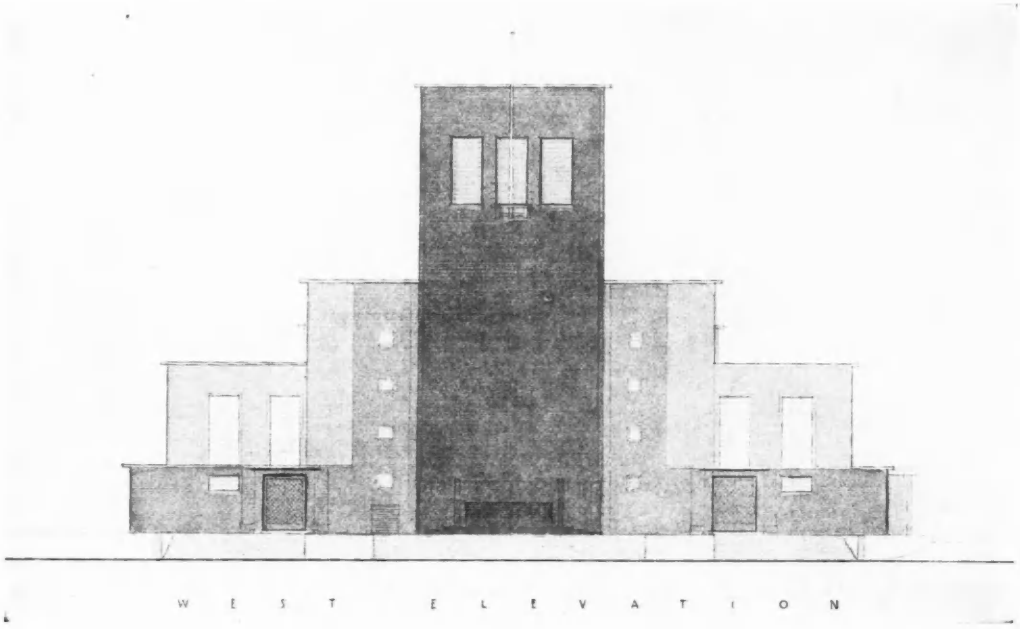
LIGHTING FITTINGS • CAR SERVICE STATION, STAINES • CAMERON KIRBY



Detail drawings of the lighting fittings described overleaf.

COMPETITION FOR PROPOSED CHURCH, MILL HILL

WINNING DESIGN: BY D. F. MARTIN-SMITH



The main elevation.

THE design submitted by Mr. D. F. Martin-Smith, A.R.I.B.A. (in consultation with Mr. Cyril Farey) has been awarded first place in the limited competition for the John Keble Memorial Church, Mill Hill. The other competitors were: Messrs. N. F. Cachemaille-Day, F.R.I.B.A.; Frederick Etchells, F.R.I.B.A.; Harold Gibbons, F.R.I.B.A.; and Professor A. B. Knapp-Fisher, F.R.I.B.A.

The winning design is illustrated on this and the following two pages.

Following are some extracts from the report of the assessor, Mr. Edward Maufe, F.R.I.B.A.:

THE WINNING DESIGN

After the most careful examination of the five designs submitted in this Competition, I award the first place to Design No. 2.

Of the five competitors No. 2 fulfils most nearly the conditions. I definitely feel that, having selected your architect in this way, one who is obviously in sympathy with your ideals, he, in consultation with the priest-in-charge, will produce a living church which will be a true memorial to the memory of John Keble.

This design has very distinct architectural merit. Externally and internally it has dignity and spaciousness, and the details suggested on the small scale drawings have charm. The planning generally is admirably suited to your requirements. No. 2 is the only design which really satisfies the special request made in the conditions with regard to the placing of the choir.

The 14 ft. altar, the sense of spaciousness about it, the stepped sedilia, the placing of the pulpit, the lectern, the font, the children's oratory, and the vestries are all excellent.

In the main I hope it may stand all as shown on the drawings, but I would make the following minor suggestions:—

1: That there should be openings at each side of the Altar for clergy and servers; these would also add architectural interest.

2: That the vestries should be slightly curtailed, and the extra side chapel omitted, in order that the money available may not be strained.

3: That it be considered whether the north and south passage aisles are necessary. Their elimination would be a not undesirable simplification in the general external massing, and would tend to get rid of the somewhat excessive width of the building.

4: That the lay-out of the site be reconsidered.

It is in the lay-out of the site that this design does not satisfy. The church is placed too near to the existing hall and the connecting passage is a poor feature; this should enter the church on the axis of a main passage and not on a block of seats, as shown.

I have carefully examined the estimate of cost submitted by No. 2 and am satisfied that, with economy, this church can be built for the sum of £14,350 available, but I strongly recommend that certain reductions in size, as suggested in my points Nos. 2 and 3, be effected in order that this sum may not be unnecessarily strained.

DESIGN BY PROF. A. B. KNAPP-FISHER

Design No. 1 is scholarly and impressive, but here again the planning does not solve the conditions laid down. Though the choir itself does not separate the congregation from the altar, yet the pulpit, the lectern, the clergy stalls, the length of the chancel and the narrowness of the Sanctuary all serve to cause this separation. The site plans shows an awkward connecting passage between church and hall.

DESIGN BY N. F. CACHEMAILLE-DAY

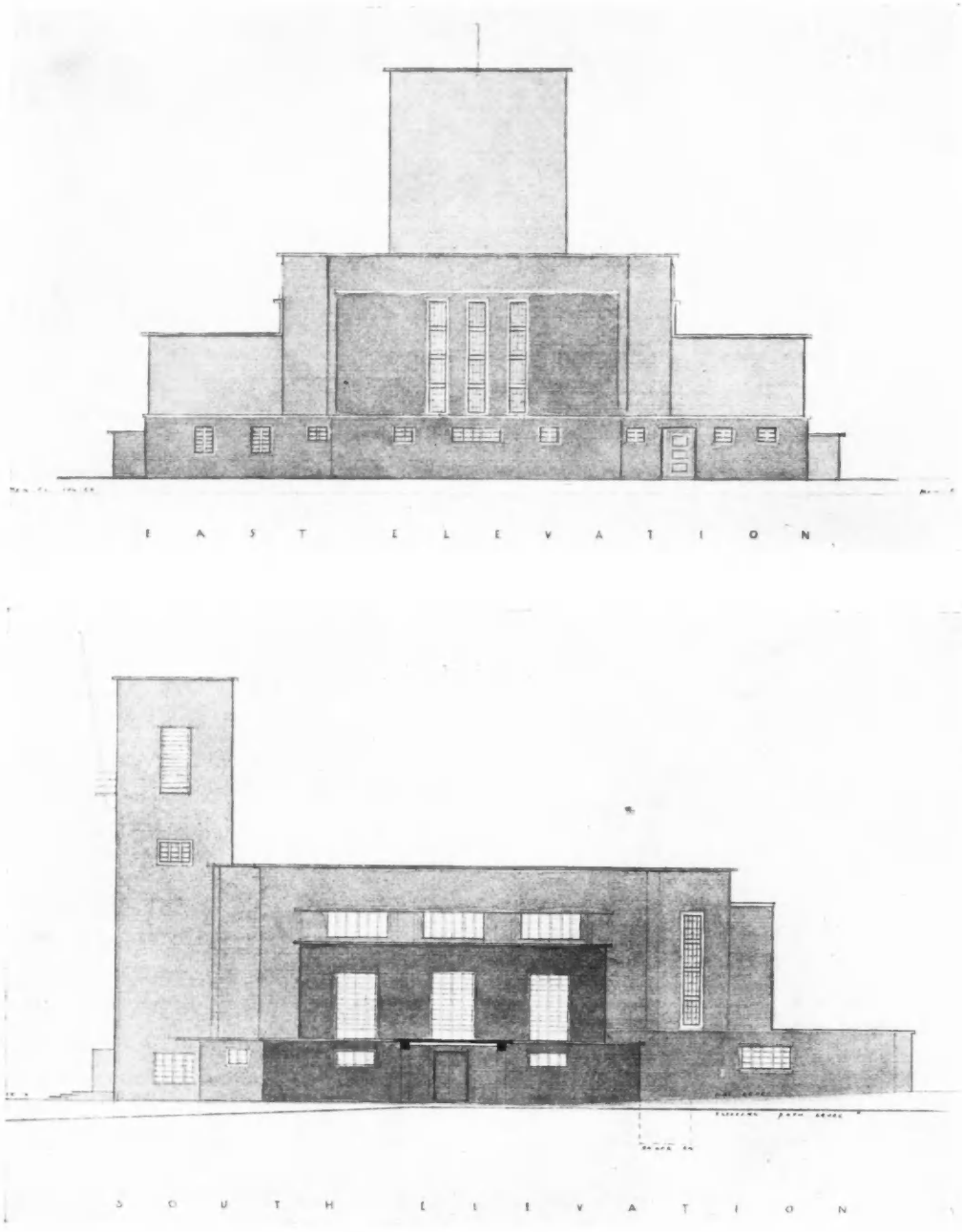
Design No. 3 exhibits much imagination and has several points of especial interest, particularly the suggested arrangements for the outside congregation. But again the planning does not answer the conditions in the straightforward way shown by No. 2. The congregation is, to a great extent, separated from the altar; the positions of the pulpit and lectern, away from the congregation, are unpractical.

The placing of the vestries at the west end in a basement, the poorly lighted corridors here, and the part-area lighting are all very undesirable features.

Constructionally No. 3 has not the directness of No. 2. It is certainly possible to construct the two 71 ft. span reinforced concrete beams shown, but the bearing for them is inadequate, particularly at their east ends. Moreover, the necessary supports for these beams at their west ends do not appear on the basement plan, nor do the foundations for the tower express themselves.

No. 3 has been at great pains to avoid road noise, but in a church situated so near

COMPETITION FOR PROPOSED CHURCH, MILL HILL:



The east and south elevations.

Hendon it is probable that, in his roof lighting, he has exposed himself to the even more serious noise of aeroplanes.

DESIGN BY HAROLD GIBBONS

In Design No. 4 the lay-out of the site is definitely superior to any of the other designs submitted and is deserving of high praise ; the design of the Church itself, too, is treated with knowledge and sympathy.

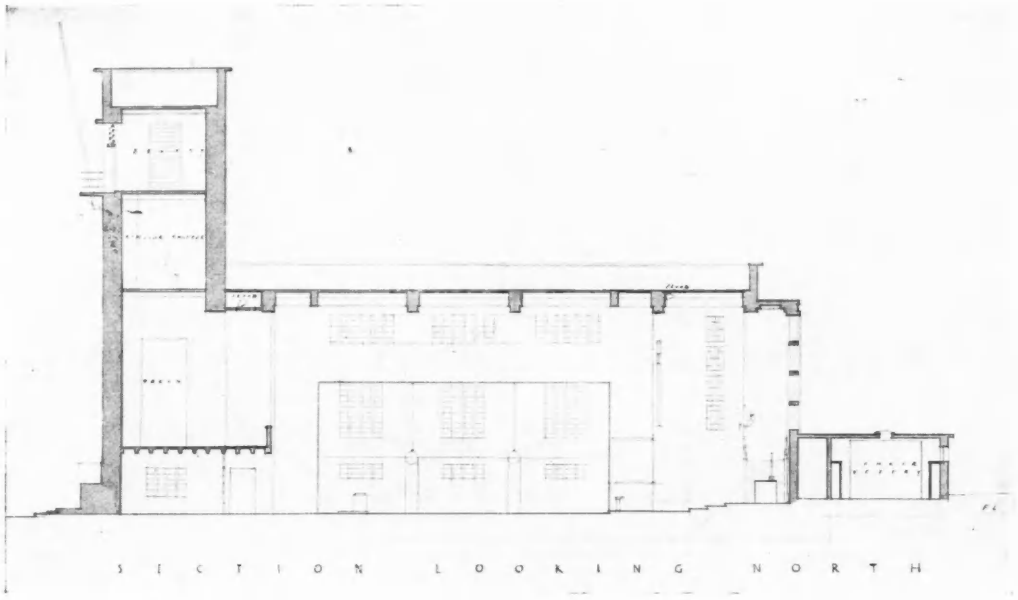
But the planning does not realize the special conditions imposed in this case. The clergy and choir are not seated in the midst of the congregation, and with such a narrow nave it would be impracticable to arrange that they should. The great mass of the congregation, as planned here, are left alone without their leaders and have their backs to them. Moreover, the clergy and choir dissociate the somewhat scattered and isolated seats at the west end from the body of the Church.

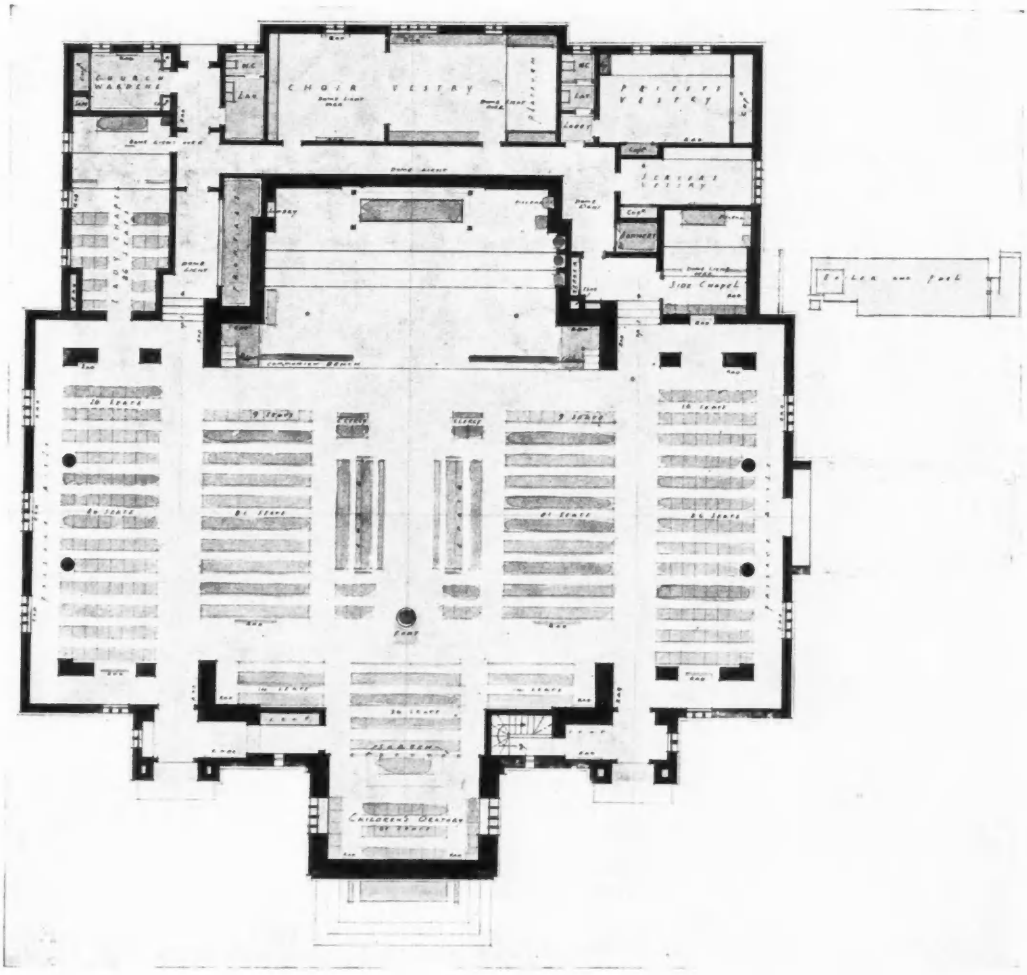
The position of the pulpit is not good ; it would cause serious strain to those seated near to it ; no lectern is shown. The font, too, is set apart from the main congregation so that baptisms could not be adequately carried out as required "at times when the most number of people come together."

DESIGN BY FREDERICK ETCHELLS

Design No. 5 has a good site plan but the Church itself, though straightforward in conception, has scarcely the architectural merit exhibited, in their various ways, by the other competitors. Moreover, the plan again here is not a direct answer to the conditions. The congregation is separated from the altar by the length and narrowness of the sanctuary and by the clergy stalls. No. 5 has not been able to include a tower in his cost.

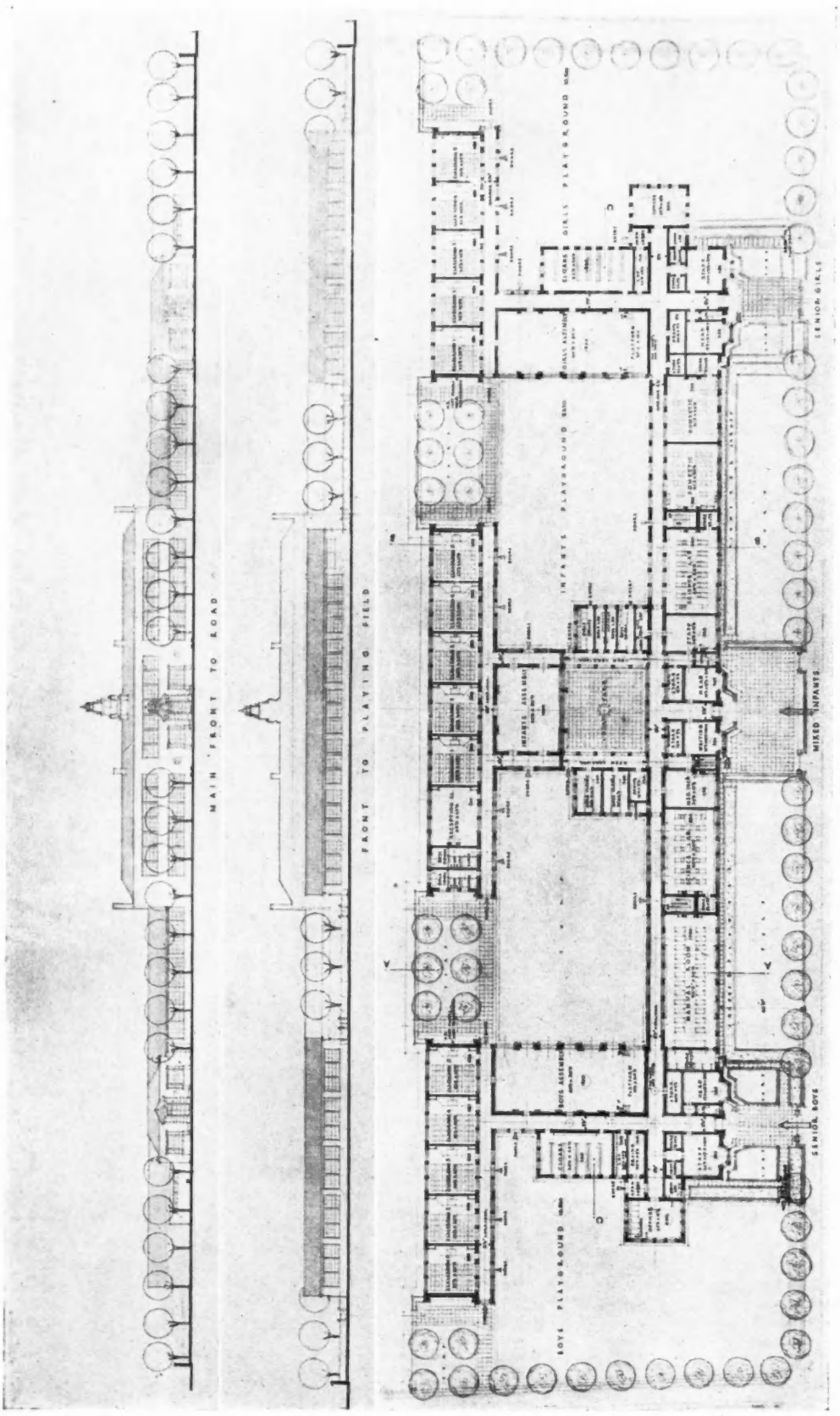
WINNING DESIGN: BY D. F. MARTIN-SMITH





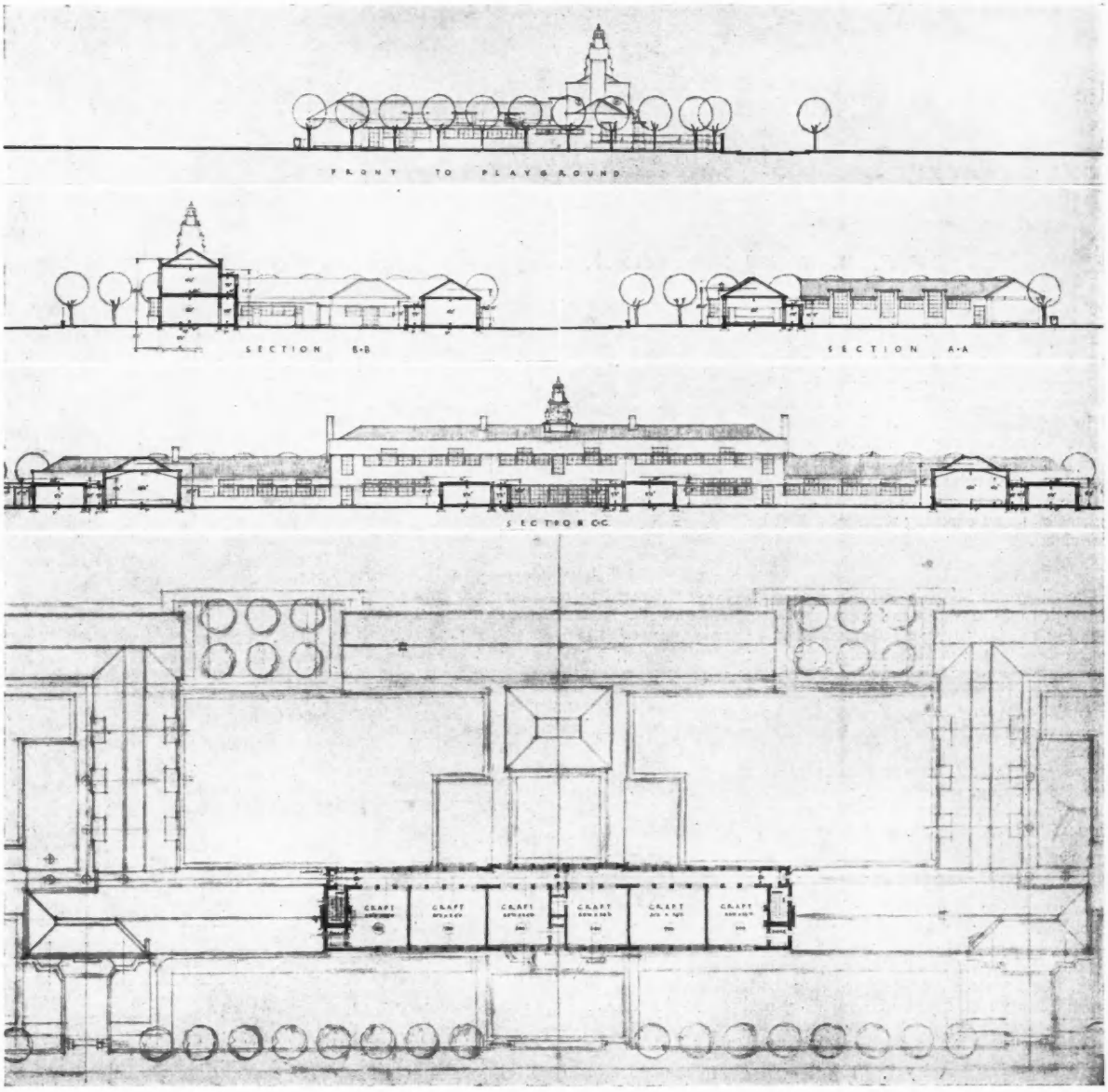
Section looking north; and ground floor plan.

COMPETITION FOR PROPOSED COUNCIL



Front and rear elevations; and ground floor plan.

SCHOOL, LONDON ROAD, BEDFORD



Side elevation, sections and first floor plan.

WINNING DESIGN: BY LOUIS DE SOISSONS

Mr. J. R. Leathart, F.R.I.B.A., the assessor in the limited competition for a proposed elementary school, London Road, Bedford, for the Bedford Education Committee, has awarded first place to the design submitted by Mr. Louis de Soissons, F.R.I.B.A., of London. The building will provide accommodation for 920 pupils, and is estimated to cost £35,000. The architect will receive 5 per cent of the cost. The design is to be submitted to the Board of Education for approval.

The following five firms of architects also submitted designs: Messrs. Annesley Brownrigg and Hiscock, FF.R.I.B.A. (London); Mr. A. O. Chatterley, A.R.I.B.A. (Birmingham); Messrs. Foden, Hemm and Williams, A.R.I.B.A. (Liverpool); Mr. A. W. Kenyon, F.R.I.B.A. (London); and Mr. Oswald P. Milne, F.R.I.B.A. (London). Each firm receives 25 guineas.

The winning design is reproduced on this and the facing page.

TRADE NOTES

[BY F. R. S. YORKE, A.R.I.B.A.]

Strip Lighting

I have received from Linolite, Ltd., a copy of list No. 34, which illustrates sections, and applications of standard strip lighting fittings for various purposes. These fittings comply with B.S.I. Specification No. 495, which says that all standard double capped tubular lamps shall perfectly fit the reflectors; all live contacts shall be protected; and earthing terminals shall be provided.

•

The diagrams here show typical sections through Linolite reflectors for (1) showcase lighting, specially designed to eliminate glare when showcase is used as serving counter; (2) shop window lighting and general purposes; (3) showcase lighting; special application to office appliances and machines where a minimum space is available: channel at back for wiring; (4) specially narrow pattern; (5) concentrating type, for cornice lighting, posters, etc.; (6) similar, but provides better screening of light source, and is ideal in the case of shallow cornices.

Cement Waterproofer

Rollo concrete waterproofing Premix is a rapid-hardening, waterproofing solution, supplied in concentrated form for dilution in the gauging water of a Portland cement mix. It is used for waterproofing both mass concrete and cement rendering, and has been specially prepared to enable the hardening time of concrete to be determined in accordance with the strength of the solution.

•

For instance, 1 part of Premix added to 4 parts of water will effect a setting time of 4 hours, and 1 part of Premix added to 5 parts of water will effect a setting time of 5 hours, and so on.

•

Rollo Premix in a cement wash is said to produce a hard and dustless surface that will not flake and is capable of withstanding severe weather conditions.

Dustproof Floors

Rollo concrete surface dressing is a dustproofing treatment applicable to concrete and cement floors. The dressing is a chemical composition which penetrates well below the surface and becomes a permanent and integral part of it, setting up chemical reaction between the non-crystallized lime in the cement and the dressing, resulting in the formation of an extremely hard and resistant compound, which hardens and seals the pores in the floor, to produce a surface that is dustless, waterproof and impervious to oil, fatty acids and sugar solution.

•

A treated slab of concrete, 2 in. thick, was subjected to a water pressure test by Messrs. D. Kirkcaldy and Son, up to a pressure of 100 lb. per sq. in., with out showing signs of penetration. Since the process renders the floor proof

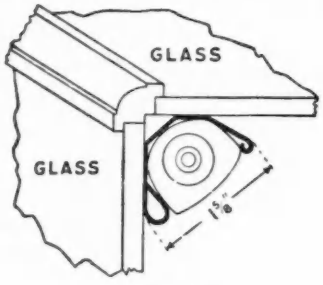


Figure 1.

against penetration by water, it should naturally eliminate the possibility of dampness arising by capilliary attraction in the concrete to affect floor finishes such as linoleum, wood block or patent floorings

Wood Preservative

Cuprinol is a preservative compound for the treatment of timber, and all cellulosic materials, cotton, hemp and cellulosic fabrics, to preserve the material, and for the destruction of wood-destroying organisms where timber has already been attacked A special grade is prepared to prevent the attack of the *wood worm* in furniture.

•

Cuprinol was originally developed to counter the attack of fungi on fishing nets, cordage, sails and tarpaulins. Additional toxic principles have been introduced into Cuprinol products to combat all well-known fungus pests and the attacks of insects. It is claimed that the wood can be made immune from all such attacks, including dry rot, teredo worm, white ant and death-watch beetle.

•

Infected timber also can be efficiently sterilized. Cuprinol fungicides are non-poisonous to animals or plants and may be used in greenhouses. Cuprinol is not a coal tar distillate. It is composed of mineral salts—insoluble in water—which are carried deep into the wood by means of organic solvents that quickly evaporate. The metallic salts remain and make a permanent union with the timber.

•

Cuprinol may be obtained in a variety of colours, or colourless, and can be painted over or french polished when used on wood. It can be applied to polished woodwork without impairing the polish.

A CORRECTION

Messrs. George Jennings (Lambeth) Ltd. inform us that, contrary to the report in our issue for September 20, their new non-slip floor has *not* been specified for the new Cunarder, "Queen Mary."

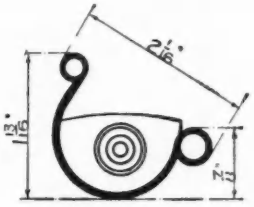


Figure 5.

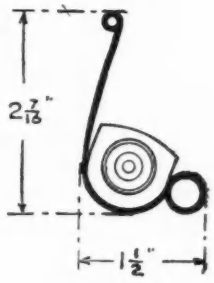


Figure 6.

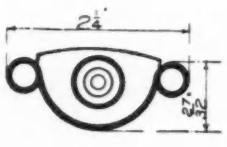


Figure 2.

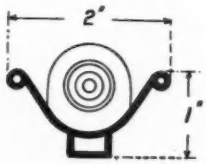


Figure 3.

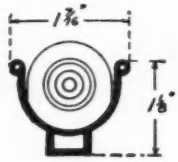


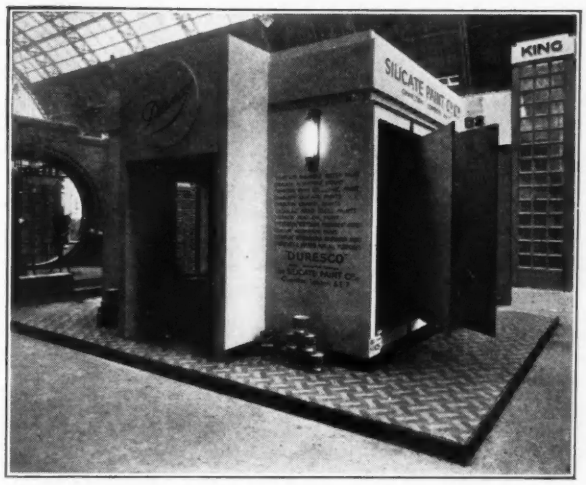
Figure 4.

NOISE

The National Physical Laboratory, Teddington, has for some years been equipped for making measurements of the sound insulation afforded by various types of partition. Many measurements have been made and it has been established that the insulation afforded by a partition of simple construction, such as a solid brick wall, is determined almost entirely by its weight per sq. ft., and increases with it. This point may be illustrated by the fact that, if a room is fitted with single windows, practically all the sound entering it from the street passes through the window panes, that passing through the walls being negligible. In view of this advantage of a simple partition, attempts have been made to design composite structures which, while being light, will have an adequate sound insulation value. Double windows, such as are frequently installed in rooms facing a busy street, form an important example of such a structure, and a theoretical and experimental study has recently been made at the National Physical Laboratory of the sound insulation provided by double partitions, with particular reference to double windows. The results of the investigation have been published in *The Philosophical Magazine*.

These researches have shown that large variations in the sound insulation afforded by a double window can be caused by varying the distance between the sheets. For example, suppose a double window to be formed of two sheets of 21 oz. window glass; if the separation between the sheets is one quarter of an inch, it will be possible for a conversation to be carried on between two persons standing on opposite sides of the window, while increasing the separation to 6 in., will render them inaudible to each other.

It must not be inferred that increasing the separation always increases the sound insulation, however, for the laboratory measurements have also shown that, owing to a resonance effect, an increase of the separation at first *decreases* the sound insulation, particularly for the lower notes. In fact it is easily possible, at these lower frequencies, for the sound insulation given by a double window to be less than that afforded by one of the sheets of glass alone. Provided, however, that the double window is properly designed its sound insulation can be even better than that of the wall in which it is built.



The stand of the Silicate Paint Co., Ltd., at the recent Building Trades Exhibition.

LAW REPORTS

DRAINAGE RATE : QUESTION OF COMMUTATION

Lodge v. *Lancaster County Council—King's Bench Divisional Court. Before the Lord Chief Justice and Justices Avory and MacKinnon.*

IN this case, which concerned a point as to the imposition of a drainage rate after its commutation, Mr. F. A. Lodge appealed against an order of the Justices of Morecambe, issuing a warrant for the payment of 9s. 2d. drainage rate alleged to be due in respect of the year 1932, on a certain plot of land he owned near Morecambe.

Mr. E. Rowson appeared for the appellant and said the short facts of the case were that his client, up to 1928, paid a rate of 9d. a year for the land in question, the charge being made on an acreage basis. But at the invitation of the respondent council, he then commuted the rate by a lump sum payment of 12s. 4d. In 1930, a new Land Drainage Act was passed, and the Council then thought fit to re-impose a rate. They took the gross annual value of the land and made a demand for 9s. 2d. His client challenged that valuation, and the consequent rate. But the Council set up that the new Act of 1930 created a new rate, and that therefore they were bound to call on his client to pay. At the hearing, the Justices agreed with the Council's contention and his client now appealed.

Counsel said his submission to the Court was that the Council having agreed to a commutation of the rate in 1928, was bound by their agreement. Further, he contended that the Act of 1930 did not create a new rate, but merely a new method in regard to the assessment of property, and that under all the circumstances the Justices arrived at a wrong conclusion in law.

Mr. R. H. Etherton, for the Council, said that when they entered into the agreement with Mr. Lodge, they thought that they were acting properly. But when they studied the Act of 1930, they came to the conclusion that as a public body they were compelled to re-demand the rate, and this they did. They took the view that the Act stipulated for the imposition of a rate on a different basis than hitherto existed.

The Lord Chief Justice, in giving judgment, said the Court were of opinion that the appeal must be allowed with costs. The Court took the view that the submissions of Mr. Rowson must be upheld. The bargain made by the Council in 1928 to commute the rates could not be got rid of in the way it had been. In the Court's view, the Act of 1930 did not create a new rate, but merely a new method of assessing property in the Council's area. The order of the Justices would, therefore, be reversed, with costs.

Justices Avory and MacKinnon agreed.

On the application of Mr. Etherton, leave to appeal was granted.

HOUSING ACT, 1930—POINT AS TO SLUM CLEARANCE SCHEMES

The King v. *the Minister of Health—ex parte the Finsbury Borough Council—King's Bench Divisional Court. Before the Lord Chief Justice and Justices Avory and MacKinnon.*

THIS matter came before the court on a *rule nisi* and raised a point as to proposals for slum clearance.

Mr. Tucker, K.C., for the Finsbury Borough Council, said his clients appeared to support a *rule nisi* obtained by them calling upon the Minister of Health to show cause why he should not determine forthwith the question of the confirmation of certain compulsory purchase orders submitted to him by the Council under the Housing Act, 1930, for the clearance of certain slum areas.

Counsel pointed out that under the Act the Borough Council had the power to declare slum clearance areas and to make orders either for demolition by the owners or for the compulsory purchase from the owners in order to carry out demolition. But in both cases such an order required confirmation by the Minister of Health.

In the present case, continued counsel, the Finsbury Borough Council had put forward a scheme for the clearance of an area known as the Northampton Road area. They had already erected a block of forty flats as a first step in a scheme to deal with people displaced from the slum area. In addition, the London County Council had put forward a scheme dealing practically with the same area. The Finsbury Borough Council now said that the Minister of Health had declined to consider their scheme and was holding the matter up pending the submission of the London County Council's scheme. Counsel now contended that the Borough Council and County Council could not successfully function over the same matter, and he argued that the scheme for the County Council should be held in abeyance, seeing that it was apparently a competitive one.

After hearing the Solicitor-General, Sir Donald Somervell, K.C., for the Minister of

Health, the Lord Chief Justice said the court came to the conclusion that the rule must be discharged with costs. They were of opinion that there had not been a refusal on the part of the Minister of Health to carry out the duty that was incumbent upon him under the Housing Act. As far as the court could see, all the Minister had done was to postpone his decision pending an opportunity of informing himself of the merits of the two proposals, by way of a public inquiry into the matter.

Justices Avory and MacKinnon concurred.

Manufacturers' Items

Electricity and the Churches, a booklet recently issued by Messrs. W. T. Henley's Telegraph Works Co., Ltd., of Holborn Viaduct, E.C., briefly outlines the Henley wiring systems, and also contains over twenty illustrations of ecclesiastical buildings which have been wired with these systems or with Henley cables. The buildings illustrated include the following: Durham Cathedral; Wensley Church, Yorks.; the City Temple, Holborn Viaduct, E.C.; St. Martin's Church, Birmingham; St. Mary's Church, Charminster; St. Peter's Church, St. Albans; the Chapel of Lincoln's Inn; Peterborough Cathedral; St. John's Church, Calcutta; and St. Paul's Cathedral, Calcutta. Copies of the booklet, are obtainable on application to the firm at the address given above.

*

Gas in Housing and Slum Clearance is the title of an illustrated booklet just issued by the British Commercial Gas Association. The booklet (No. 244 of "A Thousand and One Uses for Gas") can be obtained free on application to the Association, 28 Grosvenor Gardens, London, S.W.1.

*

H.M. Trade Commissioner and Commercial Secretary at Hong Kong reports that a local firm is desirous of receiving quotations from United Kingdom manufacturers of hospital steel doors and frames. Firms desirous of offering goods of United Kingdom manufacture can obtain the further details of this enquiry, together with particulars of the "Special Register" service of information, upon application to the Department of Overseas Trade, 35, Old Queen Street, London, S.W.1. Reference number G.Y. 14326 should be quoted.

*

Messrs. W. H. Gaze and Sons, Ltd., have recently secured the following contracts:

BUILDING	ARCHITECT
Leatherhead Congregational Church.	P. W. Meredith
Maudsley Hospital, Denmark Hill.	L.C.C.
New House, Queensmere Road, Wimbledon.	A. B. Stamford
Alterations and decorations to West Hill House, Worplesdon.	A. Savill and Sons
75/77 Whitfield Street, W.1	Milner and Craze
Red House Hotel, Woking	Healy and Mackenzie
Block of flats, Parkhill Rise, E. Croydon.	G. Thrale Jell
Schools, Mount Pleasant Lane, Hackney.	L.C.C.
Houses and Garages, Ellerdale Road, Hampton.	Clough Williams-Ellis
Block of dwellings, Clarissa Street, Shoreditch.	L.C.C.
Angle House, E. Molesey ..	Wallace G. Gregory

*

Building operations have commenced on a new cinema at Kingstanding, Birmingham. The architect is Mr. Harry W. Weedon, A.R.I.B.A., Phœnix Chambers, 84 Colmore Row, Birmingham, and the contractors are Messrs. Housing, Ltd., Blackheath, Birmingham.

*

The sixth annual meeting of the Cast Concrete Products Association was held at the Building Exhibition, Olympia, on September 18.

Mr. H. W. Jenks, the chairman, in his opening speech, said that in view of the good progress which had been made with the research investigations and in establishing standards of quality, he felt that special attention should now be given to producing products in the form and finish most acceptable to the professions concerned. The district meetings which had been held at Leeds and Bristol had proved of considerable benefit in establishing contact with architects and engineers, and it was hoped in the near future to arrange a meeting in London.

The C.C.P.A.'s booklet, *Cast Concrete Products in Everyday Use*, had helped in acquainting users of the wide range of goods made by members, and he was glad to say that a considerable number of enquiries for sources of supply had already been received.

The report of the Council and accounts were unanimously adopted, and Messrs. Crewdson, Youatt and Howard re-elected as the association's auditors.

The following members were elected to serve on the Council for the ensuing year: Messrs. O. A. Aisher, Marley Tile Co., Ltd.; J. G. Ambrose, Concrete, Ltd.; G. B. Brader, Trollope and Colls, Ltd.; E. L. Cotterell, Tarmac, Ltd.; R. P. Girling, Girlings' Ferro-Concrete Co., Ltd.; W. A. Hutchings, The Wharf Lane Concrete Co., Ltd.; W. R. E. Honner, Evans Bros. (Concrete), Ltd.; A. C. James, The Bristol Stone and Concrete Co., Ltd.; H. W. Jenks, Emerson and Norris, Ltd.; A. W. Rodford, Concrete Stone Co., Ltd.; B. C. Sharman, John Ellis and Sons, Ltd.; D. H. Stent, Samuel Williams and Sons, Ltd.; G. F. Worsdell, Gloucester Stone Co., Ltd.; and D. Y. Smith, George Smith and Sons.

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One of the many interesting features at the recent Building Trades Exhibition at Olympia was the publication, by the Trussed Concrete Steel Co., Ltd., Reinforced Concrete Engineers, of a daily four-page news sheet entitled *Building Exhibition News*. The news sheets, which were issued free of charge, proved extremely popular. The following statement appeared in the last issue: "Conceived primarily as a serious-minded paper, and intended as a medium by which we might make known the many important and recent developments in reinforced concrete technique, particularly as they apply to our own company, we have been glad to devote a considerable portion of our space to items of general news interest concerning the Exhibition and our visitors, as well as to exhibitors and their products. We have endeavoured to comment fairly and without favour or bias, and if at times we have succeeded in raising a smile or two to while away the hours we have only acted upon a thought that 'all work and no fun, makes the Exhibition a tedious run.'"

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

Following are the names of the general contractors and some of the sub-contractors for the buildings illustrated in this issue:—

Service Station at Staines (pages 493-496, 499-502). General contractors, Allen Fairhead and Sons, Ltd. Sub-contractors: Braithwaite & Co., Engineers, Ltd., structural steelwork; J. M. Pirie & Co., Ltd., metal sliding-folding doors and screens; Crittall Manufacturing Co., Ltd., metal windows and office screens; Richard Whittington & Co., Ltd., heating; Troughton and Young, Ltd., electric wiring and lighting fittings; Neon Installations, Ltd., neon signs; Diespeker & Co., Ltd., terrazzo; Modern Surfaces, Ltd., brizolit exterior stone plaster; S. F. Bowser & Co. (London), Ltd., electric petrol pumps and oil pumps; The Leeds Fireclay Co., Ltd., sanitary fittings.

Sutton Baptist Church (pages 486-489). General contractors, Pitchers, Ltd. Christopher Webb, stained glass windows; Omar Ramsden, trowel for stone laying; J. P. Allan, sculptured panel. Sub-contractors: P. R. Skinner & Co., Ltd., facing bricks; The London Pipeless Heating, Ltd., church heating; Eric Munday, Ltd., stainless steel railings, stainless steel plates, and foundation stone; Stuart's Granolithic Co., Ltd., granolithic paving; Jos. F. Ebner, oak block floors and maple floor to stage; Field and Palmer, Ltd., 3-ply composite roofing; The Trussed Concrete Steel Co., Ltd., concrete floors, flat roofs and beam; T. S. Knight and Sons, Ltd., domestic hot water and Sunday school heating; Newalls Acoustic Products, Ltd., asbestos spray; Henry Hope and Sons, Ltd., windows (steel and lead lights); Wandsworth and District Gas Co., hot plates, gas fires and radiators, gas stove and boiler; Mellowes & Co., Ltd., lantern lights; Roberts Adlard & Co., Ltd., roofing slates; The Alpha Manufacturing and Electrical Co., Ltd., electrical wiring; J. Wippell & Co., Ltd., pews, communion table and chairs, pulpit and lectern; Haywards, Ltd., copper vents; W. H. Smith, Ltd., "Trianco," partition blocks; Davis, Bennett & Co., Ltd., sanitary fittings; Thomas Gumbrell, marble baptistry; Penrose Lifts, Ltd., service lift; Cashmore Art Workers, railing and balustrades; Carter & Co. (London), Ltd., and Bratt Colbran & Co., terrazzo fire surround; A. E. Davis, ironmongery; Redpath, Brown & Co., Ltd., steelwork; R. Spurden Rutt & Co., Ltd., organ; the Merchant Adventurers, electric light fittings; J. W. Gray and Son, Ltd., lightning conductor.

The Shakespeare Memorial Theatre

Mr. G. Bernard Cox, F.R.I.B.A., speaking at a recent meeting of the Birmingham Rotary Club, said it was no use considering scale in a building if the surroundings were ignored. "The Shakespeare Memorial Theatre at Stratford," he continued, "is a striking instance of the lack of this essential quality. If one stands on Clopton Bridge, looking towards the new theatre, the building seems to rise abruptly from the water, rather like a red brick colossus, rectangular in outline, appearing as if it encroaches upon the river until the softly flowing Avon is dwarfed and shrinks to a mere brook by comparison. This large building seems to tower over the old houses in Waterside, and destroys, in my opinion, the general scale of the houses, the Guild Chapel, Parish Church and surroundings. My criticism is quite apart from any question as to the suitability of the style or design of the theatre as a building, nor does one question the decision of the Governors as to its size. A national theatre effectively to stage festival works no doubt demanded all that they have provided, and more, but this 'sin of scale' is an irretrievable error which could so easily have been avoided. To my mind, a far more suitable site for this theatre, where it could have been surrounded by acres of massed trees, was the meadowland adjoining the river alongside the Warwick Road."

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

MOTTINGHAM. *Roads and Sewers.* The Borough Council is to construct by direct labour the roads and sewers for the new cemetery and obtain tenders later for the various buildings.

SOUTHERN COUNTIES

HASTINGS. *Conveniences.* The Corporation has received sanction to borrow £2,500 for the provision of conveniences at West Marina Gardens.

HASTINGS. *Aerodrome.* The Corporation has received sanction to borrow £40,000 for purposes of a municipal aerodrome.

NORTHFLEET. *School.* The Kent Education Committee is to proceed with the erection of an elementary school in Perry Street Road.

PAIGNTON. *Houses.* Plans passed by the U.D.C.: 10 houses, Knapp Park Road, for Mr. F. G. Stockman; six houses, All Hallows Road, for Mr. H. Proctor; two houses, Marldon Road, for Mr. J. R. Stubbs; eight houses, Shorton Valley Road, for Mr. D. Peeke; four houses, Orient Road, for Mr. R. G. Rees; development, Kinghurst Estate, Oldway Road, for Mr. R. C. Morgan.

MIDLAND COUNTIES

KIDDERMINSTER. *Houses.* Plans passed by the Corporation: Two houses, Leswell Lane, for Messrs. G. Thomas and Sons; two houses, Washington Street, for Mr. A. Walker; four houses, Baldwin Road, for Mr. S. Brookes; two houses, Blount Terrace, for Mr. J. H. Ellis; two houses, Baldwin Road, for Mr. H. Jordon.

SOLIHULL. *Road Widening.* The Warwickshire C.C. has arranged for a road-widening in connection with the development of the Shakespeare Manor Estate, by Messrs. H. and R. (Developments), Ltd.

WARWICKSHIRE. *Schools.* The Warwickshire Education Committee reports that school buildings for which preliminary plans and estimates have been or are being considered represent a total capital expenditure of £71,300.

EASTERN COUNTIES

IPSWICH. *Villa.* The Mental Hospital Committee of the Corporation recommends a scheme for the erection of a villa to accommodate 40 selected patients from the hospital, the building to be erected adjacent to the hospital, for the purpose of affording additional accommodation which the Committee considers is very much needed. The Committee recommends that the villa be constructed on similar lines to the one recently erected at Norwich, and estimates the cost at £10,000, and recommends that it be empowered to obtain tenders in due course for the work.

IPSWICH. *Houses and Playing Fields.* In connection with the purchase of 43½ acres at Greenwich Farm, from Capt. J. M. Cobbold, the Corporation reports that the land will be used principally for the erection of houses for persons displaced under clearance orders, but a section of the land will be transferred to the Education Committee to be added to the Greenwich school playing field. In order to make the playing field of satisfactory shape, it has been agreed for the Corporation to purchase approximately two acres additional land from Capt. Cobbold at a cost of £250.

NORWICH. *Houses.* The Housing Committee of the Corporation recommends the erection of 40 houses at Elm Grove Lane, at an estimated total cost of £20,000, and that tenders be obtained for the work.

YARMOUTH. *Building Sites.* Mr. J. R. Chase is in negotiation with the Corporation for the leasing of three building sites at the junction of Jellicoe Road and Cradock Avenue.

YARMOUTH. *Restaurant and Club House.* At the Property Committee of the Corporation a letter was received from Messrs. Elwes, Turner and Smith, on behalf of Mr. D. C. Thomas, requesting the Committee to agree to a restaurant and club-house being erected on land proposed to be leased to Mr. Thomas at the Cliff Park estate, within a radius of 500 ft. from the junction of the proposed new road with Links Road, and also enquiring as to the date when the road from the Marine Parade to Links Road would be made up. The Committee decided not to grant the application to erect a restaurant and club-house within the area mentioned, and to inform Messrs. Elwes, Turner and Smith that the road would be made up as soon as the sanction of the Ministry of Health to the necessary loan was forthcoming, and that it would be laid out as an estate road only for the time being.

YARMOUTH. *Houses.* Plans passed by the Corporation: Four houses, Beatty Road, for Mr. J. G. Chase; two houses, Bendish Avenue, Gorleston, for Messrs. E. Moore and Son, Ltd.

NORTHERN COUNTIES

BLACKPOOL. *Houses, Shops, Streets, etc.* Plans passed by the Corporation: 26 houses, Newhouse Road and Barclay Avenue, for Messrs. A. and G. R. Fletcher; streets and sewers, Highfield Road, etc., for Messrs. Hitchen and Bairstow; two houses, Park Road, for Messrs. Render Wood, Ltd.; two bungalows, Poulton Old Road, for Messrs. Brittain and Hornby; two houses, Whinneys Hey Road, for Mr. J. Seddon; eight houses, Coleridge Road, for Mr. Wm. Hornby; 28 houses, Faringdon Avenue, for Blackpool Plumbing Co.; three houses, Hodgson Road, and two houses, Cambray Road, for Messrs. G. Hodgson and Son; four houses; Park Drive, for Hall Estate Building Co.: bank and house, Westcliffe Drive, for Williams Deacons Bank, Ltd.; restaurant and house, Red Bank Road, for Mrs. Middlehurst; 10 houses, Ingleway Avenue, for Mr. A. Wilson; three houses, Moss House Road, for Mr. M. E. Truelove; 148 houses, Acre Gate, for Messrs. Hitchen and Bairstow; seven houses and bungalow, Stony Hill Avenue, for Mr. G. Woodhead; two houses, Highbury Avenue, for Mr. W. H. Airey; eight houses, Maida Vale, for Mr. A. A. Holt; 18 houses, Low Moor Road, for Mr. W. Houghton; three houses, Harrow Place, for Sir L. Parkinson and Co., Ltd.; three houses, Stoke Avenue, for Mr. W. Schofield; two houses, Preston New Road, for Mr. G. L. F. Smith; shops, house, offices, etc., Preston New Road, for Mr. H. Best; four houses, Preston New Road, for Mr. J. W. Harrison; shops, private hotels, etc., Queen's Drive and Red Bank Road, for Mrs. M. V. Hilton; warehouse, Cecil Street, for Messrs. W. B. Anderson and Sons, Ltd.; sub-station, Devonshire Road, for Corporation Electricity Committee; garage, Southern Private hotel, Promenade Street, for Misses A. and F. Shepherd; two houses, Cornwall Avenue, for Messrs. T. Bannister and Son; three houses, Brixham Place, for Messrs. A. and G. R. Fletcher; two houses, Preston New Road, for Messrs. Render Wood, Ltd.; two houses, Bryning Avenue, and two houses, Bethel Avenue, for Mr. R. H. Cunliffe; two houses, Warbrock Drive, for Sir L. Parkinson and Co., Ltd.; amended lay-out, Colchester Road, Marton, for Messrs. G. and H. H. Whitehead; two houses, Norbreck Road, and four houses, Fleetwood Road, for Mr. A. A. Holt. Plans submitted: Streets and sewers, Preston New Road, etc., for Mr. J. W. Harrison; streets, Preston New Road, etc., for Mr. H. Diamond; eight houses, Fordway Avenue, for Mr. A. Wilson; four houses and shops, Red Bank Road, for Mr. C. R. Boden; two houses and shops, Harrowside, and two houses and shops, Harrington Avenue, for Mr. W. B. Snape; private hotel, Queen's Drive, Bispham, for Messrs. Render Wood, Ltd.; two houses, Warbreck Hill Road, for Mr. A. Ashworth; 28 houses, Newhouse Road, and 20 houses, Collingwood Avenue, for Mr. M. Diamond.

BLYTH. *Houses.* The Corporation is to clear the Milburn Street and Brewster areas and erect 170 houses. The Corporation is negotiating for housing sites at Cowpen, Bebside, Newsham and New Delavel. Plans passed by the Corporation: Four flats, Cowpen Road, and six houses, for Messrs. J. and W. Simpson; six houses, Nixon Terrace, for Mr. J. W. Tebble; 12 flats, Broadway, for Messrs. J. Goulding and Son; 10 houses, near Broadway, for Miss P. Baxter.

PENRITH. *Houses, etc.* Plans passed by the U.D.C.: 12 houses, Roper Street, for Messrs. Kitchen and Atkinson; warehouse, Albert Square, for Penrith Co-operative Society. Plans submitted: Bakery extensions, Hutton Hall, for Messrs. Birketts. The U.D.C. has considered lay-out plans prepared by the Surveyor for the erection of houses on three sites, and has selected a site upon which it is intended to erect houses for rehousing purposes.

PENRITH. *Town Planning Scheme.* At the U.D.C. the surveyor was instructed to prepare a lay-out plan of Penrith showing the proposed new roads and building lines for the purpose of the town planning scheme.

SCARBOROUGH. *Bathing Pool.* The Board of Trade has sanctioned the proposal of the Corporation for the improvement of the South Bay bathing pool.

SCARBOROUGH. *Public Library.* The Corporation is arranging for the purchase of property needed for the extension of the public library.

SCARBOROUGH. *Hospital.* Scarborough Hospital Board reports that the estimated cost of the scheme for the erection of a maternity block at the hospital is £12,400.

WALLASEY. *Estate Development, etc.* Plans passed by the Corporation: Estate development, near Reeds Lane, for Mr. P. Stephem, on behalf of Mr. Clare Vyner; 10 houses, Perrins Land, for Mr. John Carruthers; shop, Grove Road, for Messrs. John Davenport and Sons, Ltd.; ten houses, Meadowbrook Road, for Mr. Thomas Rule. Plans submitted: Estate development, off Raby Drive, for Messrs. Harris Bros. Mr. W. Bradshaw is to develop the Ewart House estate.

WALLASEY. *School.* The Education Committee has appointed Messrs. Willink and Dod as architects for the new central school.

WALES

SWANSEA. *School.* The Education Committee is to erect a nursery school on the site of the old training college premises.

SWANSEA. *Water mains.* The Corporation is to extend water mains to supply blocks of flats to be erected by Estateways Builders, Ltd., on the vicarage site in Walter Road.

SWANSEA. *Houses.* The Corporation is to lay out land off Cockett Road at a cost of £2,068 to enable 48 houses to be erected. The Corporation has leased the following building sites: at Cwmgwyn to Mr. S. D. Thomas for the erection of 16 houses; at Cwmgwyn to Mr. A. E. Wright for 22 houses; at Lon Gwmnfryn to Mr. A. E. Trick for six houses; at Townhill Road, to Mr. John Willis for eight houses. The Corporation is to extend sewers at Clyne Common at a cost of £258 where Mr. H. W. Williams, of Newton, is to erect 19 houses near Manor House.

SWANSEA.—*Swimming Baths.* The Corporation Parks Commitee has instructed the borough architect to prepare plans for the construction of two swimming baths on a site adjoining St. Matthew's Church. The Corporation has now decided to instruct Messrs. Mouchel and Partners, of Westminster, to prepare detailed plans and estimates for the proposed open-air swimming bath on the Foreshore.

SWANSEA. *Shops, Houses, School, etc.* Plans passed by the Corporation: Two houses, Ravenhill Road, for Mr. R. B. John; 22 houses, Llangyfelach Road, for Mr. R. N. K. Colley; four houses, Sydney Street, for Mr. D. G. Williams; six houses, Maesygwernen Road, Pantlassau, for Mr. G. Davies; two houses, Llaygyfelach Road, Clasemont, for Mr. D. Roberts; shops and offices, Union Street, for Mr. W. P. Phillip Powell; houses and shop, Mayhill Road, for Mr. J. T. Searle; three houses, Broadway, for Mr. Jenkin Williams; two houses, Bellevue Road, for Mr. B. F. Hoppe; two houses, New Street, Newton, for Mr. W. Williams; school, Derven Fawr Road, for Rev. Rees Howells; 28 houses, Townhill Road, for Mr. Syd. Davies.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a spearate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A	Aberdeen ..	Scotland	1 6	1 1½
A_1	Abergavenny ..	S. Wales & M.	1 5	1 0½
A_2	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow	N.W. Counties	1 5½	1 1½
A	Barry	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley	Yorkshire	1 5½	1 1½
A_2	Bedford	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_2	Bicester	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham ..	Mid Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth	N.E. Coast	1 5½	1 1½
B_1	Bognor	S. Counties	1 3	11½
A	Bolton	N.W. Counties	1 5½	1 1½
A_2	Boston	Mid. Counties	1 4	1 0
A	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A	Brighton	S. Counties	1 4	1 0
A	Bristol	S.W. Counties	1 5½	1 1½
B_2	Brixham ..	S.W. Counties	1 2½	11
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B_1	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley	N.W. Counties	1 5½	1 1½
A	Burslem	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury	N.W. Counties	1 5½	1 1½
A	Buxton	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE ..	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff	S. Wales & M.	1 5½	1 1½
A	Carlisle	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham	S. Counties	1 3½	11½
A	Chelmsford ..	E. Counties	1 4	1 0
A	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A_2	Colchester ..	E. Counties	1 4	1 0
A	Colne	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett	N.E. Coast	1 5	1 0½
A_2	Conway	N.W. Counties	1 4½	1 0½
A	Coventry	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_2	Denbigh	N.W. Counties	1 4	1 0
A	Derby	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorches r ..	S.W. Counties	1 2½	11
A	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley	Mid. Counties	1 5½	1 1½
A	Dumfries ..	Scotland	1 5	1 0½
A	Dundee	Scotland	1 5½	1 1½
A	Durham	N.E. Coast	1 5½	1 1½
A_2	EASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorgan-shire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE	E. Counties	1 4	1 0
A	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S. W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A	Glasgow	Scotland	1 6	1 1½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	Gosport	S. Counties	1 4½	1 0½
A_2	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich	E. Counties	1 3½	11½
B_1	Hastings	S. Counties	1 3	11½
A_2	Hatfield	S. Counties	1 4½	1 0½
B	Hereford	S.W. Counties	1 3½	11½
A_2	Hertford	E. Counties	1 4½	1 0½
A	Heysham	N.W. Counties	1 5½	1 1½
A	Howden	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal	N.W. Counties	1 3½	11½
B	Keswick	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12–15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A	Luton	E. Counties	1 4	1 0
A	Lytham	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_2	Malvern	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate	S. Counties	1 3	11½
A	Matlock	Mid. Counties	1 4	1 0
A_1	Merthyr	S. Wales & M.	1 5	1 0½
A	Middlesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid Counties	1 5½	1 1½
A_2	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth	Scotland	*1 5½	1 1½
A_2	Peterborough	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate	S. Counties	1 3½	11½
A	Retford	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon	N.W. Counties	1 5	1 0½
A	Rugby	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton	Yorkshire	1 4½	1 0½
A_2	Slough	S. Counties	1 4½	1 0½
A_1	Solihull	Mid. Counties	1 5	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stirling	Scotland	1 6	1 1½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swansea	S. Wales & M.	1 5½	1 1½
A	Swindon	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton	S.W. Counties	1 3½	11½
A	Teesside Dist ..	N.E. Counties	1 5½	1 1½
A_2	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby	Yorkshire	1 4½	1 0½
A	Widnes	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A	Wycombe ..	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

To these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 8
Mason (Banker) . . . . . ,,	1 7
,, (Fixer) . . . . . ,,	1 8
Plumber . . . . . ,,	1 7
Painter . . . . . ,,	1 6
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 7
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 3
Timberman	1 3
Navvy . . . . . ,,	1 2½
General Labourer . . . . . ,,	1 2½
Lorryman . . . . . ,,	1 5
Crane Driver . . . . . ,,	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . . per ton	2 2 0
Blue Lias Lime . . . . . ,,	1 16 6
Hydrated Lime . . . . . ,,	3 0 9
Portland Cement, in 4-ton lots (d/d site, including Paper Bags) . . ,,	1 18 0
Rapid Hardening Cement, in 4-ton lots (d/d site, including Paper Bags) . ,,	2 5 6
White Portland Cement, in 1-ton lots ,,	8 15 0
Thames Ballast . . . . . per Y.C.	6 3
¾" Crushed Ballast . . . . . ,,	6 9
Building Sand . . . . . ,,	7 3
Washed Sand . . . . . ,,	8 3
2" Broken Brick . . . . . ,,	8 0
¾" ,, ,, ... ,,	10 3
Pan Breeze . . . . . ,,	6 6
Coke Breeze . . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . . per F.R.	0 9	1 1
Bends . . . each	1 9	2 6
Taper Bends . . ,,	3 6	5 3
Rest Bends . . ,,	4 3	6 3
Single junctions . . ,,	3 6	5 3
Double . . ,,	4 9	6 6
Straight channels . . per F.R.	1 6	2 6
¼ Channel bends . . each	2 9	4 0
Channel junctions . ,,	4 6	6 6
Channel tapers . . ,,	2 9	4 0
Yard gullies . . ,,	6 9	8 9
Interceptors . . ,,	16 0	19 6
IRON DRAINS:		
Iron drain pipe . . per F.R.	1 6	2 6
Bends . . . each	5 0	10 6
Inspection bends . ,,	9 0	15 0
Single junctions . ,,	8 9	18 0
Double junctions . ,,	13 6	30 0
Lead wool . . lb.	6	—
Gaskin . . . ,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . . Per M.	2 18 0
Grooved do. . . . . ,,	3 0 0
Phorpres bricks . . . . . ,,	2 17 3
,, Cellular bricks . . ,,	2 17 3
Stocks, 1st quality . . . ,,	4 11 0
,, 2nd ,, . . . ,,	4 2 6
Blue Bricks, Pressed . . ,,	8 17 6
,, Wirecuts . . ,,	7 17 6
,, Brindles . . ,,	7 0 0
,, Bullnose . . ,,	9 0 0
Red Sand-faced Facings . ,,	6 18 6
Red Rubbers for Arches . ,,	12 0 0
Multicoloured Facings . ,,	7 10 0
Luton Facings . . . ,,	7 10 0
Phorpres White Facings . ,,	3 17 3
,, Rustic Facings . ,,	3 12 3
Midhurst White Facings . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . . ,,	21 0 0
Headers . . . . . ,,	20 10 0
Bullnose . . . . . ,,	27 10 0
Double Stretchers . . ,,	29 10 0
Double Headers . . . ,,	26 10 0
Glazed Second Quality, *Less* . ,,	1 0 0
,, Buffs and Creams, *Add* . ,,	2 0 0
,, Other Colours . . ,,	5 10 0
2" Breeze Partition Blocks . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 10
3" ,, ,, ,, . . ,,	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

The following d/d F.O.R. at Nine Elms:	s. d.
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . . ,,	2 11
York stone . . . . . ,,	6 6
,, ,, Sawn templates . . ,,	7 6
,, ,, Paving, 2" . . . F.S.	1 8
,, ,, ,, 3" . . . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . . per M.	28 17 6
22" × 12" Marchionesses . . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . . ,,	15 10 0
18" × 9" Ladies . . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, ,, green ,, ,,	24 7 4
Best machine roofing tiles . . ,,	4 10 0
Best hand-made do. . . . ,,	5 0 0
Hips and valleys . . . each	9½
,, hand-made . . . . ,,	10
Nails, compo . . . . lb.	1 4
,, copper . . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . . as 1" F.S.	9
Deal, Joiner's . . . . ,, ,,	5
,, ,, 2nds ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,	4
,, British Columbian . ,, ,,	4
Teak, Moulmein . . . ,, ,,	1 3
,, Burma . . . ,, ,,	1 2
Walnut, American . . ,, ,,	2 3
,, French . . . ,, ,,	2 3
Whitewood, American . ,, ,,	1 1
Deal floorings, ⅞" . . . Sq.	18 6
,, 1" . . . ,,	1 1 6
,, 1¼" . . . ,,	1 2 0
,, 1½" . . . ,,	1 5 0
,, 1¾" . . . ,,	1 10 0
Deal matchings ⅞" . . ,,	14 0
,, 1" . . ,,	15 6
,, 1¼" . . ,,	1 4 0
Rough boarding ⅞" . . ,,	16 6
,, 1" . . ,,	18 0
,, 1¼" . . ,,	1 6 0
Plywood, per ft. sup.	d.
Scotch glue . . . . . lb.	8

Thickness	¼"			⅜"			½"			¾"		
Qualities	AA	A	B.	AA	A	B.	AA	A	B.	AA	A	B.
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
Birch.	4	3	2	5	4	3	7½	6	4½	8½	7	6
Alder.	3½	3	2	5	4	3	6½	5½	4½	8	7	6
Gaboon Mahogany	4	3	3	6½	5½	4½	9½	7½	–	1/0½	10	–
Figured Oak 1 side	8½	7	–	10	8	–	11½	–	–	1/6	–	–
Plain Oak . 1 side	6½	6	–	7½	7	–	9½	–	–	1/–	–	–
Oregon P.ne	5	4	–	5½	5	–	6	–	–	–	–	–

SMITH AND FOUNDER

Tubes and Fittings:
(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	¼"	⅜"	½"	¾"	1"	1¼"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10		
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9		
,, 3"-11½" long ,,	7	9	1/3	1/8	3/–		
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3		
,, ,, 3"M-1½" long ,,	8	10	1/5	1/11	3/6		
Bends . . . . ,,	8	11	1/7½	2/7½	5/2		
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11		
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–		
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3		
Tees . . . . ,,	1/–	1/3	1/10	2/6	5/1		
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6		
Plain Sockets and nipples ,,	3	4	6	8	1/3		
Diminished sockets . ,,	4	6	9	1/–	2/–		
Flanges . . . . ,,	9	1/–	1/4	1/9	2/9		
Caps . . . . ,,	3½	5	8	1/–	2/–		
Backnuts . . . ,,	2	3	5	6	1/1		
Iron main cocks . . ,,	1/6	2/3	4/2	5/4	11/6		
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–		

Discounts:

TUBES.

	Per cent.		Per cent.
Gas . . .	65	Galvanized gas .	52½
Water . . .	61½	,, water	47½
Steam . . .	57½	,, steam	42½

FITTINGS.

Gas . .	57½	Galvanized gas	47½
Water .	52½	,, water	42½
Steam	47½	,, steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ⅜" . . ,,	8 6
,, ,, ½" . . ,,	8 3
,, ,, ⅝" . . ,,	8 0
,, ,, ¾" . . ,,	7 6
,, ,, ⅞" . . ,,	7 6
,, ,, 1" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1½" . . ,,	7 6

	3" s. d.	4" s. d.
Cast-iron rain-water pipes of ordinary thickness metal . . F.R.	8	10
Shoes . . . . each	2 0	3 0
Anti-splash shoes . . ,,	4 6	8 0
Boots . . . . ,,	3 0	4 0
Bends . . . . ,,	2 7	3 9
,, with access door . ,,	—	6 3
Heads . . . . ,,	4 0	5 0
Swan-necks up to 9" offsets ,,	3 9	6 0
Plinth bends, 4½" to 6" ,,	3 9	5 3
Half-round rain-water gutters of ordinary thickness metal . . F.R.	5	6
Stop ends . . . . each	6	6
Angles . . . . ,,	1 7	1 11
Obtuse angles . . . ,,	2 0	2 6
Outlets . . . . ,,	1 9	2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	18 6
,, drawn pipes . . . ,,	17 0
,, soil pipe . . . ,,	18 6
,, scrap . . . ,,	10 6
Solder, plumbers' . . . lb.	9½
,, fine do. . . . ,,	1 0
Copper, sheet . . . ,,	8½
,, tubes . . . ,,	11

L.C.C. soil and waste pipes:	3"	4"	6"
Plain cast . . F.R.	1 0	1 2	2 6
Coated . . ,,	1 1	1 3	2 8
Galvanized . . ,,	2 0	2 6	4 6
Holderbats . . each	3 10	4 0	4 9
Bends . . . ,,	3 9	5 3	10 3
Shoes . . . ,,	2 10	4 4	9 6
Heads . . . ,,	4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . . per ton	2 5 0
Plaster, coarse . . . ,,	2 10 0
,, fine . . . ,,	4 15 0
Hydrated lime . . . ,,	3 0 9
Sirapite . . . . ,,	3 6 0
Keene's cement . . . ,,	5 0 0
Gothite Plaster . . . ,,	3 6 0
Thistle Plaster . . . ,,	3 6 0
Sand, washed . . . Y.C.	11 6
Hair . . . . lb.	6
Laths, sawn . . . bundle	2 4
,, rent . . . ,,	3 9
Lath nails . . . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft. s. F.S.		2½
,, ,, 26 oz. ,, ,, ,,		3
Flemish, Arctic, Figured (white)* ,,		7
Blazoned glasses . . . ,,		2 6
Reeded; Cross Reeded ,,		11
Cathedral glass, white, double-rolled, plain, hammered, rimpled, waterwite		6½
Crown sheet glass (n/e 12 in. x 10 in.) ,,		2 0
Flashed opals (white and coloured) ,,	1 0 and	2 0
¼" rough cast; rolled plate . ,,		5½
¼" wired cast; wired rolled . ,,		9½
¼" Georgian wired cast. . . ,,		11
¼" Polished plate, n/e 1 ft. . ,,	†10 to	‡1 1
,, ,, 2 . . ,,	†1 2 ,,	‡1 4
,, ,, 4 . . ,,	†2 3 ,,	‡2 6
,, ,, 8 . . ,,	†2 9 ,,	‡3 2
,, ,, 20 . . ,,	†3 7 ,,	‡4 2
,, ,, 45 . . ,,	†3 11 ,,	‡4 7
,, ,, 100 . . ,,	†5 0 ,,	‡5 7
Vita glass, sheet, n/e 2 ft. . ,,		1 3
,, ,, ,, over 2 . ,,		1 9
,, ,, plate, n/e 2 ft. . ,,		3 0
,, ,, ,, 7 . . ,,		5 0
,, ,, ,, 15 . . ,,		6 0
,, ,, ,, over 15 . ,,		7 6
"Calorex" sheet 21 oz., and 32 oz. ,,	2 6 and	3 6
,, rough cast ¼" and ½" ,,	8½ ,,	1 0
Putty, linseed oil . . . lb.		3

* *Colours*, 1d. *F.S. extra.*
†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s. d.
White lead in 1 cwt. casks . . cwt.	2 6 0
Linseed oil . . . . gall.	2 2½
Boiled oil . . . . ,,	2 4½
Turpentine . . . . ,,	4 1½
Patent knotting . . . . ,,	14 0
Distemper, washable . . cwt.	2 6 0
,, ordinary . . . ,,	2 0 0
Whitening . . . . ,,	4 0
Size, double . . . firkin	3 0
Copal varnish . . . gall.	13 0
Flat varnish . . . ,,	14 0
Outside varnish . . . ,,	16 0
White enamel . . . ,,	1 15 0
Ready mixed paint . . ,,	13 6
Brunswick black . . .	7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR

		£ s. d.
Digging over surface n/e 12" deep and cart away	Y.S.	2 9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.	8 6
" to form basement n/e 5' 0" deep and cart away	"	9 0
" " 10' 0" deep and cart away	"	9 6
" " 15' 0" deep and cart away	"	10 0
If in stiff clay	add "	6
If in underpinning	"	4 0
Planking and strutting to sides of excavation	F.S.	1 0
" " to pier holes	"	5
" " to trenches	"	5
" " extra, only if left in	"	3
Hardcore, filled in and rammed	Y.C.	10 0
Portland cement concrete in foundations (6-1)	"	1 6 0
" " (4-2-1)	"	1 12 6
" " underpinning	"	1 16 0
Finishing surface of concrete, spade face	Y.S.	7

DRAINLAYER

		4" s. d.	6" s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
" junctions	"	3 9	4 6
Gullies and gratings	"	16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER

	£ s. d.
Brickwork, Flettons in lime mortar	Per Rod 27 10 0
" " in cement	" 28 15 0
" Stocks in cement	" 35 0 0
" Blues in cement	" 52 0 0
Extra only for circular on plan	" 2 0 0
" backing to masonry	" 1 10 0
" raising on old walls	" 2 0 0
" underpinning	" 5 10 0½
Fair Face and pointing internally	F.S. 1½
Extra over fletton brickwork for picked stock facings and pointing	" 8
" " " red brick facings and pointing	" 11
" " " blue brick facing and pointing	" 1 4
" " " glazed brick facings and pointing	" 3 6
Tuck pointing	" 7½
Weather pointing in cement	" 3
Slate dampcourse	" 10
Vertical dampcourse	" 1 1

ASPHALTER

		s. d.
½" Horizontal dampcourse	Y.S.	4 6
½" Vertical dampcourse	"	6 9
½" paving or flat	"	4 9
1" paving or flat	"	5 6
1" × 6" skirting	F.R.	1 6
Angle fillet	"	2
Rounded angle	"	2
Cesspools	Each	5 0

MASON

		s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17 9
Bath stone and do., all as last	"	13 6
Artificial stone and do.	"	13 0
York stone templates, fixed complete	"	10 6
" thresholds	"	13 6
" sills	"	1 0 6

SLATER AND TILER

		£ s. d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr.	3 10 0
Do., 18" × 9"	"	3 7 0
Do., 24" × 12"	"	3 17 0
Westmorland slating, laid with diminished courses	"	6 0 0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3 0 0
Do., all as last, but of machine-made tiles	"	2 16 0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	"	4 6 0
" " " " " " (green)	"	4 15 0

CARPENTER AND JOINER

		£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2 5 0
Shuttering to sides and soffits of beams	F.S.	8
" to stanchions	"	8
" to staircases	"	1 8
Fir and fixing in wall plates, lintols, etc.	F.C.	3 9
Fir framed in floors	"	4 6
" " roofs	"	6 6
" " trusses	"	7 6
" " partitions	"	8 6
1" deal sawn boarding and fixing to joists	Sqr.	1 14 6
1" " " " "	"	1 17 6
1½" " " " "	"	2 3 0
1" × 2" fir battening for Countess slating	"	9 6
Do. for 4" gauge tiling	"	12 0
Stout feather-edged tilting fillet	F.R.	4½
Patent inodorous felt, 1 ply	Y.S.	2 3
" " " 2 "	"	2 9
" " " 3 "	"	3 3
Stout herringbone strutting to 9" joists	F.R.	10½
1" deal gutter boards and bearers	F.S.	1 2
1½" " " "	"	1 6
2" deal wrought rounded roll	F.R.	8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2 1 0
1¼" do.	"	2 10 0
1½" do.	"	2 17 0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S.	1 6
1½" do.	"	1 9

CARPENTER AND JOINER—*continued*

		s. d.
1½" deal moulded sashes of average size	F.S.	1 9½
2" " " " "	"	1 11½
1½" deal cased frames double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ⅝" parting beads, and with brass faced axle pulleys, etc., fixed complete	"	3 7
2" " " " "	"	3 10
Extra only for moulded horns	Each	6
1¼" deal four-panel square, both sides, door	F.S.	2 0
2" " " " " "	"	2 8
1¼" " but moulded both sides	"	2 4
2" " " " "	"	3 0
4" × 3" deal, rebated and moulded frames	F.R.	1 0
4½" × 3½" " " "	"	1 4
1½" deal tongued and moulded window board, on and including deal bearers	F.S.	1 9
1½" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2 6
1¼" deal moulded wall strings	"	2 1
1½" " outer strings	"	2 4
Ends of treads and risers housed to string	Each	1 9
3" × 2" deal moulded handrail	F.R.	1 3
1" × 1" deal balusters and housing each end	Each	2 0
1½" × 1½" " " "	"	2 9
3" × 3" deal wrought framed newels	F.R.	1 3
Extra only for newel caps	Each	6 0
Do., pendants	"	6 0

SMITH AND FOUNDER

		£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.	15 6
Riveted plate or compound girders, and hoisting and fixing in position	"	19 6
Do. stanchions with riveted caps and bases and do.	"	19 0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	"	17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.	11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1 10 0

PLUMBER

		£ s. d.
Milled lead and labour in flats	cwt.	1 12 0
Do. in flashings	"	1 15 6
Do. in covering to turrets	"	2 3 0
Do. in soakers	"	1 7 6
Labour to welted edge	F.R.	3½
Open copper nailing	"	3
Close " "	"	4

		½" s. d.	¾" s. d.	1" s. d.	1½" s. d.	2" s. d.	4" s. d.
Lead service pipe and fixing with pipe hooks	F.R.	10	1 0	1 3	2 0	2 10	—
Do. soil pipe and fixing with cast lead tacks		—	—	—	—	—	5 6
Extra, only to bends	Each	—	—	—	—	2 0	6 9
Do. to stop ends	"	6½	8	9	11	1 0	—
Boiler screws and unions	"	3 3	3 9	5 0	8 0	—	—
Lead traps	"	—	—	—	6 3	8 9	—
Screw down bib valves	"	6 9	9 6	11 0	—	—	—
Do. stop cocks	"	7 0	9 6	12 6	—	—	—

		s. d.
4" cast-iron ½-rd. gutter and fixing	F.R.	1 0
Extra, only stop ends	Each	1 0
Do. angles	"	1 6
Do. outlets	"	2 9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.	1 2
Extra, only for shoes	Each	1 3
Do. for plain heads	"	5 6

PLASTERER AND TILING

		s. d.
Expanded metal lathing, small mesh	Y.S.	2 0
Do. in n/w to beams, stanchions, etc.	"	2 9
Lathing with sawn laths to ceilings	"	1 3
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	"	1 5
Do. vertical	"	1 7
Rough render on walls	"	1 2½
Render, float and set in lime and hair	"	1 9
Render and set in Sirapite	"	1 11
Render, backing in cement and sand, and set in Keene's cement	"	2 9
Extra, only if on lathing	"	4
Keene's cement, angle and arris	F.R.	6
Arris	"	1½
Rounded angle, small	"	3
Plain cornices in plaster, including dubbing out, per 1" girth	"	1½
1" granolithic pavings	Y.S.	3 6
1½" " "	"	4 6
6" × 6" white glazed wall tiling and fixing on prepared screed	"	17 6
9" × 3" " " " "	"	1 2 6
Extra, only for small quadrant angle	F.R.	8

GLAZIER

		s. d.
21 oz. sheet glass and glazing with putty	F.S.	7½
26 oz. do and do.	"	8½
Flemish, Arctic Figured (white) and glazing with putty	"	1 1
Cathedral glass and do.	"	1 2
Glazing only, British polished plate	"	7
Extra, only if in beads	"	2
Washleather	F.R.	4

PAINTER

		s. d.
Clearcolle and whiten ceilings	Y.S.	6
Do. and distemper walls	"	9
Do. with washable distemper	"	1 1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	"	3 3
Do. on woodwork	"	3 6
Do. on steelwork	"	3 0
Do. and brush grain and twice varnish	"	5 6
Stain and twice varnish woodwork	"	1 11
Stain and wax-polish woodwork	"	4 6
French polishing	F.S.	1 2
Stripping off old paper	Piece	2 0
Hanging ordinary paper	from	2 9

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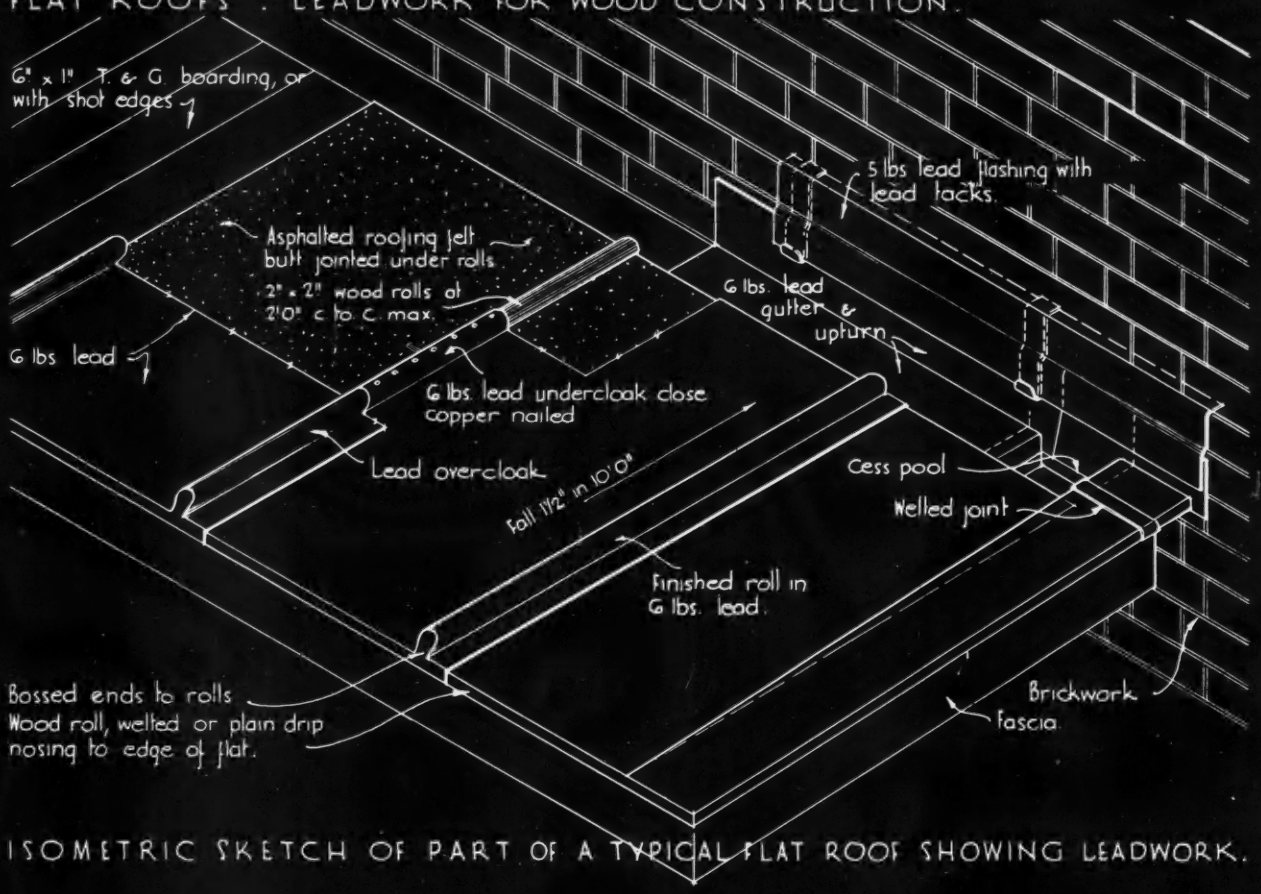
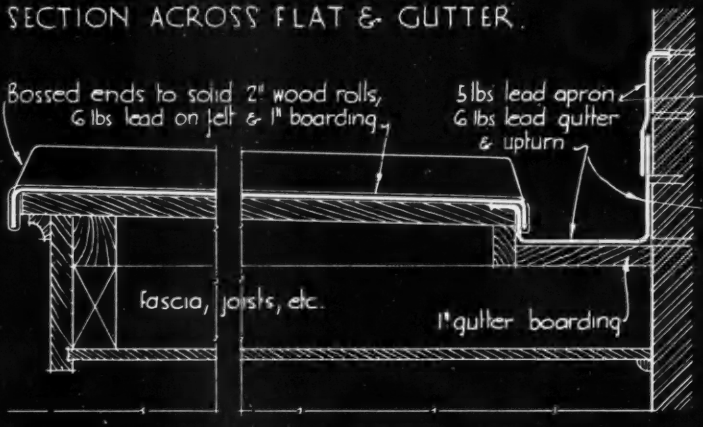
FLAT ROOFS : LEADWORK FOR WOOD CONSTRUCTION.

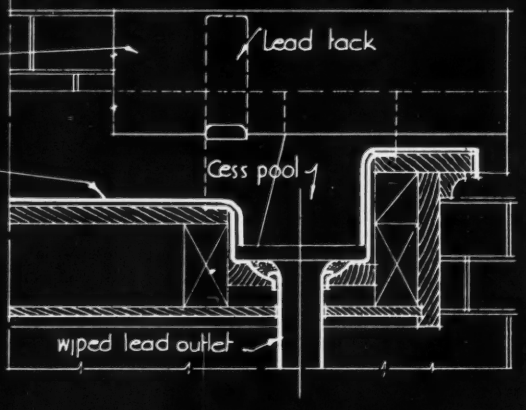


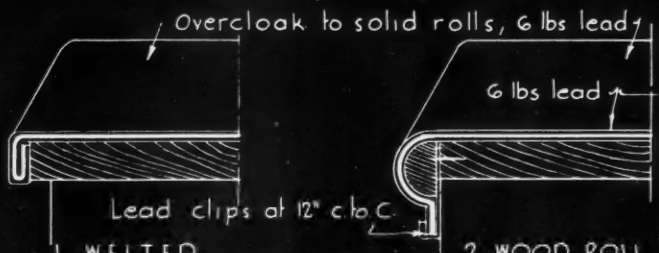
ISOMETRIC SKETCH OF PART OF A TYPICAL FLAT ROOF SHOWING LEADWORK.

SECTION ACROSS FLAT & GUTTER.



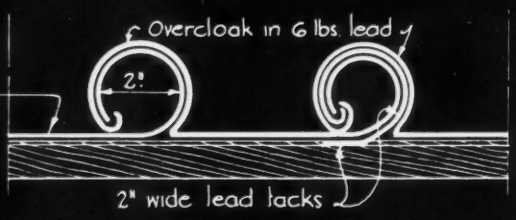
SECTION THROUGH CESSPOOL & GUTTER.





1. WELTED 2. WOOD ROLL

DETAILS OF TYPES OF LEAD NOSING.



DETAILS OF HOLLOW LEAD ROLLS.

Information from the Lead Sheet & Pipe Development Council.

INFORMATION SHEET : THE USE OF LEAD IN BUILDING CONSTRUCTION. 2.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1

THE ARCHITECTS' JOURNAL
LIBRARY OF PLANNED INFORMATION

INFORMATION SHEET

• 149 •

LEAD IN BUILDING CONSTRUCTION

Type of Product : Parapet Gutters and Cess-pools

This is the second of the series of Information Sheets dealing with the uses of Lead in Building Construction. It illustrates typical flashings and rolls required in the covering of small or large flat roofs with 5 or 6 lb. Sheet Lead.

Where the main construction is of wood as shown it is advisable, for the best results, to lay the boards with their grain running in the direction of the fall in the roof. They need also to be accurate in thickness with shot edges truly jointed and, in best work, tongued boards should be employed at least $\frac{7}{8}$ in. finished thickness, laid on rigid bearers that will resist the lead dressing without troublesome vibration. The bearers are decreased in depth from the fascia towards the gutter at the back and provide the necessary fall in the lead covering, which should be not less than $1\frac{1}{2}$ in. in 10 ft.

Boards having their annual rings nearly vertical keep their form best and, by avoiding both shrinkage and warping, minimize the defects that may be expected to arise at the joints, whatever the care taken with the laying. To decrease inequalities further, sheets of asphalted sarking felt are best laid over the boards of the flat, any joints being made under the rolls with butt-edges and not lapped. The felt must be of good quality and even thickness, or its purpose is defeated. The rolls used for flats of this description must run at right angles to the desired flow of the water and should not exceed 2 ft. on centre. The lead is jointed at these positions by dressing over the rolls, or forming hollow rolls as illustrated. This hollow type of roll is sometimes used, being similar in conception to a welt, but with much longer lap of the sheets. Increased strength is obtained by inserting 2 in. broad tacks of lead at 2 feet intervals along the roll as shown. Stop ends to these rolls need great care and skill in finishing. Where the end is exposed the solid wooden roll is preferable. These should have bevelled ends and rounded edges to make them less prominent at the front and also to allow the surplus lead at the " roll-lap " to be bossed satisfactorily to obtain close cover with less abrupt change of direction.

Several types of nosing are illustrated for the outer edges of the roof. In the wooden roll, and where the plain drip occurs, it is advisable to employ a series of lead clips at 12 in. centres to prevent wind driving up the edges of the lead cover. These are nailed to the roof boarding before the wood nosing is screwed on. The edges of the cover are then dressed over the nosing and the clips dressed and trimmed over the edges. Welted nosings are sufficiently reliable without clips and perfectly resist the lifting tendency of strong winds.

In short lengths of gutter no drips are required but a good fall is desirable towards the cess-pools. Leadwork to gutters and cess-pools, with details of apron flashings and tacks, etc., was illustrated on a previous Information Sheet.

Source of Information : Lead Sheet and Pipe Development Council

Address : Golden Cross House, Charing Cross, W.C.2.

Telephone : Whitehall 7264

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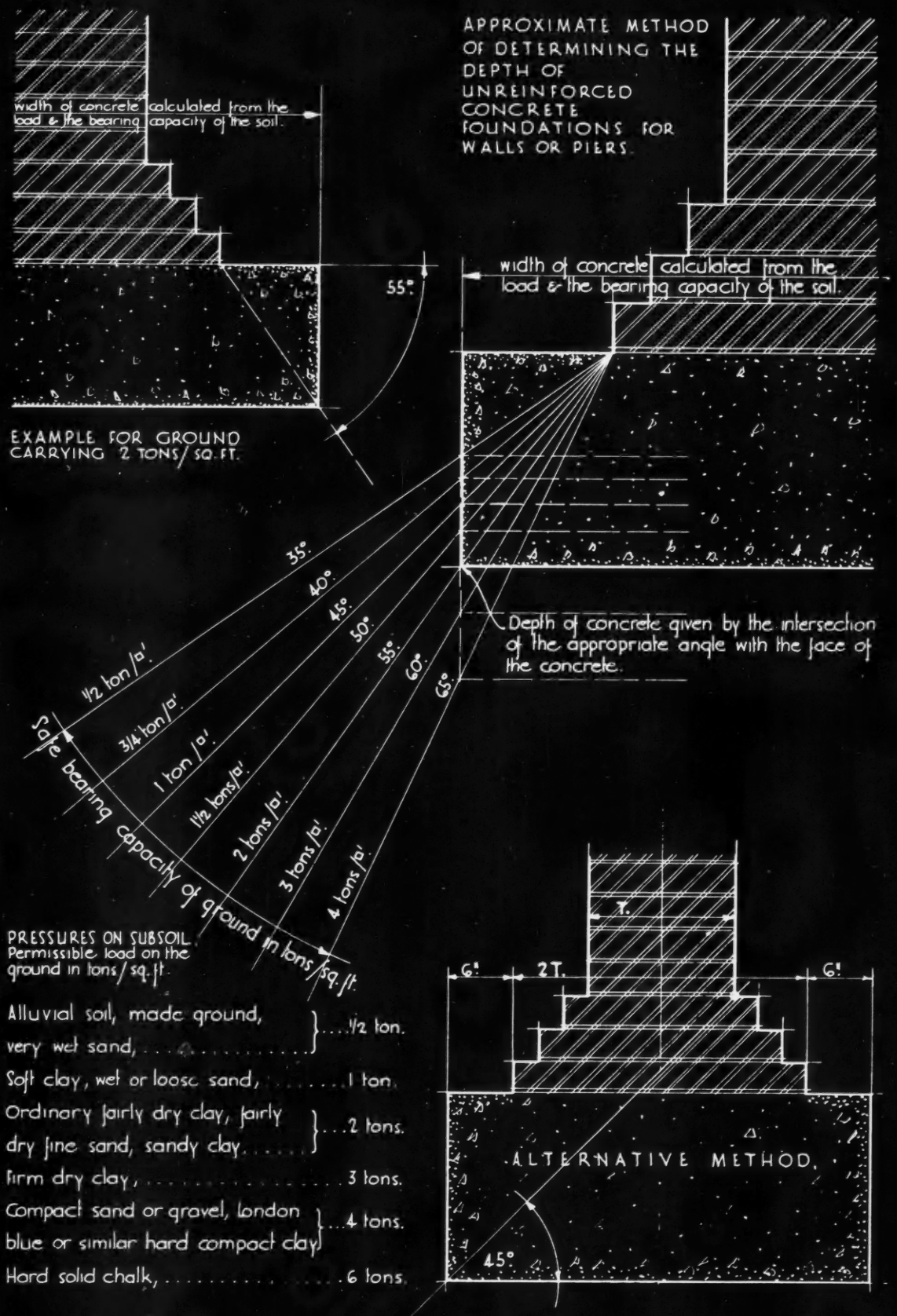

PRESSURES ON SUBSOIL.
Permissible load on the ground in tons/sq.ft.

Alluvial soil, made ground, very wet sand,	½ ton.
Soft clay, wet or loose sand,	1 ton.
Ordinary fairly dry clay, fairly dry fine sand, sandy clay.	2 tons.
Firm dry clay,	3 tons.
Compact sand or gravel, london blue or similar hard compact clay	4 tons.
Hard solid chalk,	6 tons.

INFORMATION SHEET: DEPTHS OF CONCRETE FOUNDATIONS

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1

THE ARCHITECTS' JOURNAL
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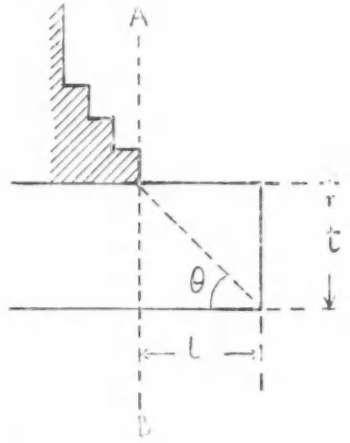
INFORMATION SHEET

• 150 •

CONCRETE FOUNDATIONS

THE first method of determining the thickness of an unreinforced concrete foundation given overleaf is derived from the following calculation :



Assume

p = pressure on soil in tons per sq. ft.
f = safe tensile stress in plain concrete in lbs. per sq. in.
l = overhang beyond edge of brick footings in ft.
t = thickness of concrete in ft.
θ = angle as shown.

Then $\tan \theta = \frac{t}{l}$

Bending moment at section A B per ft. run of foundation

$$= \frac{pl^2}{2} \text{ ft. tons}$$

Resistance moment at section A B per ft. run of foundations

$$= \text{safe stress} \times \text{section modulus}$$

$$= 144 \times f \times \frac{t^2}{6} \text{ lbs. ft.}$$

$$= \frac{144 \times f \times t^2}{2240 \times 6} \text{ tons ft.}$$

Equating resistance moment to bending moment

$$\frac{144 \times f \times t^2}{2240 \times 6} = \frac{pl^2}{2}$$

$$\therefore \frac{t^2}{l^2} = \frac{p \times 2240 \times 6}{2 \times 144 \times f} = \frac{140\,p}{3\,f}$$

$$\frac{t}{l} = \sqrt{\frac{140\,p}{3\,f}}$$

Assuming a value of $\frac{140}{3}$ i.e., approximately 47 lbs. per sq. in., for the safe tensile stress for unreinforced concrete and putting in various values for p, the required values for θ are obtained as set out in the table below.

Value of p in tons per sq. ft.	Value of θ
½	35°
¾	40°
1	45°
1½	50°
2	55°
3	60°
4	65°

In the calculation given above the shear resistance of the base has not been considered.

As a check on this

Maximum shear (at section A B)

$$= l \times p \text{ tons}$$

Shear stress $$= \frac{l \times p \times 2240}{t \times 12 \times 12} \text{ lbs. per sq. in}$$

$$= \frac{l}{t} \times p \times 15.6$$

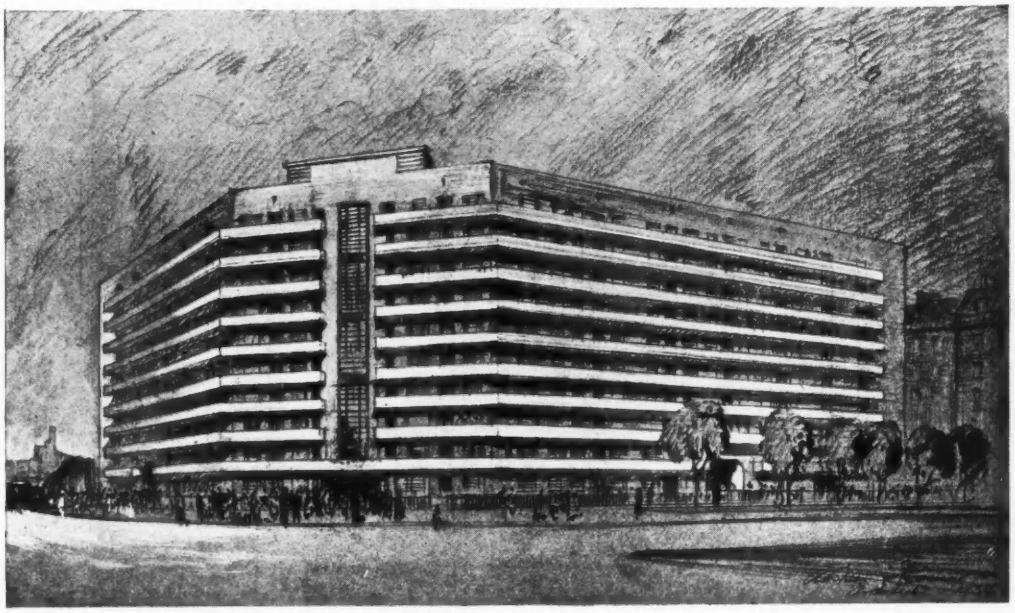
but, from above $\frac{l}{t} = \sqrt{\frac{l}{p}}$

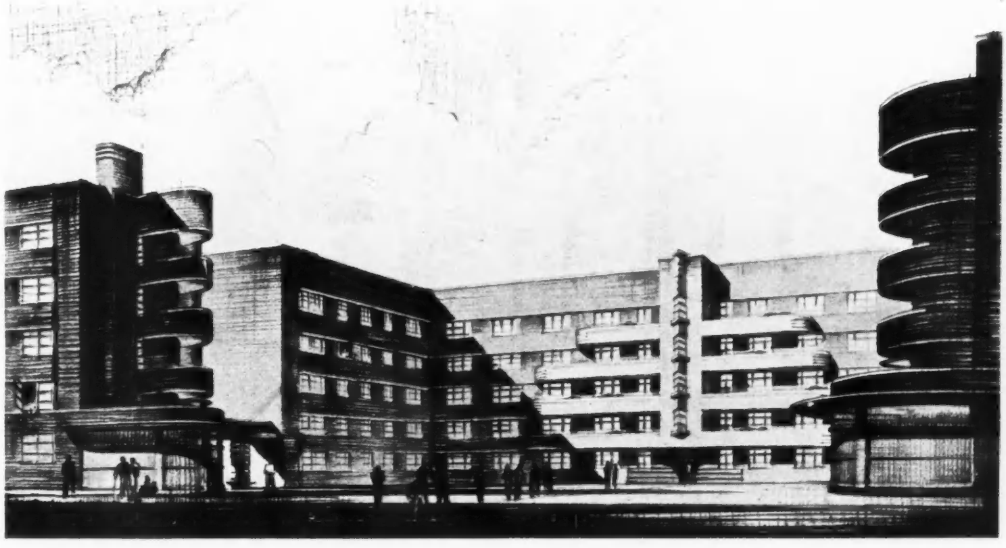
∴ Shear stress $$= \frac{15.6}{\sqrt{p}} = \sqrt{\frac{243}{p}}$$

The worst case for shear resistance will therefore occur, as would be expected, with a pressure under the base of ½ ton per sq. foot. In this case the shear stress is only 22 lbs. per sq. in., which is amply safe.

TWO NEW BLOCKS OF FLATS

FOR LONDON AND LIVERPOOL





THE Stepney Borough Council propose to erect a block of flats, mainly ten storeys in height, on a site in Branch Road and Rose Lane, Stepney. The building, of which a drawing is reproduced at the top of this page, will contain twelve one-room flats; two two-room flats; 64 three-room flats; 26 four-room flats; and 32 "elastic units" which can be arranged to give 16 three-room and 16 two-room flats, or 16 four-room and 16 one-room flats, bringing the total number of flats up to 136.

The scheme, for which Messrs. Adshead and Ramsey are the architects, was recently passed by the London County Council.

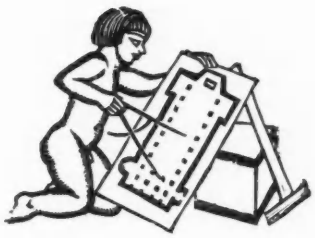
The Liverpool Corporation is to erect, on the site of the old Liverpool Orphanage, Myrtle Street, a block of flats chiefly for the rehousing of families living in the immediate neighbourhood. The Housing Committee last week decided to accept a tender for the erection of the flats (and two shops) for £76,507. The drawing shows the main entrance to the entire block when completed. The architect is Mr. L. H. Keay (Director of Housing, Liverpool).

S. W. NEWBERY

CHAMBER OF COMMERCE BUILDING, LONDON

Yesterday, October 10, H.R.H. Prince George officially opened the new Chamber of Commerce Building, at the corner of Cannon Street and Queen Street, E.C. Above is a view of the main (Cannon Street) façade.

The architects are Messrs. Gunton and Gunton.



PLAN THE BUILDING EXHIBITION

THE Building Trades Exhibition closed two weeks ago. Before it opened, considerable interest was aroused, but its realization involved both satisfaction and disappointment to the visitors. Since it has been closed there have been articles and letters summing up the position. The results of the questionnaire sent out by this JOURNAL form a part of the evidence which has now been amassed.

The basis for all this discussion has been a simple but fundamental question—is the Exhibition, as organized at present, satisfactory; is the principle of dividing the floor up into patches, letting these patches to manufacturers who will pay for them, and then taking no further interest, one that best answers to the needs of the situation?

The questions are these:

Should the Exhibition as a whole be left to the initiative of individual exhibitors whose control extends only to their particular stand? or—

Should the whole Exhibition be planned and organized by one central authority—whether it be individual architect or committee, and the exhibitors regulated to a greater or less degree?

The consensus of opinion has certainly been in favour of the latter suggestion. The next step is to consider in what manner this suggestion may be implemented.

Many firms, no doubt, would oppose the idea of an architect-planned Exhibition because of experiences in the past. When the opportunity has been given for a planned solution the emphasis has been laid on ideas of composition, on formal grouping basically unrelated to the problem—standardized stands, which are not necessarily convenient. This objection would never arise if the Exhibition were studied scientifically and methodically.

Before making any concrete proposals, it is necessary that the purpose of the Exhibition should be analyzed. The obvious purpose is to sell particular building products. But the nature of the products advertised dictates a certain direction in the advertising. They are technical products; they are to appeal to buyers who intend to use them for specific technical purposes. Thus the emphasis naturally should be upon the product and not upon the display. Naturally the material must be shown to the best advantage, but it is a mistake to think that a jolly stand can make a better product.

The aim of such an Exhibition is essentially to show the *progress* in building products since the last Exhibition—and not progress in the ingenuity of stand designers. Were there some more rigid control of these stands, manufacturers would be forced to concentrate on improvements in their products.

The needs in the general organization as a whole, apart from the treatment of the stands, are elementary and even obvious—but nevertheless neglected.

They are, clear circulation clearly indicated—maximum visibility—good lighting—standardization of the name and number of the stand, and the position of the stand numbers, which at several stands in the last Exhibition were not displayed at all—the lettering should be easily read from a distance—comparison of products in various classes or groups should be as simple as possible—finally, the catalogue should be designed to enable a visitor to find the product he wants quickly, rather than to describe to him what he may see if he at last reaches the stand he requires.

Now we come from these general questions to the most vexed and difficult—the question of arrangement of the stands. The last Exhibition has shown again quite clearly the failure of having isolated individual exhibits.

They fail because they have no background, or rather the background is an impossible one—other stands and more people. As a result, the stands are turned into cabins, in the interior of which business is done. These stands generally have gangways all round, and orderly circulation is immediately lost. However much discussion there may be as to the best form of stand to adopt, there is no doubt that the isolated stand is unsatisfactory. The most logical form is probably the shell type, in which the background is provided by the Exhibition authorities. This arrangement gives a series of three-sided recesses, with special arrangements for corner blocks. Manufacturers would have complete freedom of display within the shell.

Three important results would emerge from this policy—first, stands would, in general, be less likely to be built of the material they advertise. The torturing of building materials that has become rife at our recent Exhibitions would no longer be possible. Secondly, the design of stands would come more within the province of those who make a study of display. Thirdly, the general lay-out and organization of the Exhibition would have to be tackled by an architect or architects.

The stands will become more of the nature of shop windows and will probably develop as much as the latter have done in the direction of simplicity and organized display.

In any case the main line to concentrate upon is a *scientific* analysis and solution carried out with imagination.

The Architects' Journal
Westminster, S.W.1
Telephones: Victoria
9212-7
Telegrams:
Buildable
Parl
London

NOTES & TOPICS

OVERCROWDING

DURING the war years there appeared a report drawn up by a Royal Commission on Housing which revealed conditions of overcrowding in Scotland that beggared description.

*

According to Sir Godfrey Collins, speaking recently at Alloa, these conditions have hardly been bettered from that day to this. "If," he said, "we took more than two persons per room as the measure, no less than 35 per cent. of the population of Scotland is overcrowded."

*

THE ARCHITECTS' JOURNAL figures of last year bear out this statement. Housing conditions in Scotland are appalling. In certain areas the percentage of two per room overcrowding rises to 48·8 per cent., and in Motherwell in particular, to as much as 55·3 per cent.

*

It is quite obvious that the need for new flats and houses in the congested areas in Scotland can only be met by a national, rather than a local, organization.

*

I hear that new housing promoted by local authorities is below the standards of design and equipment which we have a right to expect in an age that can bring really unusual resources to the solution of the problem. It is all very depressing.

LOCAL ADMINISTRATION

The machinery of local administration is only too often of Heath Robinsonian aspect.

*

Surveyors, building inspectors and sanitary officials, like judges, are there not to administer justice, but the law. The law allows of many interpretations, and that keeps lawyers busy. But building bye-laws are designed to be tolerably flexible, and there are model clauses a-plenty which local authorities, anxious to keep abreast of the times, can adopt to meet changing conditions.

*

But only too often they don't adopt them out of ignorance, and sometimes they don't know their own laws.

*

An architect told me the other day of a plumbing scheme he took along for approval to a local official. It concerned the very interesting problem of taking soil drainage down the inside of the building—a domestic job. "Oh, no," said the official, "we don't favour that. Bye-laws don't allow it."

*

Now this particular soil pipe was shown with a vertical vent cased in up to the roof—a flat one—in the very best plumbing practice. But the bye-laws did not insist upon the best practice, and if the vent were removed the case against carrying soil pipes inside this building fell to the ground.

*

My friend adopted second-best practice and got away with it. No questions were asked. Which is to say that he read the bye-laws like a sea-lawyer and found a way through them. But the bye-laws exist to see that we get good building. The absurdity of it.

*

And I know that such cases are legion. Here one thing allowed, there disallowed for no good reason. The Colne Valley Water Company allows flushing valves for water closets. The Metropolitan Water Board won't. Is there any end to the irregularity and confusion of this local administration?

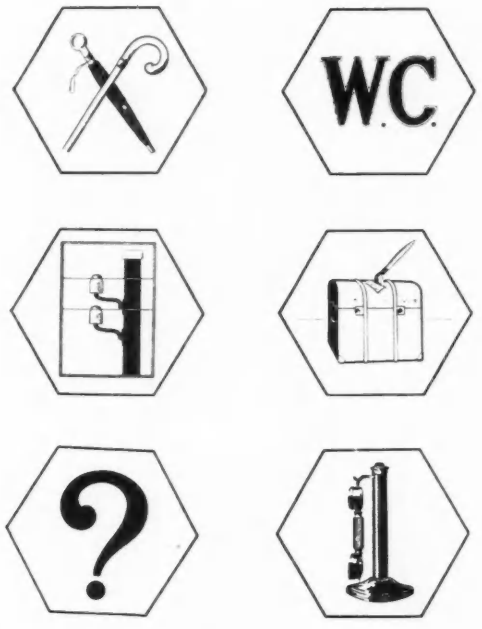
DESIGN FOR CHINA

I hear rumours of quite surprising and very stimulating activities in certain sections of British industry. The makers of Foley china, who cannot in the past have been accused of straying far beyond what the public wants, are commissioning artists and designers of repute to produce new patterns for them.

*

A glass firm, the makers of Stuart's crystal, which is a

Some of the new Foley china. This set was decorated by Duncan Grant. The background is in a rich blue-green, the panels are filled with flowers in crimson, mauve-grey and blue, and the edges decorated with touches of yellow-green.



Some examples of the conventional signs for public notices, drawn up by the International Union of Railways. From the RAILWAY GAZETTE. *See Astragal's note on this page.*

type of glass cutting I find hard to praise, are doing likewise, and from what I can gather from a member of the Royal Academy Exhibition Committee, these new pieces are the goods, or at all events they are so far superior as to be hardly recognisable as good old English paying lines. Yet they *are* English, and, if I know anything, they *will* pay.

LUCIDITY ARRIVES AT THE RAILWAY STATION

Travellers using Parkestone Quay at Harwich will find there the new types of pictorial direction boards, which the British Railways advocated some years ago and which have now been approved by the International Union of Railways, as a help to foreigners who do not read the language of the countries in which they are travelling.

*

The idea is an exceedingly good one, and I feel a just pride that it came from this country, whose " continental termini " and ports have never been very well marked from the foreigner's point of view. On the other hand, the symbols are not all of them outstandingly well chosen but *are* all very poorly designed. As discussion is apparently continuing, I hope that ultimate decisions will not be made until the signs are absolutely self-explanatory besides being ably drawn.

*

I reproduce some of the present ones, from the *Railway Gazette*.

*

In an account of the signs, that paper points out that the magic letters " W.C." (in roman characters) will be of scant value to a Turk ; which is true enough. I respect the courageous attempt at so un-English frankness, but agree that it is, in this instance, misguided.

*

" The original suggestion of the British Railways," I read, " was to differentiate . . . by exhibiting a gentleman's head or a lady's head as the case might be . . ."

*

How much more in keeping with our national reputation for innate delicacy ! How very, very charming ! But surely good breeding dictates that no mention *whatever* should be made to such matters ?

R.I.B.A. CLUB

I do not normally comment upon letters appearing in this JOURNAL, but I do feel that the correspondent who complained last week about the inadequacy of the R.I.B.A. Club at the Building Exhibition has been too harsh, possibly through lack of information.

*

He might, I think, give some credit to Mr. Montgomery, who made it possible to have a Club at all. He might also suggest where else it should have been put.

*

Nobody is, I imagine, more conscious than the R.I.B.A. that the premises were inadequate, but nobody could have foreseen the astonishing volume of patronage which actually showed itself.

*

People who have strong views on clubs of this sort should, in about 17 months time, express them to the proper quarter in time to see in advance that all is well at the next Building Exhibition.

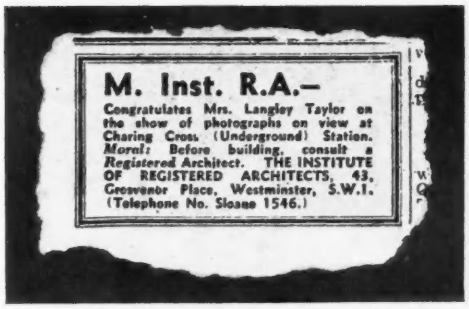
PERSIAN OIL COMPANY'S BUILDING IN FINSBURY CIRCUS

I lunched with a charming and educated Persian last week. Like many Persians coming to London, his first anxiety was to see the Anglo-Persian Oil Building in Finsbury Circus. " We are told so much of this building in Persia, the oil company being what it is to us, that maybe we are led to expect—well, I don't know quite what. But as style ; is it an official adoption, or a personal expression ? "

*

I replied saying that its style was a personal matter, and that though he would find little evidence of its general adoption, yet he was not to suppose that we did not regard it with a peculiar affection which I might find some difficulty in explaining to him.

ASTRAGAL



From the EVENING STANDARD *for October 6.*

NEWS

POINTS FROM THIS ISSUE

The London County Council has passed a scheme for the erection of ten-storey flats at Stepney 515

"*The aim of the Building Exhibition should be to show progress in building products, and not progress in the ingenuity of stand designers*".... 517

Plan the Building Exhibition: Analysis of Exhibitors' Opinions .. 528

"*Local authorities in the past have been able to control the sanitary and constructional requirements of houses: but have only recently obtained the power to approve or disapprove elevations of houses*" 529

COMPETITIONS

In his presidential address to members of the Birmingham and Five Counties Architectural Association at Birmingham last week, Mr. William T. Benslyn, F.R.I.B.A., discussing competitions, said they must not be too provincially-minded. "We, as the second city in the Empire, live to some extent, as London and other large cities, by professional services, which are not necessarily restricted to our own province." he stated. "Our members compete for works of architectural importance all over this country, and we have had in Birmingham a number of architects who have obtained considerable success in competition work. While I feel it is essential that our larger works should be put up for open competition to all British subjects, I feel it is probably necessary, from a practical point of view, to modify the open competition system with regard to works of, for instance, not more than £30,000, either to a selected list of architects specially qualified for the work or to architects practising in a certain locality."

LIVERPOOL CATHEDRAL

The *Quarterly Bulletin* of the Liverpool Cathedral Committee states that during the past quarter the walls of the tower have risen a further eleven feet six inches, and are now within six feet of the height set for the present section. The outer roof above the transept crossing has been covered with copper, but this will need some years' exposure before it acquires the green patina which makes the choir roof such a beautiful colour.

The present section was begun in 1925, and up to date approximately 310,000 cubic feet of stone have been worked and set in position. In addition, some 4,750,000 bricks have been used. The amount still required on September 1 to complete the total of £350,000 appealed for by the committee to enable them to finish the section now on hand was £85,680. During the period June 1 to September 1 £6,085 was received or promised.

THE ARCHITECTS' DIARY

Thursday, October 11

R.I.B.A. *Architects' Unemployment Committee. At 7 Bedford Square, W.C.1. Exhibition of work done under the Architects' Emergency Scheme. Open until further notice.*

ARTISTS' INTERNATIONAL. *At 64 Charlotte Street, W.1. "Cinema Technique in the U.S.S.R." By H. P. J. Marshall. 8.30 p.m. Exhibition: "The Social Conditions and Struggle of Today." Open until October 17. 10.30 a.m. to 8.15 p.m.*

STORRAN GALLERY, 106 *Brompton Road, S.W. Exhibition of Mr. Bainbridge Copnall's working drawings of his sculpture on the new R.I.B.A. Building. Open until October 22. 10 a.m. to 6 p.m.*

Friday, October 12

I.A.A.S. *At 43 Grosvenor Place, S.W.1. "A Visit to Finland." Lantern lecture by Major G. B. J. Athoe, Secretary I.A.A.S. 7.30 p.m.*

ARTISTS' INTERNATIONAL. *At Conway Hall, Red Lion Square, W.C.1. "The World Crisis and the Artist." Speakers, R. Page Arnot, Ivor Montagu, Ronald Kidd. 8 p.m.*

SIR JOHN SOANE'S MUSEUM. *At 13 Lincoln's Inn Fields, W.C.2. House and Art Collection open free on Thursdays and Fridays in October from 10.30 a.m. to 5 p.m. and in November from 10.30 a.m. to 4 p.m.*

Saturday, October 13

ARTISTS' INTERNATIONAL. *At 64 Charlotte Street, W.1. Open criticism of the Exhibition is invited at this meeting. 8.30 p.m.*

Monday, October 15

ARTISTS' INTERNATIONAL. *At 64 Charlotte Street, W.1. "The Surréalistes." By A. L. Lloyd. 8.30 p.m.*

Wednesday, October 17

L.C.C. CENTRAL SCHOOL OF ARTS AND CRAFTS. *At Southampton Row, W.C.1. "History of Architecture: III. Italian Renaissance 1." By Sir Banister Fletcher, M.Arch., F.S.A., PP.R.I.B.A. 6 p.m.*

OVERCROWDING

Sir Hilton Young (the Minister of Health), on October 8, gave an address to representatives of the Birmingham City Council, in which he explained the Government's proposal for dealing with overcrowding. He said that in dealing with the evil of overcrowding the keynote of the Government's policy was direct action based upon certain knowledge. The easy path was to go on building small houses at large, with the help of subsidy, and to trust to luck and indirect forces for slums and overcrowding to go some day. It was the easy path to follow, but it would not lead them to their goal. It was no good trusting to luck. That was the clear lesson of past experiences. The course which it was proposed to follow was more difficult, but it was the only one which would provide a certain remedy for the housing evil. It was the course of making sure not only that enough houses were provided to end slums and overcrowding, but that every new house provided for the purpose by public effort was used in the first place to replace a slum house, or to decrowd an overcrowded house. By this means they could make sure that no public money and no public effort was wasted in the work of remedying housing evils.

TOWN PLANNING

Mr. Neville Chamberlain was the principal guest at the dinner at Birmingham, on October 6, of the Town Planning Institute, which was commemorating the twenty-first anniversary of its founding. He said they had seen the idea of control growing step by step, and successive Acts of Parliament had given new and increased powers to local authorities. He had no doubt that in the future there would be extensions of those powers and still further use made by local authorities of the powers they already possessed. "Already about 150,000 acres in England and Wales are the subject of an operational town-planning scheme," he stated. "On the other hand, no fewer than 12,000,000 acres are under some sort of regional control by reason of town-planning provisions passed by those regional authorities.

"It is inevitable, in view of the complication and the multiplicity of the interests concerned, that there should be considerable lag between resolutions of provisional control and the coming into operation of the scheme, but it is extremely desirable that that lag should be shortened as much as possible.

"Some day, I have no doubt, the whole of the country will come under control of some kind or another. We must all regret this delay, but at the same time, as practical people, we must recognize that if the pace were made too hot there would undoubtedly be reaction, which would have more disastrous results, and therefore I must feel that if we can say that we have done something in our lifetime to make the way easier to that time when our cities will all be beautiful, when our traffic will all be able to move without hindrance and without injury to ourselves or other travellers, when the countryside will cease to be disfigured by vulgar advertisements and hideous buildings—then we shall not have worked in vain."

ON THE AIR

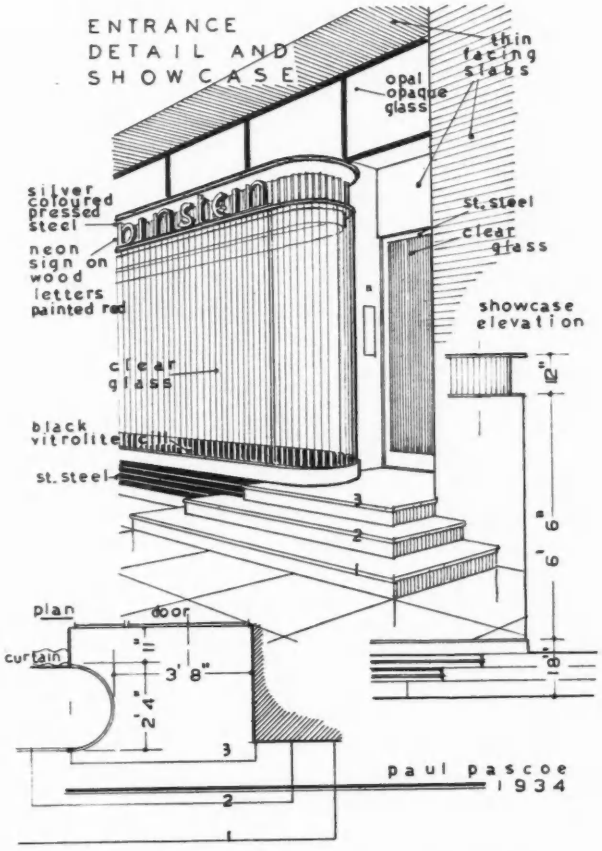
Town and country planning in the Midland Region will be the subject of a conversation between Mr. G. M. Boumphrey and the Bishop of Birmingham (Rt. Rev. E. W. Barnes) in the Midland Regional Programme on October 12, at 7.30 p.m. This will be the first of a series of talks on the same subject.

NATIONAL HOUSING AND TOWN PLANNING CONFERENCE

A national housing and town planning conference will be held at Southport during the week-end November 23-26, under the auspices of the National Housing and Town Planning Council. The conference will be attended by a large number of delegates from local authorities in England and Wales and Scotland, and will be addressed by prominent housing reformers and town planning experts.

The principal subjects for discussion will be the administration of the Town and Country Planning Act, 1932, and the Housing Acts, 1930 and 1933. It is also anticipated that the provisions of the Government's forthcoming Housing Bill will be available for consideration.

Full particulars of the conference can be



From No. 24 Grafton Street, W. Designer: Ernest Goldfinger, (in collaboration with Ashley S. Benjamin.)

obtained from Mr. John G. Martin, Secretary, National Housing and Town Planning Council, 41 Russell Square, London, W.C.1.

NEW MUNICIPAL BUILDINGS, GILLINGHAM

The Gillingham U.D.C. propose to erect a new town hall and municipal offices, at an estimated cost of £85,000.

COMPETITION NEWS

LAY-OUT OF LAND AT CROYDON

The Croydon Town Council propose to hold an open competition for the planning of Fairfield and the adjacent sites, Croydon. The scheme will include: (1) a public garden; (2) a main road from East Croydon Station to the Town Hall and High Street, with connecting roads to Chatsworth Road and Fairfield Road; (3) a site for the erection of public halls and other public buildings; (4) provision of a car park, either under the proposed road and public buildings or as a separate entity; (5) surplus land for the erection of domestic and office buildings, but not for shops or manufacturing processes.

The conditions will admit of the inclusion in the lay-out of the Town Hall Gardens and a site for the extension of the Town Hall.

Dr. Thomas Adams, F.R.I.B.A., PP.T.P.I., has been appointed assessor.

METHODIST COLLEGE HALL, BELFAST

The winning design, by Mr. Alan H. Hope, in the competition for a proposed Methodist College Hall, Belfast, is reproduced on page 531.

Competitions Open

No date.—Proposed Public Offices, Bridge Road, Welwyn Garden City, for the Welwyn Garden City U.D.C. (open to architects of British nationality). Assessor: C. H. James, F.R.I.B.A. Premiums: £75, £35 and £25, for designs placed first, second and third, respectively. Conditions, etc., obtainable from B. H. Deamer, Clerk to the Council, Council Offices, Bridge Road, Welwyn Garden City (deposit £1 1s.).

July 31, 1935.—Competition for designs for open fireplaces and surrounds (to be constructed in any materials the competitor deems practical or desirable) for the Coal Utilization Council. Assessors: the Directors of the Building Centre. Premiums: 50 guineas, 20 guineas and 10 guineas for designs placed first, second and third, respectively. Conditions, etc., are obtainable from the Secretary of the Coal Industries Fair, 5 Devonshire Street, W.1.

Competitions Pending

Lay-out of, and scheme for building on the prison grounds, York, for the York Corporation. Premiums: £250, £150 and £100.

Town Hall, Knights Lane, Edmonton, for the Edmonton U.D.C.

Development of the Lumps Fort site, for the Portsmouth Corporation.

New college for technical, commercial and art studies, Birmingham, for the Birmingham Education Committee.

Central offices, Hertford, for the Herts C.C. Premiums: £350, £250 and £150.

Technical college, Bolton, for the Bolton Education Committee. Premiums: £500, £250 and £100.

Civic building in connection with the proposed scheme for a civic centre, Enfield, for the Enfield U.D.C.

Development of the Tuns Gate site, Guildford, for the Guildford T.C. (limited competition).

Rebuilding of Bishopsgate Police Station and Police Hospital, for the City of London Corporation. Premiums: £250, £100, and £50.

Town hall, for the Southall-Norwood U.D.C.

Municipal centre, Romford, for the Romford U.D.C.. Premiums: £250, £100 and £50.

Town Hall, Bury, for the Bury T.C. Assessor: J. Hubert Worthington, F.R.I.B.A.

R. I. B. A.

THE R.I.B.A. FINAL AND SPECIAL FINAL EXAMINATIONS

The following are the dates on which the forthcoming examinations will be held:—

Final Examination.—December 5, 6, 7, 8, 10, 11 and 13 (last day for applications: November 5, 1934).

Special Final Examination.—December 5, 6, 7, 8, 10 and 11, 1934 (last day for applications, November 5, 1934).

THIS ARSHETECTURE

Some petrol pumps have needed no official action to make themselves look presentable, and even pretty.

From THE SUNDAY PICTORIAL.

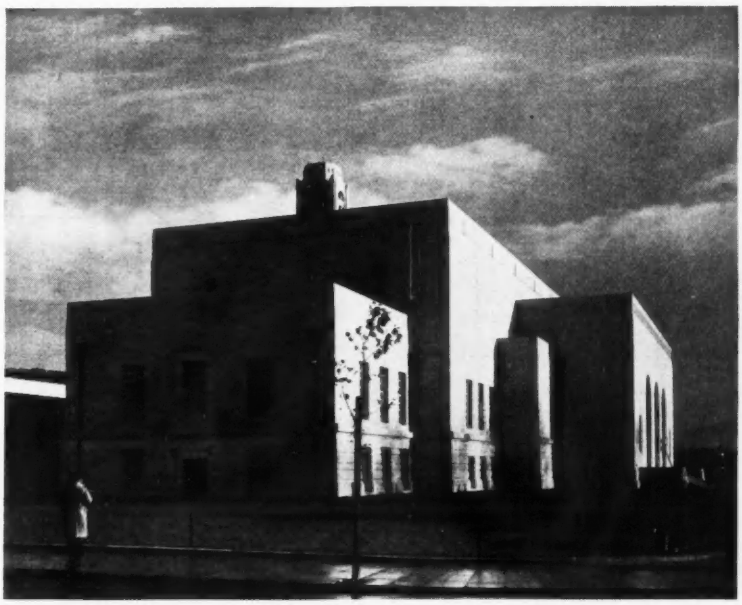
THE GUILDHALL, SWANSEA:

A view from the south-east, showing the tower and the entrance to the Council Block.

STEWART BALE

The Law Courts. The blocks housing the Administration Offices and Assembly Hall are shown on the left and right respectively.

DESIGNED BY PERCY THOMAS



The new Guildhall, Swansea, is officially to be opened on October 18 by H.R.H. Prince George.

The building, designed by Mr. Percy Thomas (of Ivor Jones and Percy Thomas), is divided into four units—the Council Suite, Municipal Offices, Law Courts and Assembly Hall. These units are grouped in the form of a square round a large open courtyard, each unit forming one side of the square.

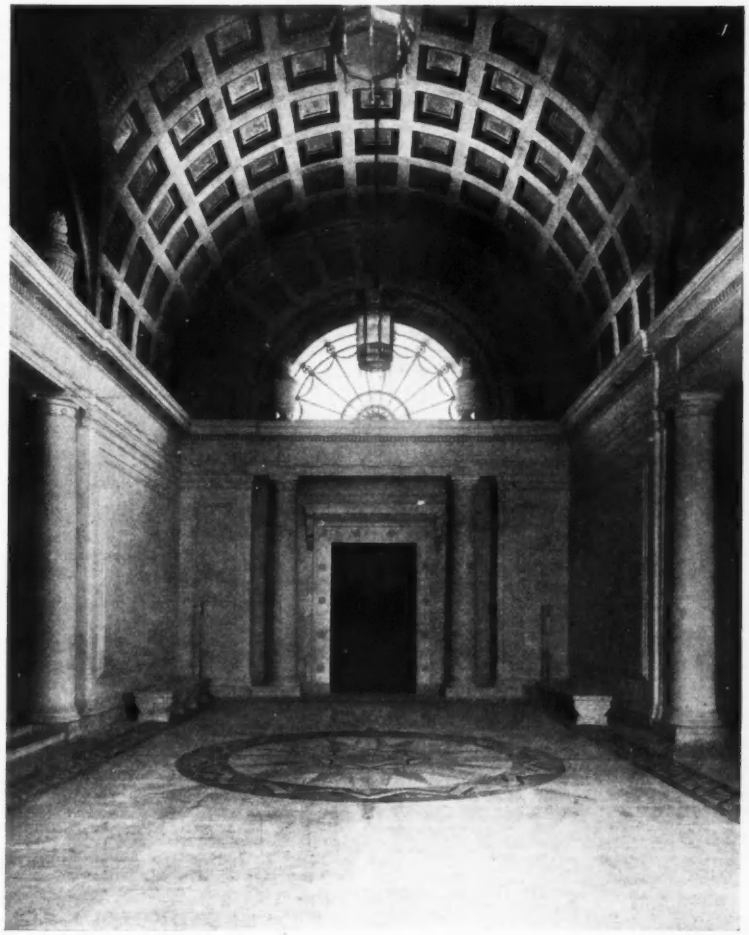
The Council Block, which forms the eastern side of the square, contains the whole of the civic rooms, council chamber, reception room, committee rooms, etc., on the first floor. The lower floor is devoted to the Borough Treasurer and the rate offices.

The Assembly Hall unit forms the south side of the square. In the centre of the entrance hall is a tablet commemorating the gift of the Brangwyn Panels to the Borough. The Assembly Hall, on the first floor, is rectangular in shape, and is 160 ft. long, 62 ft. wide and 44 ft. high. Seating accommodation is provided for 1,344 persons. The platform provides accommodation for an orchestra of 100, and there are seats for a choir of 200. The Brangwyn Panels are hung on the walls of this Hall.

The block housing the Municipal Offices is situated on the northern side of the square, and contains the whole of the administrative departments of the Borough. A basement extends under the whole of this block, and contains store rooms for the various departments.

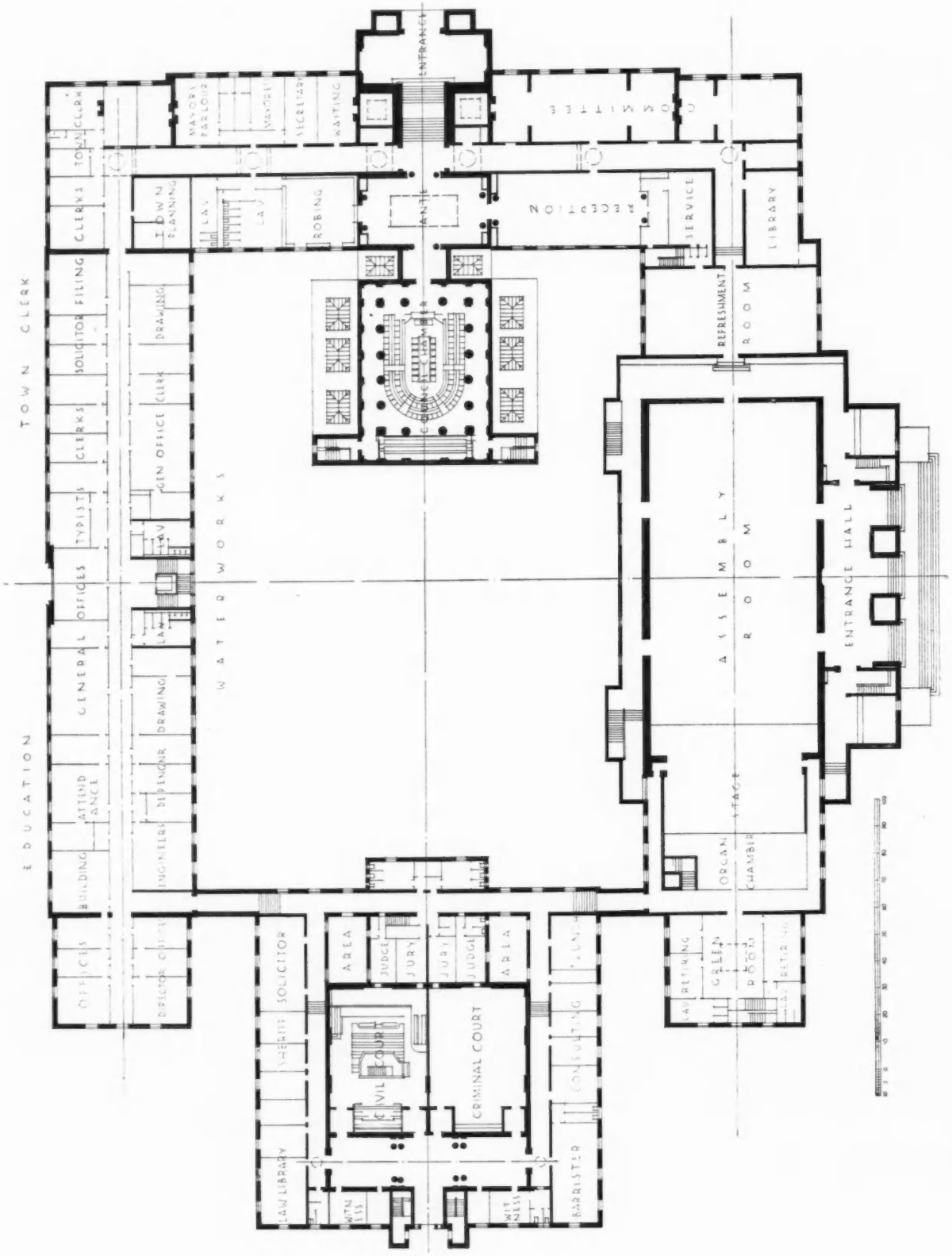
The Law Courts unit forms the western side of the courtyard, and is connected to the Assembly Hall and Municipal Offices by corridors, which form bridges over the entrances to the courtyard. The two courts—civil and criminal—are arranged side by side in the centre of the block. Beneath the courts are the cells, exercise yards and rooms for the police.

The photographs show: (above) The Arms of the Borough over the entrance to the Municipal Offices; above, right, the Assembly Hall, as seen from the south-west; right, the entrance vestibule in the Council Block, which is lined with Bath stone and has a deeply coffered vaulted ceiling richly coloured in bronze and green.



STEWART BALE

THE GUILDHALL, SWANSEA:



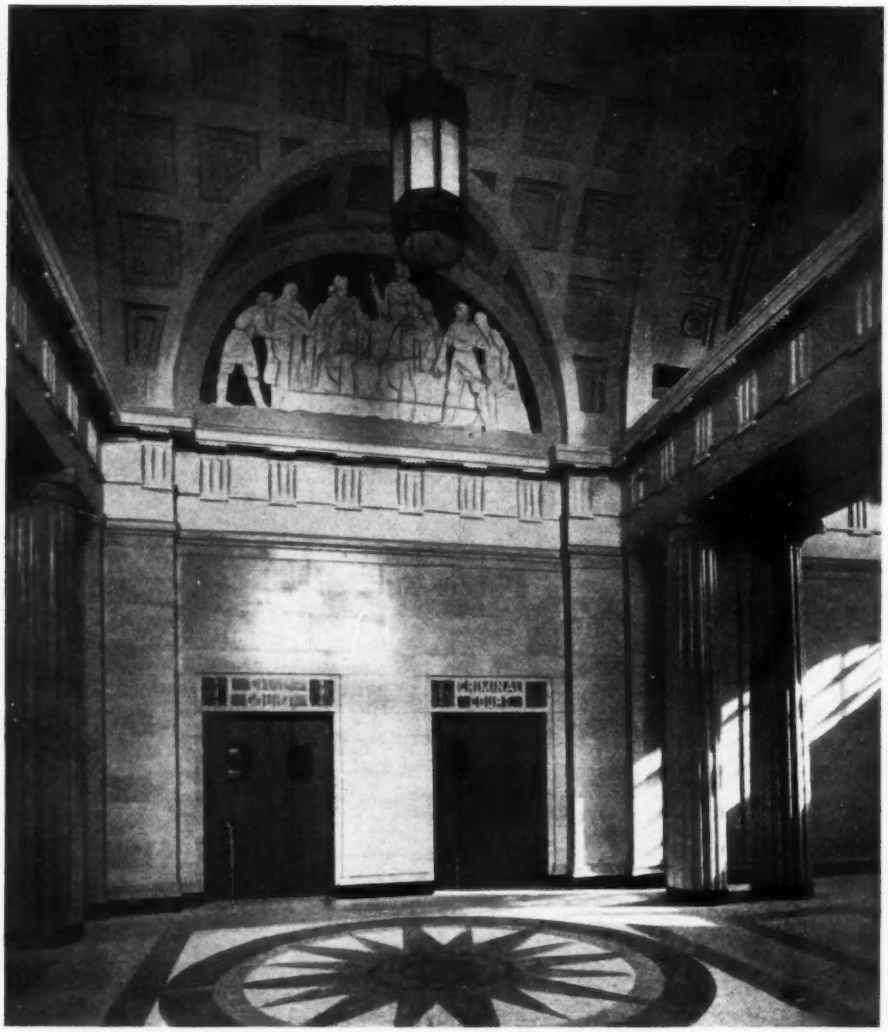
PLAN OF MAIN FLOOR

DESIGNED BY PERCY THOMAS

STEWART BALE

The tower rises to a height of 160 ft. It has a batter of 12 in. on each face from the roof to the top, and, in order to correct any appearance of hollowness, an entasis amounting to a maximum of 2 in. on the diagonal is provided on all faces.

THE GUILDHALL, SWANSEA:

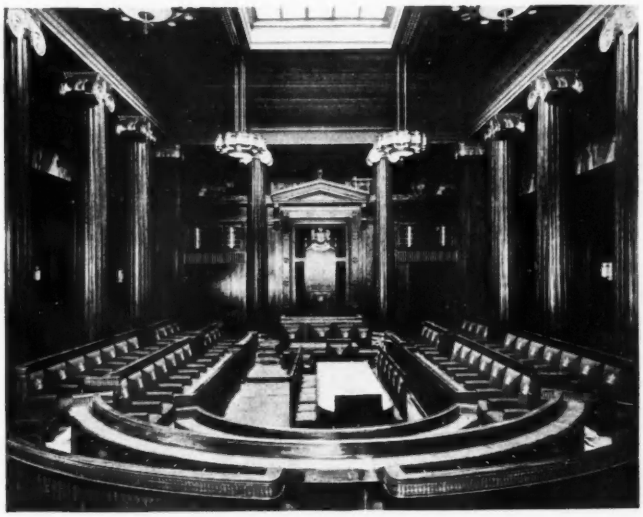


On the left is a view of the Assize Hall, looking towards the entrances to the Civil and Criminal Courts. The walls of the Hall are lined with polished Portland stone and the two bridges which cross the Hall are carried on eight Monolith columns of the same material. These bridges enable the public to pass from the public stairs to the galleries in the courts without entering the Hall.

STEWART BALE

The large Committee Room, of which a photograph is reproduced on the right, is panelled from floor to ceiling in Australian walnut veneer, with bands of Macassar ebony. Concealed lighting is provided in the cornice, and the ceiling has a simple cove with a large panel of acoustic plaster in the centre. The curtains and pelmets are of green velour and the carpet a deep pile Axminster of buff colour. The furniture is also in walnut, the chairs being upholstered in brown hide with the Swansea Arms in gold on the chair backs.

DESIGNED BY PERCY THOMAS



The Council Chamber, a general view of which is reproduced on the left, provides accommodation for 60 councillors, in addition to the officials and press. It is panelled in Australian walnut to a height of 16 ft. Above the panelling is a tapestry frieze, in rich colours, representing the Gorsedd Procession. This frieze, executed from data supplied by Mr. Grant Murray, is backed with eel grass quilting and, apart from its decorative value, bears an important part in the acoustic properties of the Chamber. The ceiling is flat, deeply coffered and enriched and finished in emerald green and bronze. The seating, arranged in the form of a horseshoe, is in Australian walnut, upholstered in purple tapestry. The columns, 22 ft. high, are also in Australian walnut. The electric light fittings, radiator grilles and the capitals to the columns are in bronze. The public gallery at the back of the Chamber accommodates 50 persons.

The Mayor's Chair in the Council Chamber. At the back of the Chair is a carved walnut screen, with a rich canopy in purple velvet, upon which are embroidered the Arms of the Borough.

STEWART BALE

PLAN THE BUILDING EXHIBITION

ANALYSIS OF EXHIBITORS' OPINIONS

We reprint below the questionnaire which we sent out to exhibitors at the opening of the Building Exhibition. Since that date we have received a total of 67 replies which are tabulated and commented upon below.

DEAR SIR,—" When it is seen how great are the advantages of employing an expert to solve this problem, then exhibitors will insist on its being done. We believe that the organizer, Mr. Greville Montgomery, is alive to the fact that the Building Exhibition would be a more valuable thing if it were laid out according to the architect's idea of order and planning. It is, we understand, the attitude of the exhibitors themselves which prevents this much-needed organization. We ourselves are exhibitors in a humble way, and we do not hesitate to say that we would welcome a planned exhibition, even if it meant that our exhibit was placed in what we might consider a more unfavourable position. What do the other exhibitors think about it? We would be glad to know."

This paragraph is taken from the leader in our issue of September 6, which deals with the desirability of replanning the Building Exhibition, and which represents, we believe, the point of view of the architectural profession. May we ask you whether your firm is in favour of re-organizing the Exhibition or leaving it as it is?

DURING the past few weeks a number of letters have been printed in this JOURNAL giving the opinions of exhibitors at the recent Building Exhibition at Olympia on the question of replanning the Exhibition in future years, in a more orderly and homogeneous manner. The letters were replies to a questionnaire that was circulated by this JOURNAL among all the exhibitors. It is reprinted at the top of this page.

The total number of replies received was 67, and the opinions expressed in them can be divided into categories as follows : Those generally in agreement with the JOURNAL's suggestions and in sympathy with the idea of a planned Exhibition, 29 ; those also in sympathy, but expressing fairly definite reservations as to practicability, etc., 9 ; those whose reply was too indefinite to be included on either side, those who preferred to give no opinion and those who obviously misunderstood the point at issue, 9 ; those generally unfavourable to the suggestions, 20.

The firms who replied favourably were :—

Aga Heat, Ltd.
B.E.N. Patents, Ltd.
Electrolux, Ltd.
Sidney Flavel & Co., Ltd.
E. Hill Aldam & Co., Ltd.
The Illustrated Carpenter and Builder
International Time Recording Co., Ltd.
A. Johnson & Co. (London), Ltd.
Thomas Lawrence and Sons.
Lee and Fouracre.
The Marley Tile Co., Ltd.
Nettlefold and Sons, Ltd.
The Nutbourne Brickworks, Ltd.
Peerless Kitchen Cabinets, Ltd.
Pegson, Ltd.
Prestcold Refrigerators.
Ransomes and Rapier, Ltd.
Sevenoaks Brickworks, Ltd.
J. and C. Associated Industries, Ltd.
Thomas and Bishop, Ltd.
Frederick Tibbenham, Ltd.
Triplex Foundry, Ltd.
Tube and Bell, Ltd.
Venesta, Ltd.
R. Vernon, Ltd.
Williams and Williams, Ltd.
Wilson Bros (Leeds), Ltd.
Zinc Alloy Rust-proofing Co., Ltd.
Also Mr. H. Greville Montgomery, the organizer of the exhibition.

The firms who replied favourably, but with rather definite reservations were :—

Acme Wringers, Ltd.
Robert Adams.
Cementone Products.
John Knowles & Co. (London), Ltd.
The Limmer and Trinidad Lake Asphalt Co., Ltd.
National Radiator Co., Ltd.
Redhill Tile Co., Ltd.
Smith's Fireproof Floors, Ltd.
Smith and Wellstood, Ltd.

The firms who replied unfavourably were :—

Anselm, Odling and Sons, Ltd.
The Architect and Building News.
The Aquamellis Engineering Co., Ltd.
Frederick Braby & Co., Ltd.
Chance Bros. & Co., Ltd.
Frigidaire, Ltd.
Glazed Cement Co., Ltd.
Halliday Boilers, Ltd.
The Hemel Hempstead Brick Co., Ltd.
Kelvinator, Ltd.
Langley (London,) Ltd.
The Metal Gravure Co., Ltd.
The Patent Impermeable Millboard Co., Ltd.
The Ruberoid Co., Ltd.
Scaffolding (Great Britain), Ltd.
Turners Asbestos Cement Co.
Wood Products, Ltd.
Also three firms who ask us not to publish their names.

The first thing one would look for in trying to make an analysis of these results is, of course, some common characteristic among all firms who had replied favourably, and another common characteristic among all who had replied unfavourably. If, for instance, those in favour of planning had been generally the firms dealing in equipment and small-scale objects, and those of the opposite opinion, firms dealing in structural materials, some interesting conclusions might have been drawn from it ; or, similarly, if into one category had gone firms who sold direct to the general public, and into the other firms who sold only to the trade. However, examination of the foregoing list shows no such convenient classification : those favourable to planning include manufacturers of such diverse products as light fittings, bricks, plywoods, refrigerators, windows and stoves ; and those unfavourable include manufacturers of glass, tiles, boilers, more refrigerators and building board. It seems, therefore, that there is no one province of the building industry for which a planned Exhibition is by common agreement undesirable, but that those who dislike the prospect of submitting to a general plan base their opinions on their own conception of what planning would mean in an Exhibition of this sort, dealing, quite rightly, with the Exhibition generally, irrespective of the particular wares in which they are interested. A few replies do except certain types of product from the general application of their remarks, but they are a small minority only.

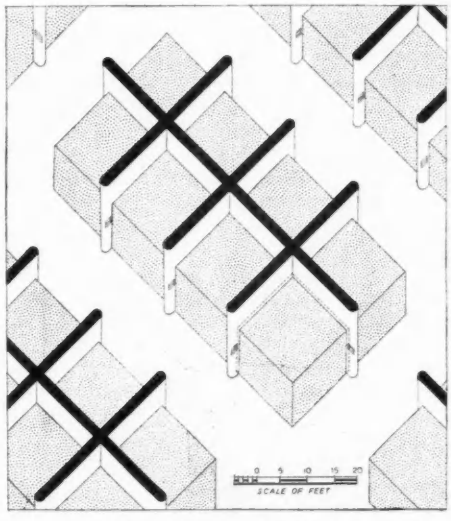
In the replies that were unfavourable to the idea of planning there is one opinion that is almost universally noticeable : fear of the consequences of standardization. A large number of firms have assumed that a planned Exhibition necessarily entails standardized stands, and they are

apparently afraid that no standard design will be equally suitable for all the widely differing types of building product to be exhibited.

The term "planning," we consider, includes a rational lay-out and grouping of the exhibits, the question of limiting the displays in height, area or design being properly left to a controlling exhibition architect or committee, but with no suggestion that they should be the actual designers of the stands.

It is possible that some form of shell stand (which might have to vary slightly for different groups of materials) would provide an adequate solution, as was suggested by Mr. Misha Black in *The Architectural Review* for September. These suggestions are considered at some length in our leading article this week.

Apart altogether from the question of stand design, our plea was for a single solution to a clearly stated problem, rather than piecemeal solutions to suit muddled conditions that should never exist. We contend that the results of our questionnaire show both the organizers and a majority of the exhibitors to be in favour of such a reorganization.



The shell stand mentioned in the above article. The shaded portion indicates the area available for the exhibitors' stands, and not their shape.

CHELSEA BRIDGE

A scale model, perspective drawings and site plans of the proposed new Chelsea Bridge will be on view at the Chelsea Exhibition of Craft and Industry, to be held at the Chelsea Town Hall from October 16 to October 19.

The Minister of Transport recently announced that work on the bridge, which is estimated to cost £480,000, will be begun towards the end of the year.

LETTERS *FROM* READERS

F. SKINNER
EBORACUM
GEOFFREY BIDDULPH

Building Trades Exhibition

SIR,—The situation of the Building Trades Exhibition appears to be that it is in danger of losing interest, and therefore money, because it is so chaotic that it bewilders and wastes the energy of visiting technicians, and fails to attract the general public because the products exhibited are not attractively presented.

I cannot imagine that many visitors to the Exhibition could be found to support the present conditions, while, after studying the views expressed by the exhibitors in your columns, it appears that the majority are definitely in favour of a better organized Exhibition, although a minority prefer the present state of chaos.

I must say that I sympathize with the section of the minority who express doubts as to the value of an architect-designed Exhibition, because, on the whole, the architects seem to tackle the problems with a lamentable lack of imagination, being more concerned, in the individual stands, with achieving what I suppose they would call a "composition" than with the actual display of the goods. And hardly any of the attempts to design a co-ordinated Exhibition that I have seen appear to spring from any very scientific thought on the subject.

The idea is brought forward by many correspondents (notably by Mr. Myerscough Walker in his curiously reactionary letter), that the most effective way of displaying a building material is, whenever possible, to construct the stand of it. This seems to me to be an unenterprising point of view. I think that the screen type of stand, for instance (suggested by Mr. M. Black in the September issue of *The Architectural Review*), would give far greater freedom to designers. Materials could still be used structurally, if desired, though this is by no means always the most effective means of displaying them, and they would not at the same time have to form the framework of a more or less formally designed stand. I agree with one of your correspondents that under this arrangement the problem tends to become less one for the architect and more one for the advertising display man. Perhaps on this account it is attacked by architects.

I am convinced that under some method of rigid control of stands and grouping that a vastly more interesting, more useful, and more financially profitable Exhibition could be organized if the problem were tackled scientifically and imaginatively. Certainly a dictatorship of the organizers would at first be necessary, but I am convinced that very soon all firms would see the immense advantages of a controlled Exhibition, and that the dictatorship would soon cease to be such, and become an organization of willing collaborators.

F. SKINNER
London

Engineers, Amenities and Advisory Panels

SIR,—I bring to the notice of your readers extracts, dated July 7, from a journal devoted to the views of local officials to public authorities.

Taste changes, and the speculative builder who relied on fussy ornament to cover his faults of design and construction, is now following the prevailing fashion and going "modern" by erecting buildings modelled on the packing case, with long horizontal windows, and flat roofs and balconies of doubtful construction.

Beauty is to be supplanted by the cult of ugliness, and there is a danger of this being extended to architecture. We can have simplicity in house construction without it looking poverty-stricken. Form, scale and proportion are all-important, and many buildings of the modern type are simple, dignified and well planned; while others are futuristic, grotesque, and badly planned.

Local authorities in the past have been able to control the sanitary and constructional requirements of houses; but have only recently obtained the power to approve or disapprove elevations of houses. Everyone agrees that some control of the æsthetic side of building is necessary; but by whom and how it should be exercised is still a very hotly debated subject. The recent case at Ruislip, where a panel of architects sat in judgment on plans prepared by a firm of architects for a local builder and disapproved them, shows how difficult this part of the local authority's work is likely to be. Seeing how persistently the architectural profession has objected to the municipal surveyor doing any work of an architectural character, or having any voice in the approval or disapproval of elevations, it is fortunate that the first case of disapproval should be one where a panel of architects condemn the design of a brother architect.

Since the above views were written, the Ruislip case has been brought to its only logical conclusion. The circular letter issued by the R.I.B.A. Council to the press on the question of Advisory Panels does not yet appear to have

had much weight. I would respectfully suggest that much more could be done if the secretaries of allied societies were to send a copy of this R.I.B.A. circular letter to many of their own members, who, in turn, might enlist the services of the local newspaper; and these same local members might also send a copy to their authorities with a request that the services of an advisory panel should be made use of on every possible occasion. Only by *persistently* bringing this question to the notice of the local authorities will many of them move. I venture to say that the wide powers of the Town and Country Planning Act are not yet thoroughly understood by many surveyors and architects, and even more so by the "city fathers" or by parish councillors.

Is it not time that the architectural profession took on a little more aggressive attitude? Dignified protests to many authorities are simply allowed "to lie upon the table."

EBORACUM
Romford

Economics and the Architect

SIR,—Mr. Welford should really try to refrain from making more, or less, of given statements, according as it suits his purpose. In his previous letter he claimed that I admit the bank creates money "*for itself*," and now he omits the gross exaggeration in his original statement, which I showed was absurd. Admittedly, commercial credit can be successfully increased for the benefit of trade, subject to monetary legislation (which can be altered), to conventional banking practices (which change), and to profit expectations (which can be stimulated); but this is certainly not the same thing as saying that bankers create credit "*at will*" for themselves. And the fact that banks only hold a tenth of their assets in cash is no proof that they lend ten times the funds deposits with them, for deposits are a liability, not an asset, and cannot be held in cash unless the depositors are prepared to pay for it—if the banks are to show a profit. Mr. Welford can easily get the figures of the banks' assets and liabilities from their monthly statements. Roughly, the percentages are as follows:

Assets.		Liabilities.	
Cash (non-earning)	10	50 Current accounts (active balances)	
Money at call, etc. (1 per cent.) ..	10		
Investments and discounts (2½ per cent.)	40	50 Deposit accounts (passive balances)	
Advances (5 per cent.)	40		

I did not answer his questions of August 23: (a) because they seemed to be rhetorical, Mr. Welford having already decided on what he regards as the correct replies; (b) because they did not seem to me of much importance. But, if they really worry him, here are my answers:

1. I suppose Mr. McKenna meant that people like to think the quantity of money available is fixed by the gold they can acquire or the currency they can hoard. But although the volume of bank balances is important to bankers (and to people who think that the unspent margin should equal the gross value of monetary transactions!), the volume of money is only one of the factors in determining real income. The importance of money income is that if this fails to increase, real income also declines, but the volume of balances is a completely misleading index of money income, since it increases with hoarding and frozen loans at a time when trade is depressed.

2. Balances increased rapidly during the war, because the Government multiplied expenditure ten-fold and currency three-fold, and the unproductive consumption raised prices, thus increasing national expenditure (see *Encyl. Brit.* article, "Inflation," by R. G. Hawtrey). But normally bank credit is confined to financing goods in transit and is not inflationary, money income increasing in proportion to production.

3. Surplus incomes were the source of the first bank deposits, probably in Babylon.

4. The "beneficent owners" of credit are those who use it, i.e., debtors, for it only comes into being through borrowing. The proper function of the central banks is to ensure, through their control of interest rates and bank reserves, that the supply of commercial credit is adequate, but not excessive, and their criteria should be the relation of prices to costs, and the resources available and unemployed.

"Archiconomist" seems to be solely concerned with propagating the gospel of Douglasism, regardless of the waste of your space and my time. But he had better get the Social Credit Secretariat to help him if he cannot find any more arguments than in his last effort.

1. His complaint was that money does not circulate and that "fresh money" only appears through new loans. Neither of these statements is correct. When the central banks buy gold or securities, money is increased without any loans. The essence of a loan is repayment, not circulation, but bank loans are renewed or extended to other borrowers, and all credit rests on the circulation of currency. The meaning of my first paragraph, which he cannot understand, was that even if his contentions were correct, they would be immaterial.

2. I am glad he agrees with this, since his Major believes that stability of prices is undesirable, and that they ought to be continually reduced!

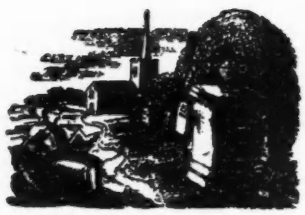
3. I am far less of an inflationist than those who think there is "chronic lack of purchasing power." But when the price level of primary products has been forced down relative to their costs, the only practical way to recovery is to raise it.

4. Instead of "a fortune waiting" for refutation of the precious Theorem, there is now only a few shillings worth of literature for clients of an Australian bank!

5. He claimed that the existence of "an unemployment problem" shows that the demand for labour is not increased by technical progress, and that there is "lack of purchasing power" due to "ousting of labour by scientific production." But these are mere assertions. In fact (as result of technical progress), both employment and labour's standard of living have increased threefold during the past century.

6. I do not know whether "4,000 men equipped with machinery could produce the whole of the U.S. wheat crop," nor how the late Lord Leverhulme's estimate of a one hour working week was arrived at. I do know, however, that a harvester cannot prune trees, pick fruit, herd and doctor cattle, feed chicken, collect eggs, analyse soil, repair mills, feed men or keep accounts; that machinery is generally used when its employment is economical; and that the production of necessities (to which Lord Leverhulme referred) occupies a decreasing proportion of our energies.

GEOFFREY BIDDULPH
London



KERBSTONES

Mr. E. Guy Dawber, F.R.I.B.A., speaking at a meeting of the Council for the Preservation of Rural England at Buxton last week, denounced the practice of placing on each side of arterial roads stones or kerbs, which were often raised to a height of about eight inches above the road level. These kerbs, he said, were unsightly, dangerous, and unnecessary. He had motored hundreds of thousands of miles in Europe and had never seen the roads in France, Germany, Italy, Austria or Spain disfigured in this manner. The nuisance seemed to be peculiar to England.

COMPETITION FOR PROPOSED HALL, BELFAST

As announced in last week's issue, Mr. R. S. Wilshere, F.R.I.B.A., the assessor in the competition (limited to architects practising in Ireland) for a proposed Memorial Assembly Hall at Methodist College, Belfast, has made his award as follows :

Design placed First (£100) : Mr. Alan H. Hope, of 86 Merrion Square, Dublin.

Design placed Second (£50) : Mr. J. W. Buchanan, A.R.I.B.A., A.M.T.P.I., of 18 Ely Place, Dublin.

Twenty-four designs were submitted.

Following are some extracts from the assessor's report :

The design placed first presents a scheme with an admirably planned assembly hall which meets the problem set in a highly satisfactory manner.

The scheme is particularly successful in providing quick and direct means of approach and exit for the pupils using the hall. This is a matter of great importance in a hall of this nature, where nearly a thousand pupils have to be assembled, generally for short periods, so that it is desirable that the minimum of time should be occupied in so doing.

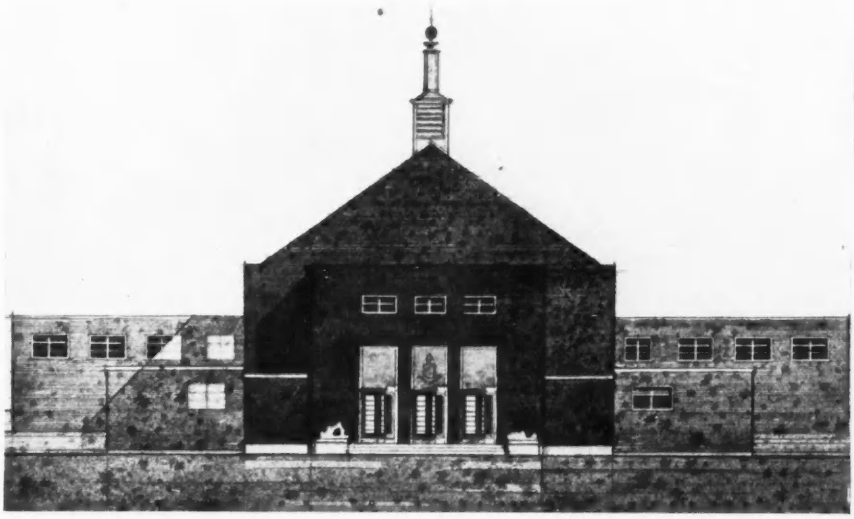
The scheme provides six separate entrances, and these are so arranged that each leads directly to its own unit of seating in the hall, and this in a direct and straightforward manner, allowing the whole school to be assembled and dismissed quickly and efficiently.

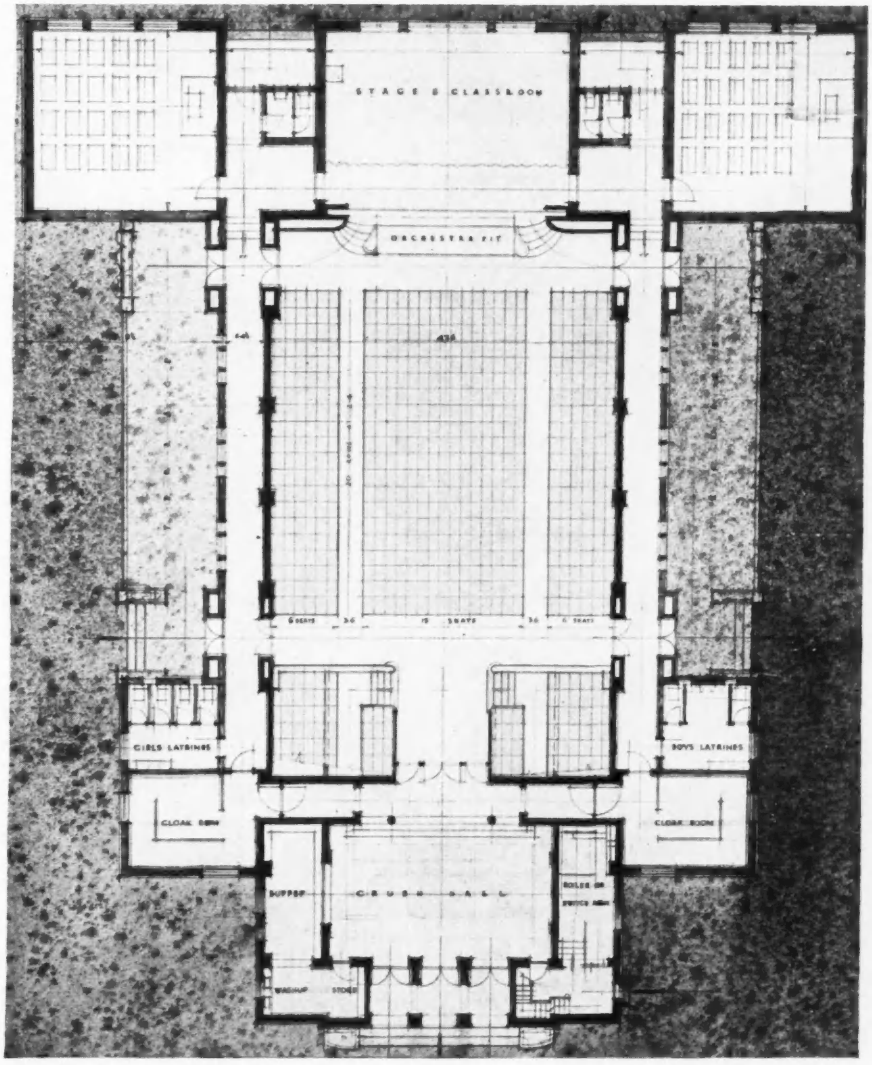
The arrangement of the stepped seating to form the gallery at the back of the hall is admirably planned, and will make an excellent unit for use by a smaller number of pupils for singing, lectures, etc. The approach to this gallery is simple and direct. The treatment of the remaining floor area as a level surface has the advantage that it enables the amount of seating and free floor space to be adjusted to suit varying purposes, such as gymnastic or other displays. The crush hall and buffet are satisfactorily arranged. The cloak rooms and lavatories have been placed adjoining the crush hall, which, in view of their dual purpose, is probably more satisfactory than the position adjoining the classrooms, the position more generally adopted by the competitors.

The whole building is well lit and ventilated, but consideration might be given as to whether the outer closed corridor is necessary. If these corridors were treated as open verandahs, they would serve their purpose equally well and the hall would be provided with a continuous row of glazed doors on each side which would open direct on to these verandahs. Seating is shown for 925 persons, but this could be increased by 60 or 70 places if some of the gangways were slightly reduced in width.

The elevations are simply and effectively treated, and, whilst modern in character, are in harmony with the present school buildings.

The estimated cost of the scheme is given as £10,400 and, with the simple treatment of the elevations, should be capable of being erected for this sum.

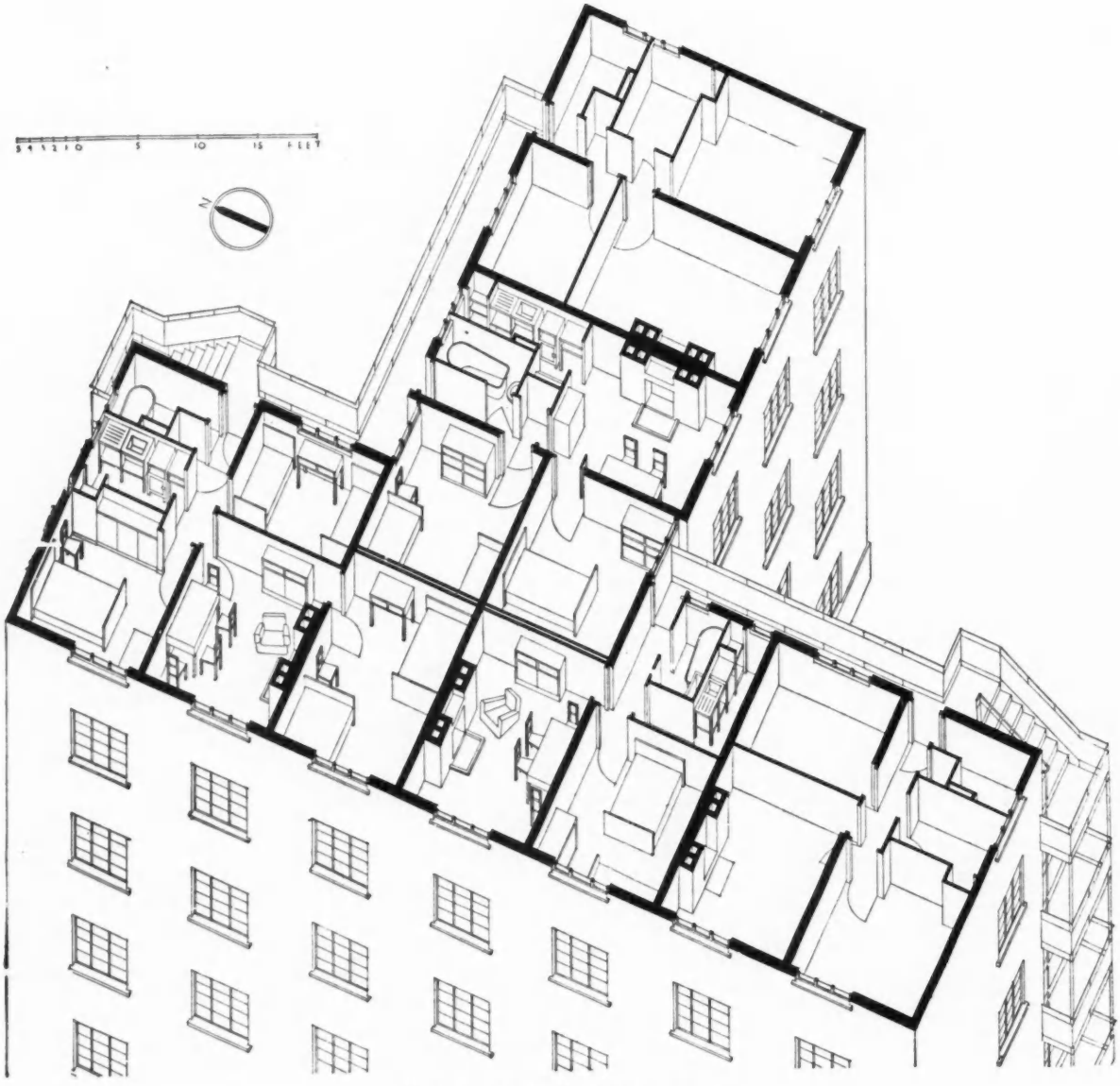




WINNING DESIGN : BY ALAN H. HOPE

C

BLOCK OF FLATS IN



AXONOMETRIC

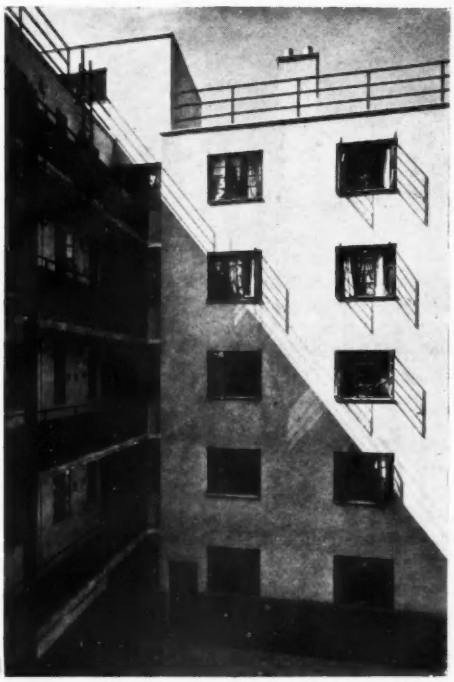
This building, erected for the St. George's Housing Society, contains 13 three-room flats, four two-room flats, four four-room flats, and seven shops. The rents are as follows: two-room flats, 8s. per week; three-room flats, 12s. per week; and four-room flats, 16s. per week.

Each flat contains a bathroom, with bath, wash-hand basin and w.c.; and a kitchen containing larder, dresser, clothes dryer, stove, table and a multi-point instantaneous gas water heater. A lock-up perambulator shelter for each flat is provided in the playground.

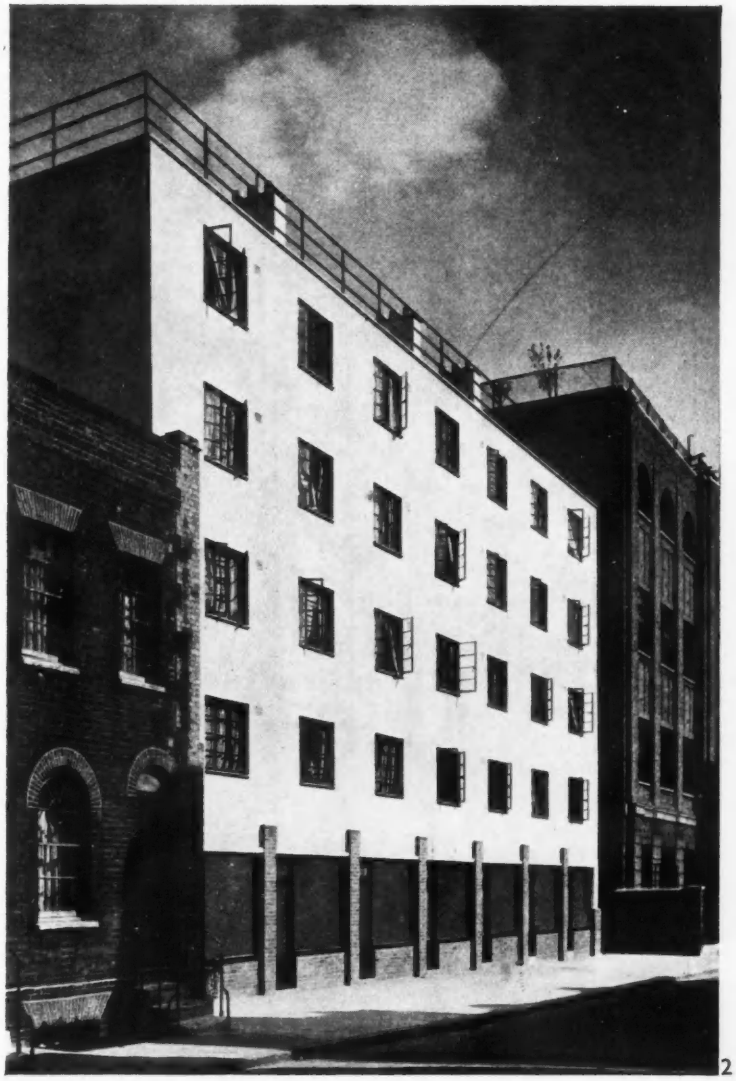
The structure is of reinforced concrete cross walls and floors, with brick external walls, rendered externally with cream brizolite stucco. The floors are finished throughout in linoleum, with skirtings in cement. The doors are flush with pressed steel frames. The windows are of the steel sash casement type. Access to the flats is by open balconies and steel staircases. A laundry is situated on the ground floor. The equipment of each flat consists of electric light, gas cooking and water heating, coal serve-all grate in the living room, and an electric outlet for a small fire in the main bedroom.

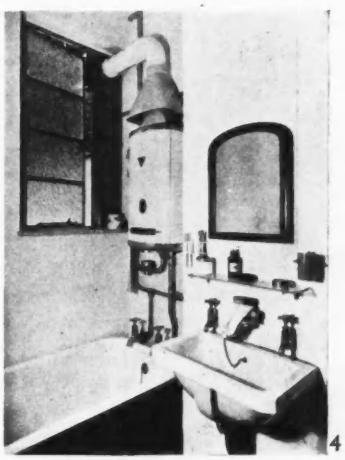
BERNER STREET, STEPNEY, E.

DESIGNED BY SIR JOHN BURNET, TAIT AND LORNE



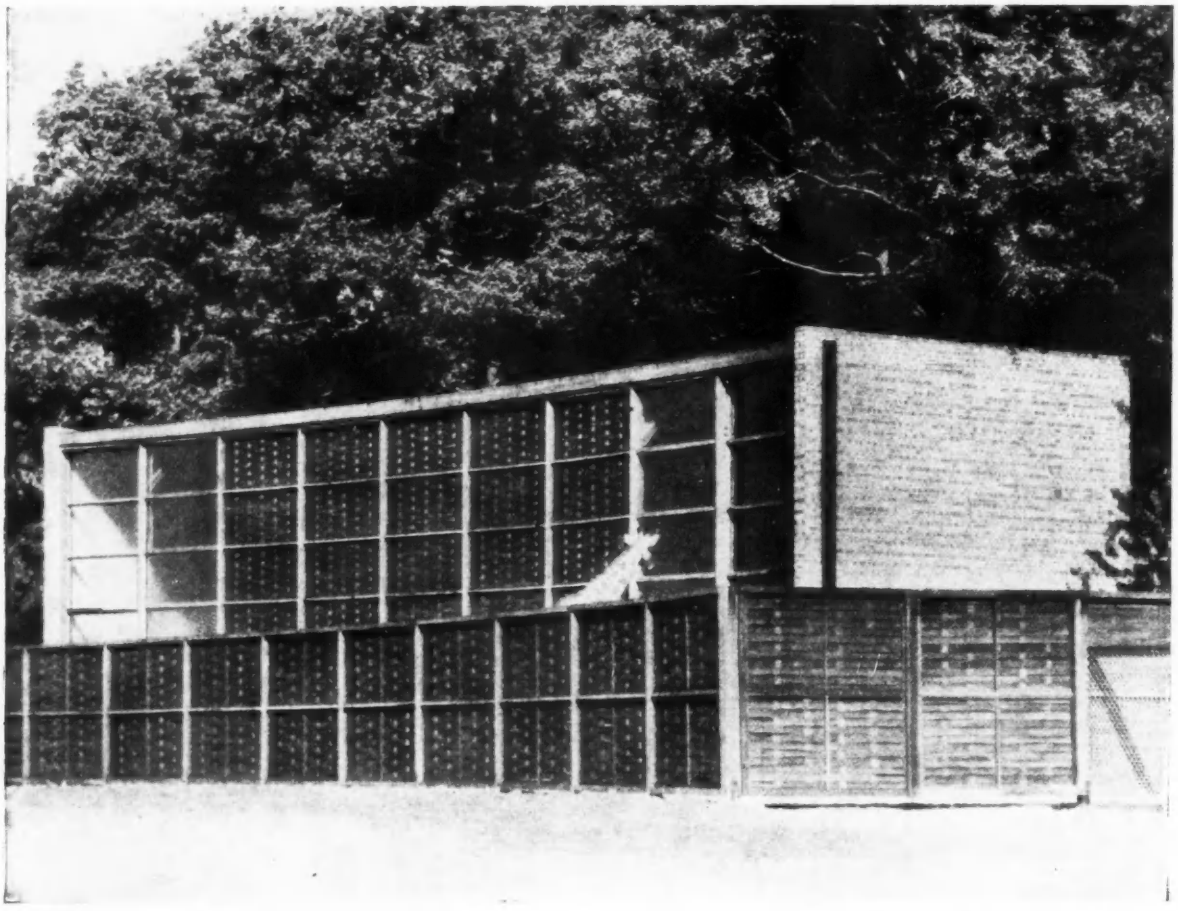
DELL AND WAINWRIGHT

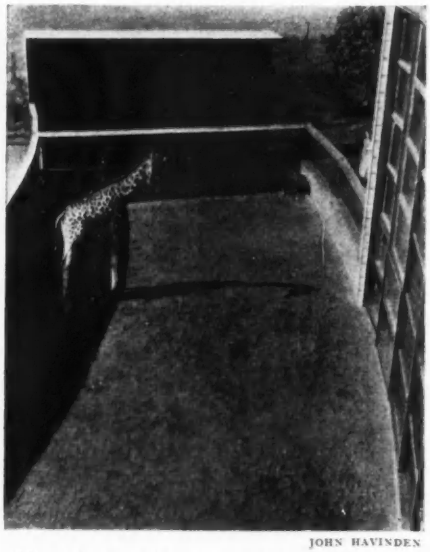




The photographs show: 1, a view in one of the courtyards, showing the open balconies and steel staircases; 2, a general view of the main front; 3, a kitchen; 4, a bathroom.

THE GIRAFFE HOUSE





JOHN HAVINDEN

The photographs show: top, a general view of the exterior; bottom, looking along the paddock towards the screen which has been provided to protect the giraffes from cold winds.

When the decision was taken to build the new Giraffe House at Whipsnade, the animals for whom it was destined were already in mid-ocean, and due to arrive in a very short time. Consequently the construction had to go forward without delay and at the smallest possible cost; it was also necessary to use local unskilled labour. These considerations settled the construction. As much as possible was carried out in the timber yard, and, except for the brickwork, the local workmen were entrusted only with the assembling of ready-made standardized parts.

The house is framed and the walls are of standard panels, formed of 1 in. compressed bituminous cork slabs, covered on both sides with asphalte mastic, which renders them waterproof. The standard panels are easily interchangeable, either to replace a damaged panel, or to insert a window. The glass panels are of the same standard size as those of cork, and are of ordinary obscured glass protected by expanded metal. The exact area and position of windows is alterable and is to be fixed after the reactions of the giraffes have been observed.

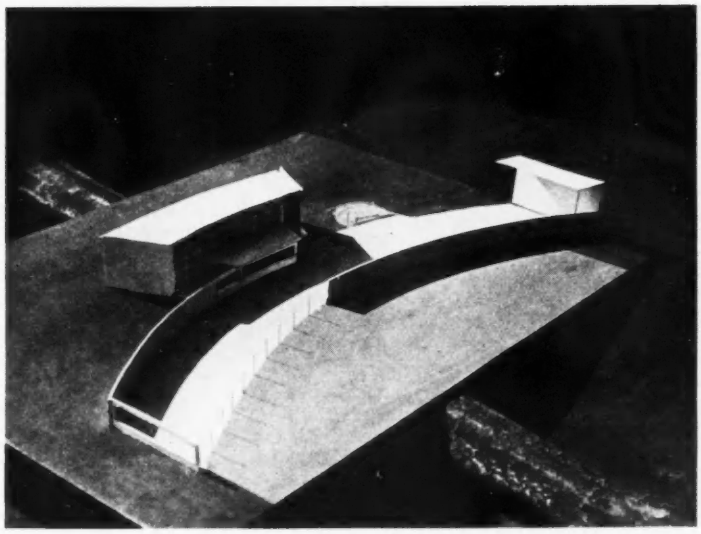
On the interior the wall is protected with horizontally laid tongued and grooved boarding. This protection is necessary since giraffes are in the habit of licking their way through any obstacle. The boarding, however, protects the structural members. The exterior is protected by means of a woven mesh of wood which gives a texture not only in keeping with the Bedfordshire landscape, but also with the marking of the giraffes themselves.

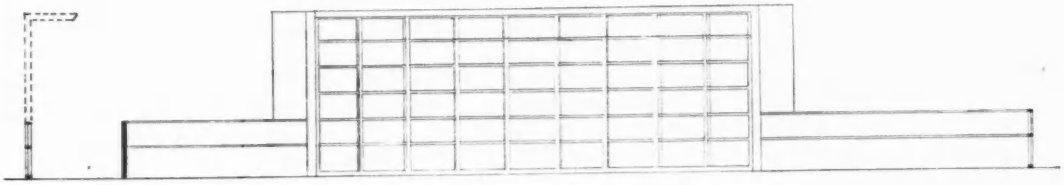
The side walls are constructed of fletton bricks, which give rigidity to the lighter framed walls, and heavy swing doors are attached to them on special channels.

The giraffes spend the greater part of the year in the paddock, and are only locked into the house during exceptionally cold weather. On these occasions the house is heated with electric radiant heat. Ventilation is effected by ventilators in the roof which completely change the air once in an hour.

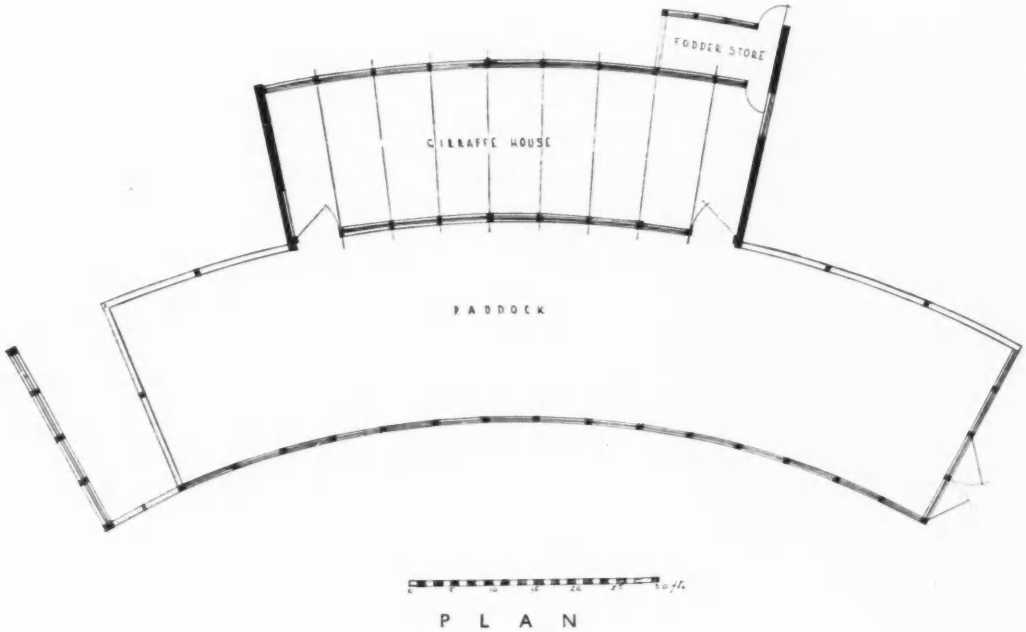
AT WHIPSNADE, HERTS.

On the right is a photograph of a model of the original scheme. This scheme provided a covered way, from which visitors could look into the house itself and out into the paddock. The plan reproduced below shows the scheme as now built; but during the winter, alterations will be carried out in accordance with the original scheme. The general shape of the design has been chosen to fit the curvature of the site, and the position, which is perhaps not the best, was settled to avoid the cutting down of trees.



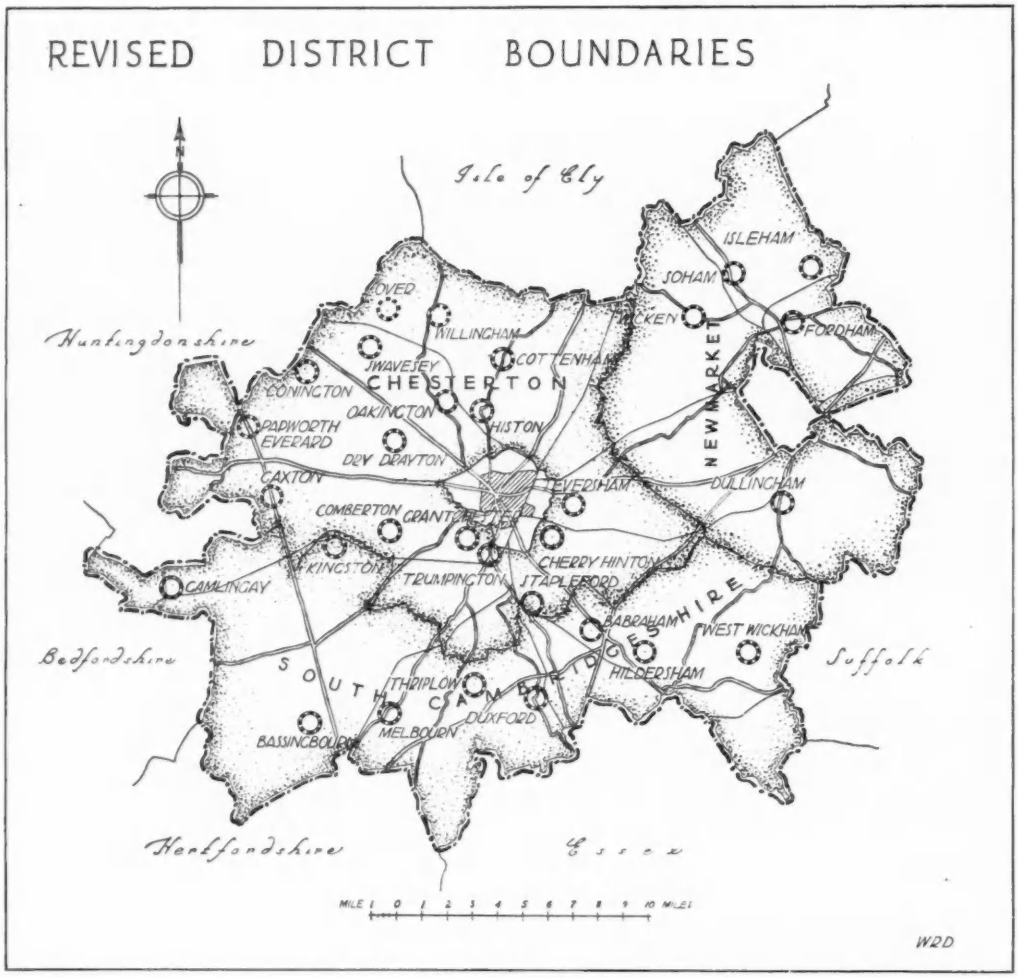


ELEVATION



PLAN

DESIGNED BY LUBETKIN AND TECTON



Map of Cambridgeshire, showing the revised boundaries of the rural districts. From the CAMBRIDGESHIRE REGIONAL PLANNING REPORT.

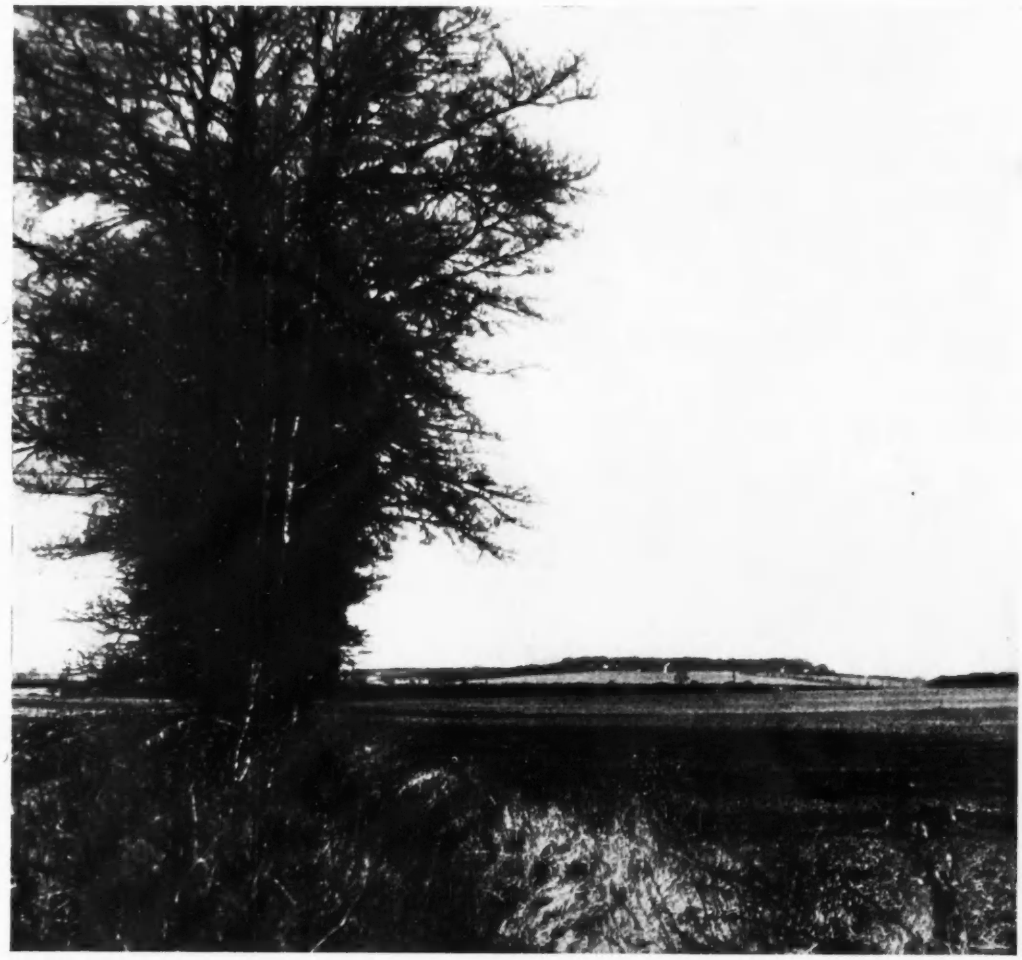
L I T E R A T U R E

REGIONAL PLANNING

Cambridgeshire Regional Planning Report. By W. R. Davidge, F.R.I.B.A., F.S.I., A.M.I.C.E. Cambridge University Press. Price 7s. 6d. net.

THIS book is the latest of a steadily lengthening series of regional surveys and reports. United by a common purpose—that of demonstrating how particular sections of town and country may best be developed or preserved by statutory and other activity—the various volumes have differed widely in authorship, content, method and merit. Nearly all have been illustrated by many maps, diagrams and photographs; some have been well printed and lavishly produced; most have been well worth their price, and a few under-priced to a quite uneconomic degree. In spite of their lack of consistency, their collective value is unquestionably considerable; large amounts of too little regarded facts about every aspect of physical environment have been accumulated, and many broad and sound proposals for development and preservation have been described and mapped. But it is impossible to avoid the conclusion, after examining a typical dozen or so, that nearly all these survey-reports could have had a much more considerable value and influence had they been written with a greater thoroughness, and in closer conformity to a more specific purpose and system. To wish that ministerial action could ten years ago or more have delimited the proper regions for the planning of England, have directed that a comprehensive study of each region should be prepared and published as a first stage, and have issued an outline guide to the scope and form of such studies—this is, alas, but a useless lament for a wasted opportunity. Lacking such a lead, the promoters and authors of these volumes can hardly be blamed for the inconsistency and incompleteness which rob their work of a large part of its usefulness as raw material for the nation-wide physical survey which an ever-growing body of opinion regards as an essential instrument of national policy. But in too many cases there is ground for the more justifiable criticism that thoroughness has been sacrificed either to obtain the propagandist advantage of a popular sale (which has, in fact, rarely been achieved) or to save the time and money required for wider researches.

Both in its merits and in its defects the *Cambridgeshire Regional Planning Report* is true to the general type of its predecessors. It is beautifully printed and bound, and most lavishly illustrated; its price is amazingly low; it applies to its area fundamental planning ideas which are both broad and sound, explains very clearly the various



Typical Cambridgeshire scenery. The Fens (top) and the Uplands (bottom). From the CAMBRIDGESHIRE REGIONAL PLANNING REPORT.

powers made available by the Town and Country Planning Act, and puts forward many excellent and practical proposals for incorporation in planning schemes, or for achievement by other means. But it has serious shortcomings. Although representatives of the Cambridge Borough Council are among the members of the responsible joint town planning committee, it seems to have been thought proper to exclude, both in the survey and in the planning proposals, all but the most general and passing references to the town of Cambridge, although (as is emphasized in the Report) Cambridge is to an unusually complete extent the sole "centre of gravity" of the whole region. This is indeed playing Hamlet without the Prince of Denmark. It is possible that for the execution of *statutory* planning schemes the separation of borough and county, and even the further separation of the county into its three rural districts (as delimited by the recent boundary revisions), may be desirable or inevitable. But for the purpose of an *advisory* committee's report such separation seems pointless. This inadequate consideration of Cambridge, and more especially of the difficult problems of its steadily expanding fringe of new development, throws out of balance not only the general impression produced by the book, but also, in some degree, the detailed recommendations which it is concerned to put forward.

If the treatment of the borough is wholly inadequate, this is not to say that the treatment of the county is wholly adequate. Its physical configuration and still more its geology are far too briefly treated. The basic difficulty that the greater part of the Cambridgeshire countryside *is* perfectly suitable for building development, but *should* be strictly preserved from all building development for agricultural use, is too vaguely and optimistically treated. Farming is the one important industry of the region, but no serious attempt has been made to survey and analyse its distribution and characteristics, or to assess its prospects and needs. Cement manufacture, probably the only other industry outside the town of Cambridge for which future importance may be expected, is passed over with the general comment that "along the banks of the Thames and Medway this industry has caused a complete change in the character of the landscape over a vast area, and here too there is a risk of a similar effect," and the admonition that "every effort should therefore be made to secure that new works for this industry are on carefully selected sites." This adverse criticism of the book as insufficiently detailed and thorough in some of its sections, especially those relating to physical and economic survey, must in fairness be balanced by appreciation for the careful description of a long series of detailed road proposals, a very full and well worked-out series of projects for open-space reservations, and excellent suggestions for the development of a number of suitable existing village-centres as satellite communities on garden city lines.

The book is charmingly embellished by a number of woodcuts by Sylvia Abram, but neither the woodcuts nor the majority of the numerous photographs seem quite to succeed in portraying the essential character of Cambridgeshire landscape. A vivid pictorial exposition of significant geological or agricultural fact is indeed very difficult in such flat country. It would perhaps have been better to have enlisted the aid of aerial photography.

Comment should be made on the various maps and diagrams which have been included in the book. Maps are a vital part in all such reports, for a well-thought-out map can often say in a single page what many pages of text would say much less effectively. In this case, though there are plenty of maps, they form a curiously unsatisfactory assistance to the reading of the book. The five principal coloured maps, to a uniform scale of $\frac{3}{8}$ inch to 1 mile, are well produced, but two of them—geological and physical—have been bound into the book in the wrong place (the sections that deal with these aspects are at the beginning, the maps, which do not fold out, at the end, with no textual references to their position or even to their existence). Two further coloured maps present, respectively, an Outline Zoning Scheme, in which some three-quarters of the whole region is coloured with a pink tint which has no reference and is apparently undetermined, and a Water Supply map, in which the colouring is difficult to read and is applied to whole parishes rather than to the individual villages whose supply is really in question. A more serious defect is the lack of any map of general reference giving a clear presentation of all place names, classified roads, etc. To obtain this, perhaps in the form of a reprint from a half-inch to the mile ordnance map, a number of detailed plans of existing villages based on larger scale ordnance maps might have been omitted.

A curious feature of the book is that it has no literary acknowledgments, no cross-references, no bibliography, and no index. That the lack of references may lead to difficulty in reading has already been indicated above in respect of the principal maps, while a summary of recommendations which has no page references to the full text loses half its value.

J. D.

FABIAN RESEARCH ON HOUSING

BY PHILIP H. MASSEY, B.Sc. (Econ.), F.R.Econ.S.

The Housing Question: Report of the Housing Committee of the New Fabian Research Bureau under the chairmanship of J. H. Martin. London: N.F.R.B. and Victor Gollancz. Price 6d. net.

THIS report is an attempt to determine, in outline, the housing policy of a prospective Labour Government. It is divided into eleven short sections and, within the brief compass of twenty-eight pages, it succeeds, at the least, in doing two things. In the first place, main principles of house-building policy are enumerated. The bases of an efficient and comprehensive policy are held to be the definition of a standard, a systematic survey, a new and dynamic central authority, a plan worked to a time-table, and a system of giving special attention and assistance to particularly poor tenants. A "yard-stick" is duly laid down; the work of the central authority is defined (N.B. "The intelligence and research department would maintain close relations with industrial and commercial developments which affect movements in population and social changes fostering increases or decreases in it, and would be equally concerned with new methods of production and inventions. It would, in consequence, be in many respects the corner-stone of the new ministry and should be so regarded"). The principles of management and control of the houses and of rent-charges are dealt with; and the financial proposals for building a million houses briefly summarized.

In the second place, the need for an immediate attack on the housing problem is stressed. It is appreciated that the logical place of a new national housing scheme in the development of an economic plan on a national scale is towards the end, but it is held that at the risk of having to demolish much of what is accomplished, and even at the risk of delaying the development of a national plan, the houses so long overdue must at the earliest opportunity go up. In view of the sentence quoted above, it will be seen that the authors intend to take measures to reduce to a minimum the consequences of a necessity which they realize is unfortunate.

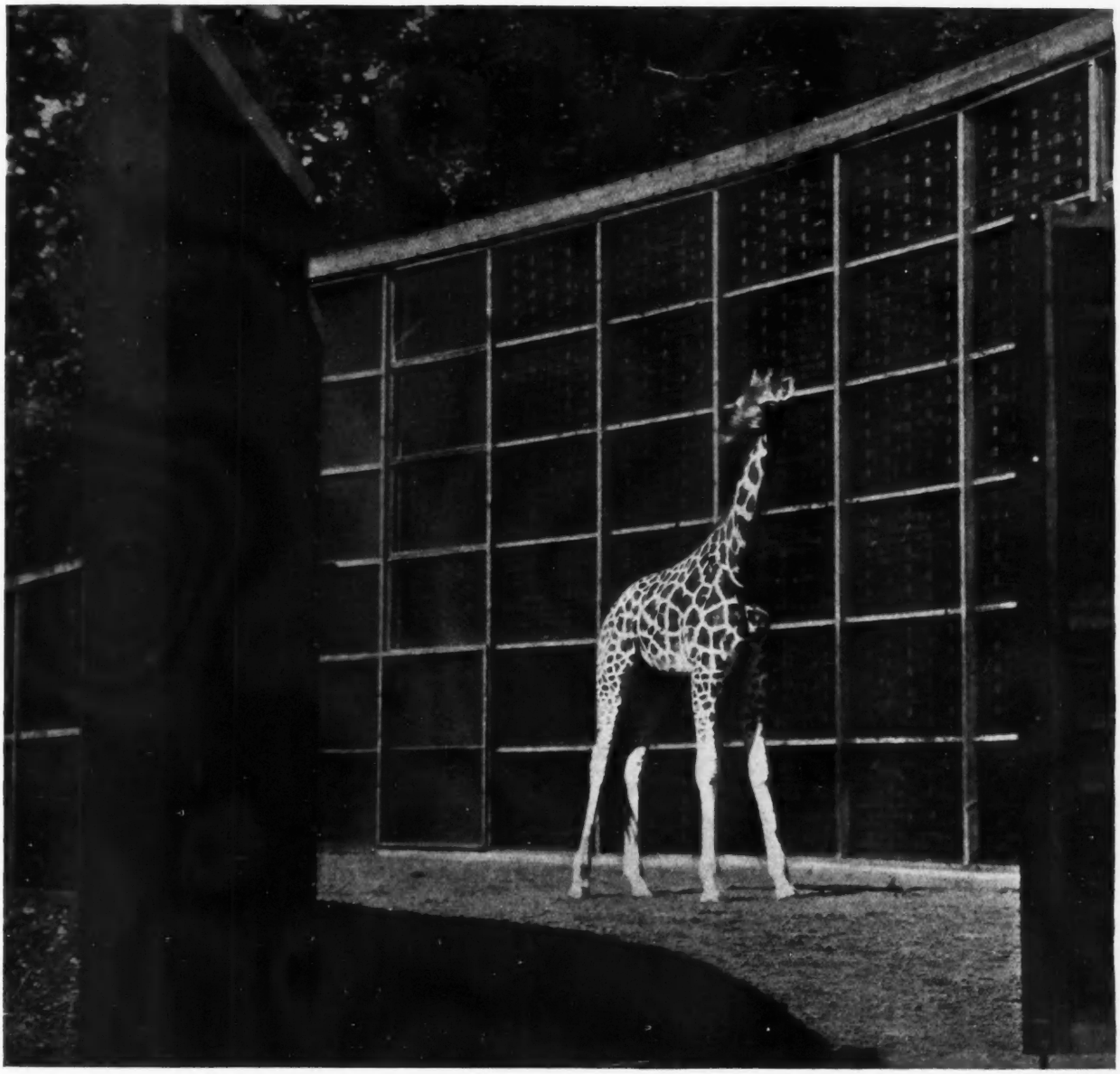
The pamphlet had been prepared some weeks before the official Labour Party housing policy was published. An effort has been made to explain the grounds for major points of difference so far as the programme outlined in the report under review is concerned.

Publication Received

Nippon seen through European Eyes. By Bruno Taut. Japan: Meiji-Shabo.

WORKING DETAILS : 133

WALL CONSTRUCTION • GIRAFFE HOUSE AT WHIPSNADE • LUBETKIN AND TECTON

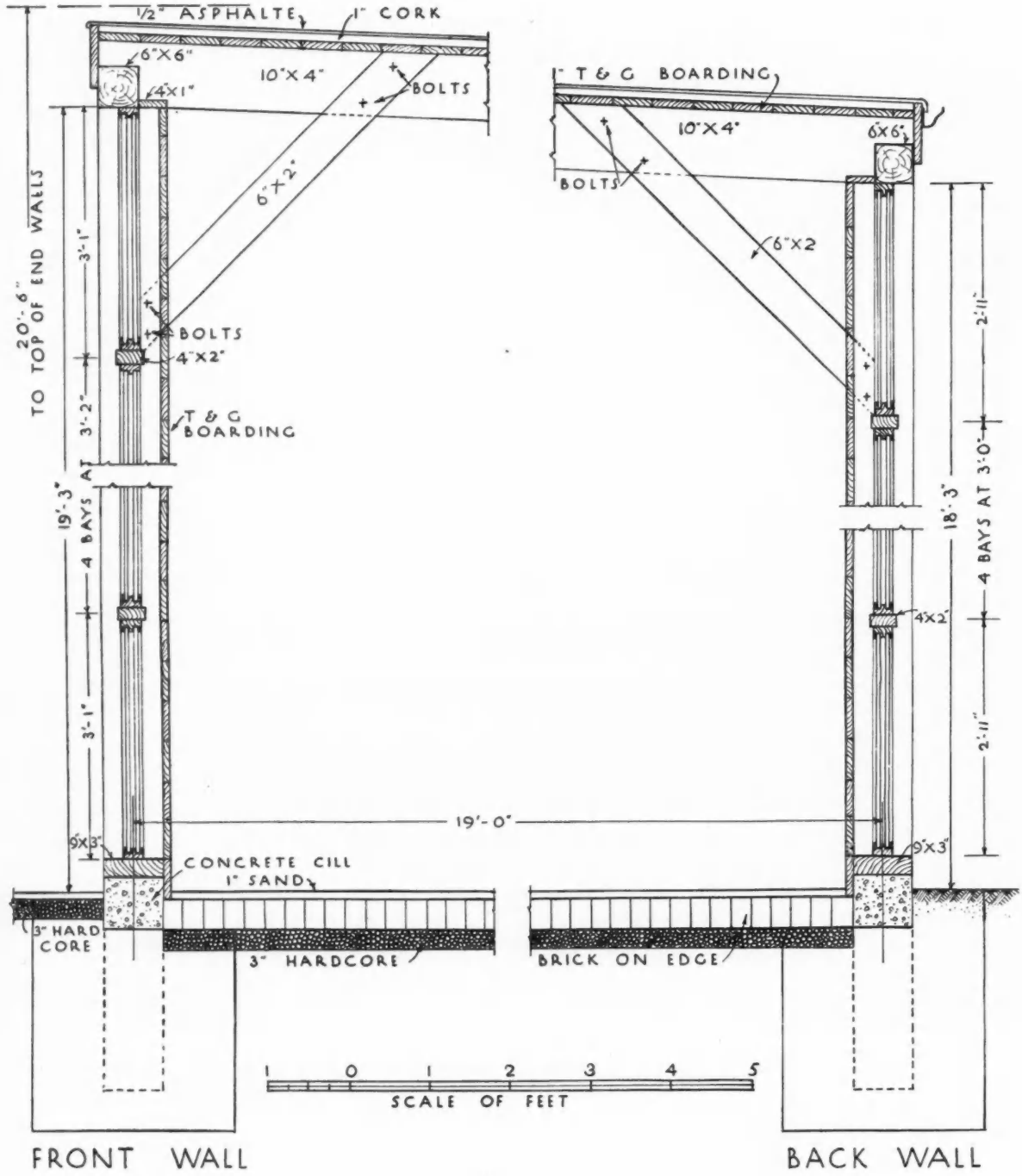


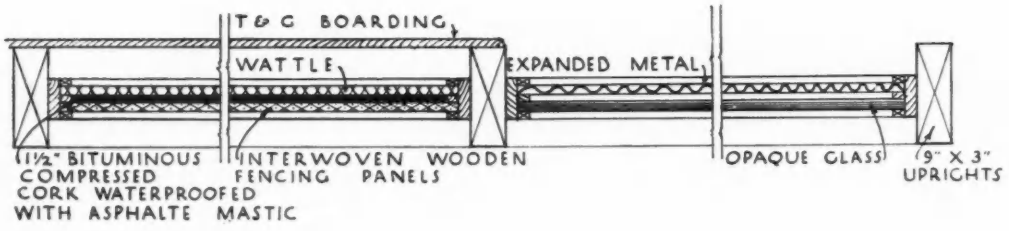
JOHN HAVINDEN

This building is constructed with brick end walls, the remainder being timber framing. The wall panels are detachable and interchangeable so that the window area may be adjusted to the time of year and the whims of the tenant. Window sections are protected by expanded metal, and the insulating wall sections by 1 in. tongued and grooved boarding. A section through the building and a detail of the two types of wall panel are illustrated overleaf.

WORKING DETAILS : 134

WALL CONSTRUCTION • GIRAFFE HOUSE AT WHIPSNADE • LUBETKIN AND TECTON

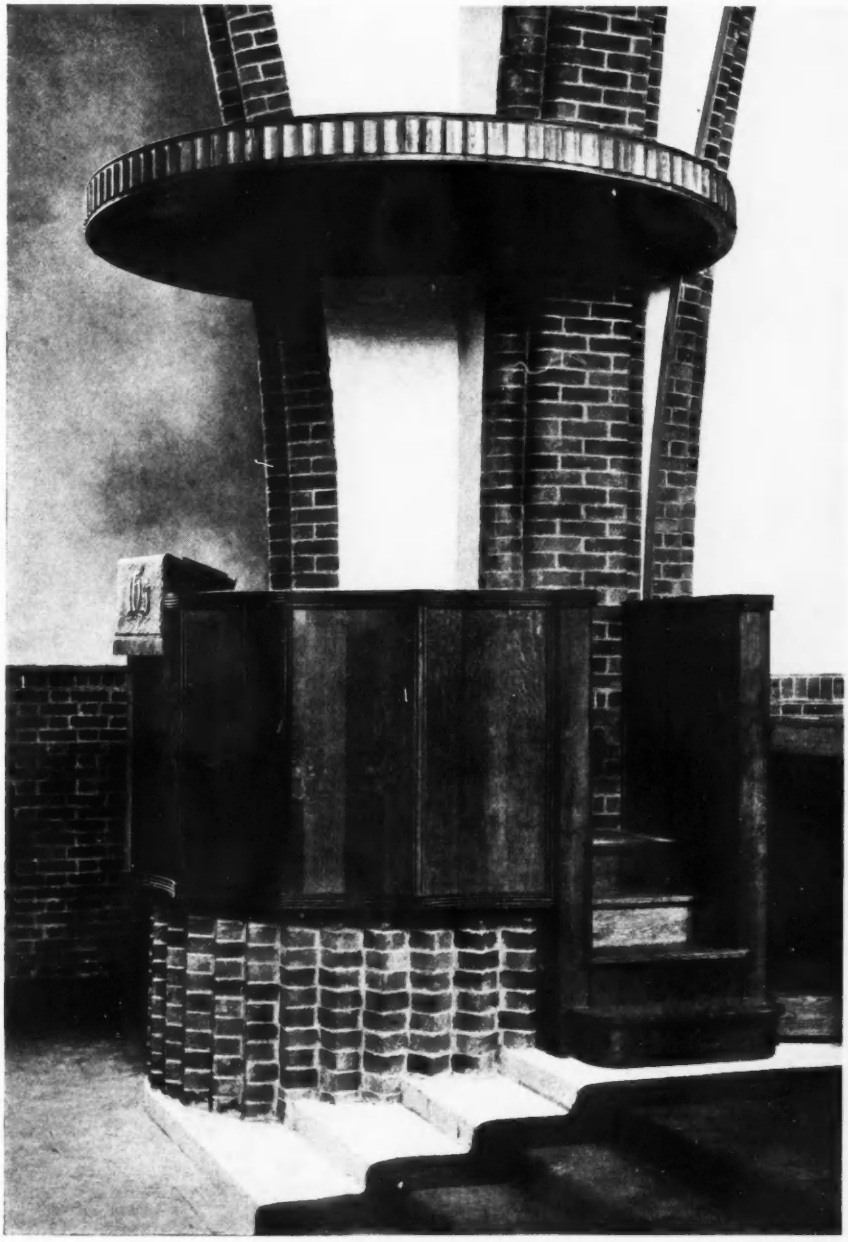




Section through the building and a detail of the two types of wall panel.

WORKING DETAILS : 135

OAK PULPIT • SUTTON BAPTIST CHURCH • WELCH, CACHEMAILLE-DAY AND LANDER

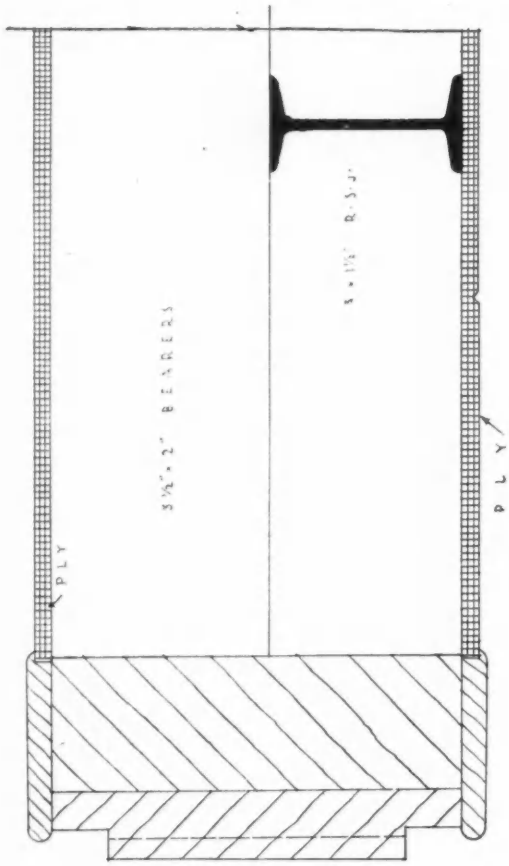


S. W. NEWBERY

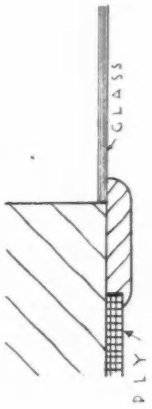
The sounding board of this pulpit is 8 ft. 6 in. above the floor of the pulpit and has a radius of 4 ft. 7 in. The concealed lighting panel is 2 ft. 1 in. × 1 ft. 8 in. and is left flush with the soffit. Overleaf are reproduced detail drawings of the pulpit.

WORKING DETAILS : 136

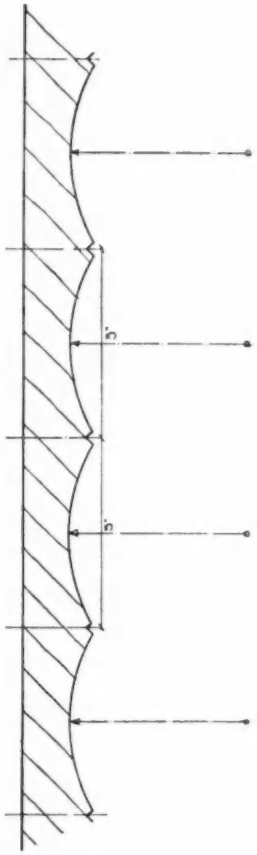
OAK PULPIT • SUTTON BAPTIST CHURCH • WELCH, CACHEMAILLE-DAY AND LANDER



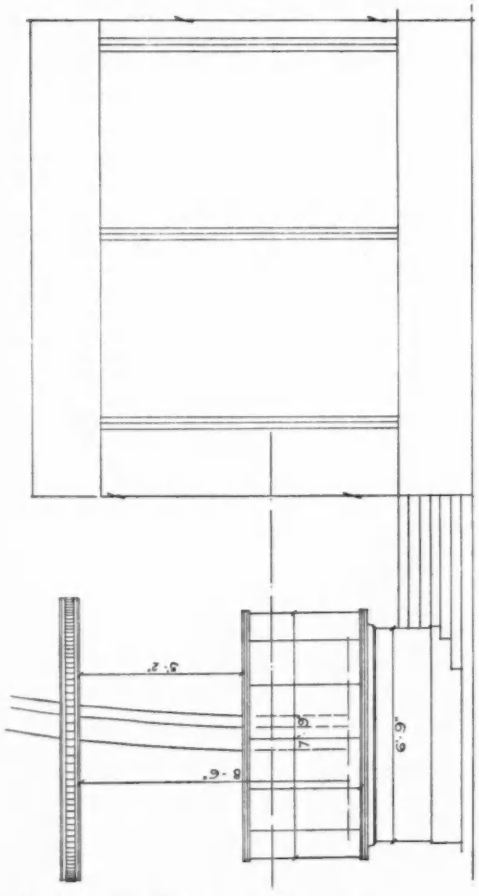
SECTION



LIGHT PANEL

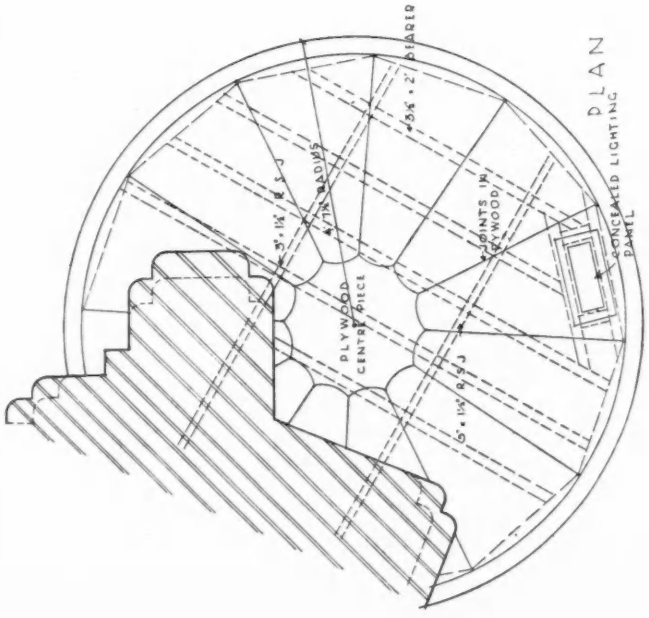


PLAN OF FLUTING



ELEVATION

KEY ELEVATION



PLAN

Detail drawings of the pulpit, of which a photograph is reproduced overleaf.

The Mayor threw dirt, Columbia Broadcasting's President Paley beamed and architects Bullard and Wendehack basked in the flood of publicity which shone as "America's Little House" was formally started on Park Avenue, New York, recently

[*From* THE ARCHITECTURAL FORUM.]

PERIODICALS

SEPTEMBER ANTHOLOGY

AMERICA

American Architect

(Monthly, $5 per annum)

AMERICAN small house designs and notes on the reconditioning of buildings. A well-reasoned article on the planning of small workshops and an exceptionally full survey of distribution systems for heating, cooling and air conditioning plants.

Architectural Forum

(Monthly, $1)

September. General hints on how to persuade property owners to remodel their buildings, and numerous examples of alterations actually carried out. Illustrations of Holabird and Root's winning competition design for the new Chicago Art Institute.

Architectural Record

(Monthly, 50 c.)

September. More notes on the problems involved in the great "Remodelling Drive." A portfolio of small shop schemes with an article on shop lighting. An interesting dairy farm in Pennsylvania by Delano and Aldrich.

Pencil Points

(Monthly, 35 c.)

September. Some interesting remarks on early plans of New York, more excellent data on the design of wrought ironwork and some admirable draughtsman's sketches and renderings.

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FRANCE

L'Architecture

(Monthly, 6 f.)

September. A number largely devoted to the work of MM. Duval et Gonse and of M. Fleury Raillon, to whom have been awarded the two annual medals of the Societé Centrale des Architectes.

La Technique des Travaux

(Monthly, 10 f.)

September. Two blocks of flats, one, in Paris, by Marcel Hennequet, the other, at Nice, by the brothers Hornanian. An extremely interesting nine-storey block of workers' flats in Rotterdam, by van Tijen, Brinckman and van der Vlugt. The block is long and narrow, with access balconies served by lifts, and contains 72 flats.

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GERMANY

Baugilde

(Fortnightly, 1 m. 50)

No. 17. Interesting old and new German furniture, all on traditional lines.
No. 18. Traditional country churches.

Der Baumeister

(Monthly, 3 m.)

September. A garden city at Ramersdorf, near Munich, well laid out and with admirable small houses of four, six and eight rooms. Numerous plans and sections are given. Some useful details of typical wooden construction.

Bauwelt

(Weekly, 90 pf.)

September 6. Results of a competition for a school at Weissee, won by Dellefaut and Heichlinger. Two houses by Kuhnert and Pfeiffer, a large one in the Grunewald and a week-end cottage at Drewitz. An appreciation of Dr. H. P. Berlage.

September 13. Results of a competition for a new dispatch building for I.G. Farbenindustrie, won by Gräf and Weber-Flum. Students' work at the Buchan School of Art at Munich.

September 20. More competition results and an article on the work of Marcello Picentini.

September 27. Standard German heating stoves and boilers, some of very attractive and clean appearance. Notes on the 1934 Housing Exhibition at Munich.

Deutsch Bauzeitung

(Weekly, 3 m. 40 per month)

September 5. Two interesting country houses, one by Max Fellerer in the Alps, the other a week-end cottage near Berlin, by Emil Schuster.

September 12. Winter sport hotels in Italy.

September 19. A long and well-illustrated article on bridges.

Moderne Bauformen

(Monthly, 3 m.)

September. Planning the lay-outs for houses on stubly sloping sites; the examples illustrated are all from Stuttgart. Some pleasant standard furniture, and an article on the possibilities of limewashed brick.

Monatshefte für Baukunst und Stadtebau

(Monthly, 1 m. 90)

September. Wooden houses: a medium-sized private house near Berlin. New buildings for the University at Athens, by Emanuel Kriesis, the museum of prehistory somewhat reminiscent of the Horticultural Hall.

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HOLLAND

Bouwkundig Werkblad Architectura

(Weekly, 50 c.)

September 1. Full plans and photographs of the nine-storey workers' flats at Rotterdam, by van Tijen, Brinckman and van der Vlugt.

September 8. Swimming baths at Groningen, by J. A. Boer. A simple asymmetrical plan on a corner site with unusual circulations for dressing boxes, etc.

September 22. An Amsterdam office block by Jan Gratama.

September 29. Article on sixteenth century Italian furniture.

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ITALY

Rassegna di Architettura

(Monthly, 18 lire)

September. Sports clubs (some finished, some not yet begun) from a large number of Italian towns. Italian architects seem to have obeyed wholeheartedly the command of Mussolini to "Go modern."

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SPAIN

Viviendas

(Monthly, 2 ptas.)

September. An interesting but somewhat fussy house by Hans Scharoun; ground floor plan only shown. Some simple nursery furniture by J. Junquera and Banela.

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SWITZERLAND

Schweizerische Bauzeitung

(Weekly, 8 cts.)

September 1. Technical notes on a recent Basle bridge.

September 8. Recent advances in turbine design. A new art gallery and congress house at Lucerne; no plans.

September 15. An analysis of standard types of reinforcement for reinforced concrete columns. Hydro-electric works in Spain.

September 22. Open air baths at Zurich by Emil Rein, fully illustrated with drawings of filter plant and wave making machinery.

September 29. Two houses in Lucerne, by W. Baur-Schill.

Das Werk

(Monthly, 3 f. 60)

September. A number mainly devoted to the ideas and executed work of Le Corbusier; the illustrations include a recent studio block at Geneva.

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L.C.C. CENTRAL SCHOOL OF ARTS AND CRAFTS

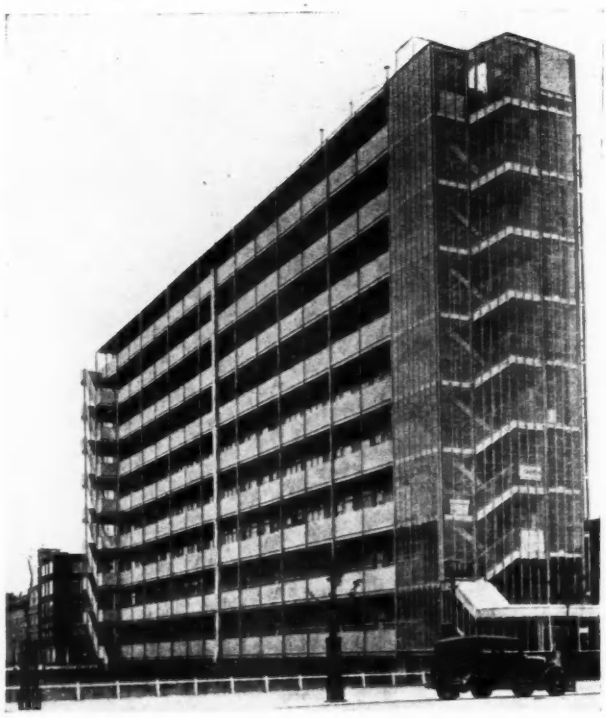
Sir Banister Fletcher, PP.R.I.B.A., on October 10, delivered the first of a series of 24 University Extension Lectures on Renaissance Architecture at the L.C.C. Central School of Arts and Crafts.

ANNOUNCEMENT

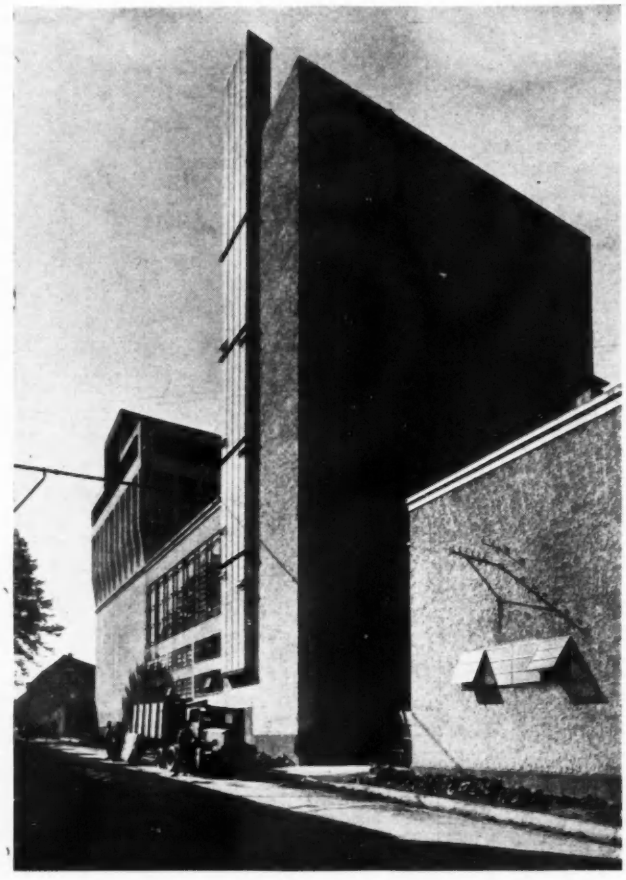
Mr. S. Stern, architect and surveyor, has commenced practice at 1 Ravensfield, The Burroughs, Hendon (Telephone: Hendon 6677), where he will be pleased to receive trade catalogues.

HITLER HOUSES

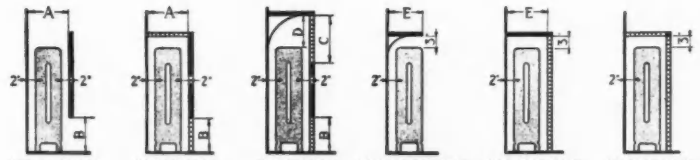
All new buildings erected in Rosenheim (Bavaria) since the Nazis came into power are to have tablets placed on them bearing the words "Built through Adolf Hitler." (states *The Evening Standard*).



Workers' Flats in Rotterdam. By van Tijen, Brinckman and van der Vlugt. [*From* LA TECHNIQUE DES TRAVAUX.]



The Walsheim Brewery in the Sarre Territory. By Otto Zollinger. [*From* BAUWELT.]



TRADE NOTES

[*BY F. R. S. YORKE, A.R.I.B.A.*]

Lift Gates

CASTON'S patent collapsible steel door consists of a series of 16-gauge steel plates fixed on each or alternate vertical bars of an ordinary collapsible gate.

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The back edge of each plate has a vertical bar attached, with an extension at the top and bottom suitably offset to travel in a channel track. Narrow metal rubbing strips are fitted to prevent friction on the faces of the plates when the doors are opened or closed.

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The plates can, if required, be fitted on both sides of the gate to hide the lattice.

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The doors can be supplied in any metal, or in steel finished with cellulose. They have been approved by the L.C.C. as fire resisting.

Radiator Enclosures

The diagram at the head of these notes is taken from an article concerning Distribution Equipment for Heating, Cooling and Air-conditioning, that appeared in *The American Architect* for September, 1934. It shows the effect of enclosures on heat emitted from a normal radiator. Comparisons are based on figures for heat from a free-standing radiator.

Flame Proofing Rubber

I understand from Messrs. Imperial Chemical Industries that a process of impregnation rendering rubber floor-covering flameproof has been introduced by a subsidiary company. Rubber tiles are impregnated with Seekay wax, a non-inflammable chloronaphth, and severe tests on specimens, made on these by Johnson and Phillips, the well-known electrical cable makers, have established the efficiency of Seekay wax as a flame-proofing agent.

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Flame-proofing implies treatment to resist flame and to prevent it spreading along the material treated. Standard tests include placing processed rubber for a specified time in the hottest part of the flame of a bunsen burner. In the tests mentioned above, the flame failed to get a hold on the rubber.

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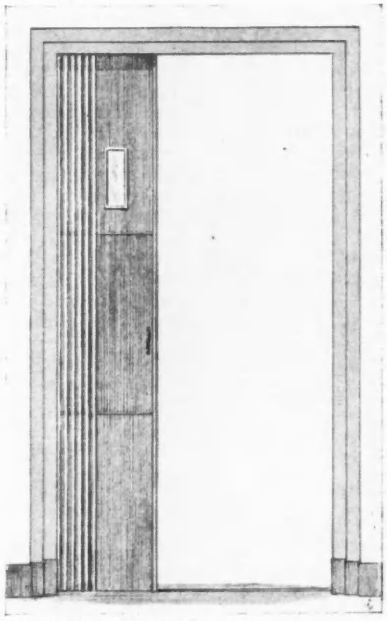
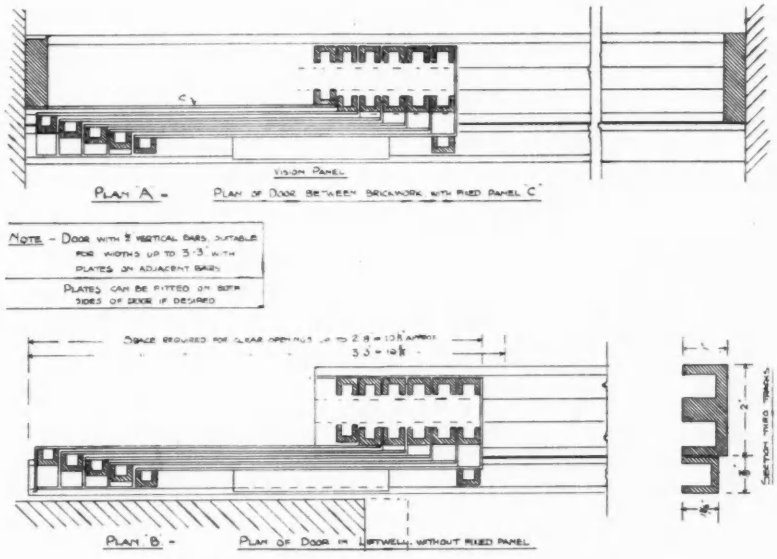
Treatment with Seekay wax is an extension of the process already applied successfully to electrical cables, and it may be carried out with no detriment to the colour or surface of the rubber, or to those qualities, such as flexibility and tensile strength, that make rubber valuable as a structural material.



Collapsible lift doors, shown open.



Plans of collapsible lift doors. See note on this page.

NEW TECHNICAL COLLEGE FOR BARKING

A technical college is to be built by the Essex County Council at Barking, at a cost of £131,000.

£100,000 EXTENSION TO ST. HELENS TOWN HALL

Plans are under consideration for an extension of the St. Helens Town Hll, at a cost of about £100,000.

ROYAL SANITARY INSTITUTE

A meeting of the Royal Sanitary Institute, in conjunction with the Welsh Branch of the Society of Medical Officers of Health and the North Wales Centre of the Sanitary Inspectors' Association, is to be held in the Pier Pavilion, Colwyn Bay, on October 26. The subject for discussion is: "Rural Housing in Wales."

LAW REPORT

ROAD CHARGES : ALLEGED MISREPRESENTATION

Faulkner v. *Suburban Development (London), Ltd.—King's Bench Division. Before the Lord Chief Justice.*

THIS action was for the recovery of a sum of money the plaintiff, Mr. J. Faulkner, of Eastern Avenue, Ilford, alleged he had paid in respect of paving charges, when, he alleged, there were no paving or road charges due under the circumstances of the case.

Plaintiff purchased his house for £600 and paid a further sum of £20 10s. to the defendants, and he alleged that defendants agreed to indemnify him against all road and paving charges which become payable by him. Plaintiff's case was that there had been a failure of consideration, as there were actually no paving or road charges, as the road had been made up as an arterial by-pass by the Ministry of Transport under the Development and Road Improvement Fund Act, 1909, and was repairable by the inhabitants at large.

For the defence it was submitted that there was here no misrepresentation, seeing that plaintiff had paid the £20 10s. as part of a bargain to the defendants when he purchased his house.

Mr. J. G. Trapnell, K.C., argued the case for the plaintiff and Mr. J. E. Singleton, K.C., for defendants.

His lordship, in giving judgment, dealt with the facts of the case and said it appeared that an agreement was entered into between the Corporation of London and the Minister of Transport in July, 1924, for the construction of an arterial road called Eastern Avenue. Under that agreement the Corporation agreed to pay the Minister, at the expiration of a year after any block of 200 ft. fronting on the road should be developed by building, the sum of £200 for each block. The Corporation sold the land to the British Land Company at the end of 1924, subject to the condition that each purchaser should pay £1 a foot frontage in respect of the land developed. It would be seen that that sum was equivalent to the £200 per 200 ft. block which was to be paid to the Minister of Transport by the Corporation. At a later period part of that land was sold by the British Land Company to the defendants, who in turn sold the plaintiff his house, and under the agreement of purchase plaintiff undertook to pay £1 a foot for frontage, the defendants giving an indemnity against the road charges.

Here the payment of £20 10s. was paid by the plaintiff under his agreement of purchase and therefore his lordship was of opinion that there could be no claim that that money was paid for a consideration which had wholly failed. Defendants were under a liability to perform their obligations in the conveyance down till the time the plaintiff purchased, and the property was conveyed.

The plaintiff had set up an alternative claim for misrepresentation and breach of warranty, his case being that the defendants warranted that Eastern Avenue was a private street for the making up of which paving and other charges would become payable. In his lordship's view there was no such express representation or warranty in the agreements relied upon by the plaintiff, and he did not think that any could be implied. He came to the conclusion that an agreement to indemnify against further charges in connection with private street improvements did not import a representation or warranty that there would be any such further charges.

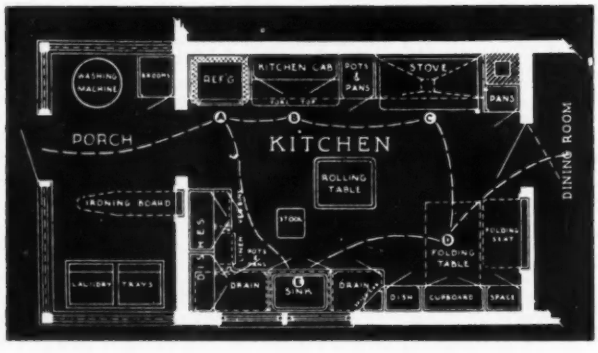
In view of these findings, his lordship added, there was no substance in either of the heads of the plaintiff's claim, and therefore he entered judgment for the defendants with costs.

Manufacturers' Item

Peerless Kitchen Cabinets, Ltd., of Western Avenue, Greenford, Middlesex, have sent us a copy of a booklet entitled *Built-in Kitchen Furniture*. Following are some extracts from an article dealing with kitchen planning : "The small plan shown indicates a typical kitchen with the necessary cabinets placed in position. The position of each unit is regulated by the purpose which it is intended to serve, and the objective which has been successfully achieved is that in the execution of all culinary duties, the maximum amount of time and trouble is saved.

"In every kitchen there are certain important units which individually form 'work centres' and are used to fulfil some definite function, which is of primary importance in culinary routine. Therefore these particular units should be so arranged as to have consecutive relation to one another, and thus to form a complete 'circle of work.' The housewife accepting goods from the tradesmen who are delivering through the porch, has immediately at hand the refrigerator unit (A), where all perishable goods may be stored. A minimum of space should divide this from the first scene of preparation of the foodstuffs, which in this case is a kitchen cabinet (B) having storage cupboards for spices, flavourings, cereals, etc., and having a small but suitable pastry table. The cooker (C) immediately handy, saves much energy and time and allows the housewife to keep a watchful eye on the cooking while she still continues her work at the cabinet. The next process would be the serving of the cooked food, and the folding wall table (D) which is immediately opposite the cooker, affords an excellent article for this purpose. The table must be both rigid and spacious, and in this particular case it should be noted that apart from its use for operations of serving, it affords in conjunction with a folding wall seat, a breakfast table or meal table for the maid. It also serves as a repository for dishes used during meals and removed from the dining room and it should therefore be near to the sink (E) and draining boards where the dishes are finally cleaned and placed in the china cupboard, which is at hand.

"The 'circle of work' is in short a scientific formula for the elimination of kitchen labour. In general principle, this represents an ideal system of kitchen planning, but apart from the prominent units which have been mentioned, it will be seen that the details have been carefully considered. For instance, the undersink units offer convenient storage space for the pots and pans, which would be stowed away without unnecessary steps. The kitchen cabinet, folding table unit and store cabinets allow ample accommodation for other domestic utensils, dry goods, linen and cleaning cloths. It will be appreciated that each kitchen must be planned according to its size and shape, and although these may vary, the same principle should be followed, and without any doubt much domestic drudgery and wasted energy will be completely avoided."



The lay-out of a kitchen. See note on this page.

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

Following are the names of the general contractors and some of the sub-contractors for the buildings illustrated in this issue :—

Swansea Civic Centre (pages 523-528). General contractors, E. Turner and Sons, Ltd. Sub-contractors : British Dominion Fire Engineering Co., Ltd., fire hydrants ; Benham and Sons, Ltd., kitchen equipment ; Crittall Manufacturing Co., Ltd., steel lantern lights ; H. J. Cash & Co., Ltd., electric light installation ; H. W. Cullum & Co., Ltd., acoustic felt ; Dodd Bros., vacuum cleaning installation ; Edison-Swan Electric Co., Ltd., electric light fittings ; S. Elliott and Sons (Reading), Ltd., panelling to Committee Rooms, Robing Room and Town Clerk's Room, and flush doors ; Ellis, Partridge & Co., Ltd., roofing tiles ; Ben Evans & Co., Ltd., furniture, carpets, etc. ; W. J. Furse & Co., Ltd., lightning conductor ; Gent & Co., Ltd., electric clock installation ; General Electric Co., Ltd., electric light fittings, offices and corridors ; James Gibbons, Ltd., door furniture and locks, etc., all doors ; Hollis Bros., Ltd., wood block floors ; G. N. Haden & Co., Ltd., heating and ventilating installation ; Korkoid Decorative Floors, floor coverings ; Kingfisher Ltd., Assembly Hall tubular chairs ; Maple & Co., Ltd., tapestry frieze ; H. H. Martyn & Co., Ltd., bronze entrance screens, electric light fittings, railings, etc., panelling of Assembly Hall and Law Courts, fibrous plaster and decorations ; Marble Mosaic Co., Ltd., terrazzo, floors, stairs and partitions ; Francis Morton, Junior, & Co., spring dancing floor ; Geo. Parnell & Co., Ltd., panelling, Mayor's Parlour ; Rees and Kirby,

Ltd., structural steelwork ; Reliance Telephone Co., Ltd., automatic telephones ; John Stubbs and Sons, marble floors and benches ; Stevens and Adams, Ltd., wood block floors and parquet ; South Wales (Fire Protection) Engineers, Ltd., iron staircases ; Gilbert Seale and Son, Ltd., stone carving ; Shanks & Co., Ltd., sanitary fittings ; Sika-Francois, Ltd., waterproofing material ; Sankey, Sheldon, steel furniture ; Thompson and Manolopontos, Ltd., reinforced concrete floors ; John Tann, Ltd., strong room doors ; TenTest Fibre Board Co., Ltd., insulating boards ; Western Trinidad Lake Asphalt Co., Ltd., asphalt roofs ; John Williams and Sons (Cardiff), Ltd., steel windows ; Waygood-Otis, Ltd., passenger and service lifts ; J. P. White and Sons, Ltd., panelling to Council Chamber ; Waring and Gillow, Ltd., furniture and carpets ; Troughton and Young, Ltd., electric light fittings ; Pixtons, Ltd., choir seating ; May Acoustics, Ltd., acoustic tiles, etc. ; Wm. Mallinson and Sons, Australian walnut to Council Chamber ; W. W. Jenkins & Co., Ltd., marble floors and polished portland work.

Basil House, Berner Street, Stepney, E. (pages 532-533). General contractors, Holland and Hannen and Cubitts, Ltd. Sub-contractors : Matthew Hall & Co., Ltd., plumbing ; Limmer & Trinidad Lake Asphalt Co., Ltd., asphalt ; Grano-Metallic Paving and Plastering Company, Ltd., plastering ; Modern Surfaces Ltd., external decoration ; T. W. Palmer & Co., and E. Coules and Sons, steel staircases ; Compton Bros., glazing.

Giraffe House, Whipsnade (pages 534–535.) General contractors, J. L. Kier & Co., Ltd. Sub-Contractors : London Brick Company and Forders, Ltd., bricks ; H. Butterfield, flooring ; T. W. Palmer & Co., structural steel ; Pilkington Bros., glass ; F. Knight & Co., Ltd., door furniture ; Cellactite and British Uralite, Ltd., ventilation ; Quenby Fry & Co., Ltd., interwoven panels ; John Elbo, insulation cork ; Henry Brown, joinery ; Engert and Rolfe, Ltd., special roofing.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

BERMONDSEY. *Flats.* The B.C. is to erect 10 flats at Bevington Street at a cost of £5,397 and 114 flats on the Aylton area at a cost of £56,496. The B.C. is to acquire property in Southwark Park Road as a site for the erection of 50 flats.

BLOOMSBURY. *Flats and Shops.* The Housing Corporation of Great Britain, Ltd., proposes to erect shops and flats at Tottenham Court Road and University Street, on a portion of the site formerly occupied by Messrs. Shoolbred.

HACKNEY. *Tenements.* The B.C. is to proceed with the erection of 160 tenements on the Banister Street area.

HAMMERSMITH. *Flats, Garages, etc.* Plans passed by the B.C. : Garages and squash courts, Latymer Court, for Mr. Gordon Jeeves ; block of flats, Shepherds Bush Green, for Mr. H. V. Kerr ; buildings, King's Court, for Mr. R. J. H. Minty ; buildings, Shepherds Bush Road and Rockley Road, for Sir Aston Webb and Son.

HAMMERSMITH. *Flats.* The B.C. is to erect 112 tenements in blocks of four storeys at the Becklow Road area at a cost of £50,000.

SOUTHGATE. *Cinema.* The Corporation has approved plans for the erection of a cinema at the Bourne, Wynchgate.

SOUTHGATE. *Houses, Garages, etc.* Plans passed by the Corporation : Nine houses, Arnos Grove, for Mr. F. F. Tomlin ; three houses, Church Hill, and house, Stone Hall estate, for Messrs. Gooch and Lombard ; four houses, Bush Hill, for Mr. G. W. Newman ; four houses, Hounsden Road, for Mr. C. S. Brown ; two flats, Vicars Moor Lane, for Mr. C. E. Ward ; four houses, Powys Lane, for Mr. F. F. Tomlin ; 21 shops and flats, Bramley Road, for Messrs. C. W. B. Simmonds, Ltd. ; 133 houses, Lakenheath, Chestnut close, and Merrivale, for Mr. J. Neilson ; two cottages, Trent Park, for Messrs. John Garlick (1910), Ltd. : nine houses, Hounsden Road, for Messrs. Clapp and Sons, Ltd. Plans submitted : 40 houses, Springfield Nursery estate, Avenue Road, for Mr. H. A. Nash ; 10 garages, Bowes Road, for Mr. F. J. Last ; two houses, Reservoir Road, for Mr. F. F. Tomlin ; 98 houses, Telford Road, for Mr. J. M. Webster.

TOTTENHAM. *Swimming Bath.* The U.D.C. has received the approval of the Ministry of Health to a scheme for the construction of an open-air swimming bath on the Lordship recreation ground.

TOTTENHAM. *Library.* The U.D.C. Libraries Committee recommends inviting tenders for the erection of a branch library at Devonshire Hill.

TOTTENHAM. *Houses and Shops.* Plans passed by the U.D.C. : Five shops, Hermitage Road, for Messrs. Brooking Bros. ; eight houses, Devonshire Hill Lane, for Messrs. D. Pettit and Son.

WOOD GREEN. *Town Hall Extensions.* The Works Committee of the Corporation recommends the appointment of Mr. C. H. James, F.R.I.B.A., of Bedford Place, London, for the purpose of investigating and reporting upon the question of extending the town hall with a view to providing additional office and other accommodation, and bringing the building into line with modern requirements.

WOOD GREEN. *Shops.* Messrs. M. E. and O. H. Collins, architects, propose to erect a block of shops on the corner site adjacent to the London Electric Railway sub-station.

SOUTHERN COUNTIES

BEXHILL. *Estate Lay-out.* The Corporation has approved a plan submitted by Messrs. Burstow and Hewett for the lay-out of the Mayo Farm estate and an amended lay-out submitted by Mr. G. W. N. Ward in connection with the development of an estate adjoining Gunters Lane.

BEXHILL. *Houses.* Plans passed by the Corporation : Ten houses, Peartree Lane, etc., for Mr. E. Bunce ; shops and houses, London Road, for Mr. J. E. Maynard ; two houses, Chandler Road, etc., for Messrs. Jeffrey and Wyatt ; three houses, Collington Lane, for Messrs. Tubbs and Messer ; six houses, Bank Road, for Mr. Lye ; two houses, Dorset Road, for Mr. R. A. Larkin ; 20 flats, Cantelupe Road, for Mr. H. H. Ford ; nine houses, St. Margaret's Crescent, for Mr. H. J. Williams ; 18 houses, London Road, etc., for Mr. H. E. Gasson.

BRIGHTON. *Flats.* The Corporation is to erect two additional blocks of flats in Crescent Cottages.

BRIGHTON. *Houses, etc.* Plans passed by the Corporation : 12 houses, Hollingbury Copse estate, Patcham, for Sussex Property and Building Co., Ltd. ; two houses, Beechwood Avenue, for Mr. R. D. Comber ; public hall and 28 houses, Ladies' Mile estate, Patcham, for Ladies' Mile Estate, Ltd. ; two houses, Falmer Road, for Mr. W. A. Cowley ; two houses, Longhill Road, for Mr. A. J. Shadbolt ; 32 houses, Dyke Road estate, Patcham, for Mr. T. G. Thompson ; 12 houses, Sunnydale Avenue, Patcham, for Mr. E. J. Street ; four houses, Carden Avenue, for Messrs. Braybons, Ltd. ; two houses, Stanmer Park Road, for Mr. J. A. Morley ; two houses, Sunnydale Road, for Mr. R. T. Dancey ; two houses, Dean Court Road, for Saltdean Estate Co., Ltd. ; flats, 6, Sillwood Road, for Mr. H. G. Shingler ; two bungalows, Little Crescent, Rottingdean, for Mrs. E. A. Butti ; four houses, Hollingdean Terrace, for Mrs. E. M. Jolly. The Corporation has approved revised plans for the erection of 31 small houses for the aged on the Manor Farm estate, and is to obtain tenders for them at the same time as tenders for 212 houses to be erected on the estate.

BRIGHTON. *Reconstruction.* The Race Stand Lessees of the Race Course have approved plans by Messrs. Yates, Cook and Darbyshire, architects, for the reconstruction of buildings in the club members' enclosure of the race course at a cost of £5,000.

BRIGHTON. *School.* The Education Committee is to erect a school for 480 at Warmdene Avenue, Patcham, at a cost of £15,500.

CANTERBURY. *Baths.* The Corporation has prepared a scheme for the erection of baths at the Dane John site at a cost of £15,770 and the Health Ministry has held an inquiry regarding the application for loan sanction.

DOVER. *Library.* The Corporation has obtained sanction to borrow £4,040 for the conversion of the Dover Institute into a public library.

GODSTONE. *Housing.* The R.D.C. is seeking housing sites at Nutfield, Lingfield and Bletchingly.

SOUTH-WESTERN COUNTIES

BRISTOL. *Houses and Police Station.* Messrs. Milliner and Vickery are to build 10 houses in Barrow Hill Road. The Corporation is to proceed with the purchase of a site at Brislington for the erection of a police station.

EXETER. *City Hall.* In connection with the proposal to erect a new City Hall on the site of the Higher Market, the Corporation has decided to seek a provisional order for the acquisition of adjoining properties which will be needed for the scheme, which includes a hall to seat 3,000, and for which competitive plans are to be obtained.

EXETER. *Hotel.* The Corporation has passed plans for the erection of an hotel in Okehampton Street and the provision of a new roof at the Waverley Hotel.

EXETER. *Flats.* The Corporation is to erect 24 flats on the Coombe Street area at a cost of £12,522.

EASTERN COUNTIES

LOWESTOFT. *Houses and Shops.* Plans passed by the Corporation : Two houses, Gunton Drive, for Messrs. D. Leighton and Son, Ltd. ; three shops, Pakefield, for Mr. O. E. Gray ; lay-out, Waveney Drive estate, for Messrs. J. A. Gaze and Sons ; three houses, Rochester Road, for Mr. H. J. Betts ; six houses, Colville Road, Oulton Broad, for Mr. D. Dowell ; two houses, Alexandra Road, for Mr. E. Lincoln ; six houses, Kirkley Run, for Mr. W. Calver ; two houses, Beccles Road, for Mr. E. D. Clarke ; two houses, Marlborough Road, for Mr. S. C. King ; two houses, Borrow Road, for Associated Investors, Ltd. ; four houses, Yarmouth Road, Oulton Broad, for Mr. A. E. Ingles ; two houses, Somerleyton Road, for Mr. S. F. Godbold.

LOWESTOFT. *Houses.* The Corporation has approved plans for the erection of 14 houses at Fir Lane for rehousing purposes.

MIDLAND COUNTIES

COVENTRY. *Housing.* The Corporation proposes to proceed with the development of the Crabmill Lane rehousing estate, and recommends that application be made for sanction to a loan of £29,796 for the necessary street and sewer works, and the erection of houses, in connection with the scheme. The Health Committee of the Corporation recommends the acceleration of the five years slum clearance programme so as to make feasible the earlier demolition of certain areas of hostels.

DUDLEY. *Houses and Shops.* Plans passed by the Corporation : 16 houses, Corser Street and two houses, Himley Road, for Mr. H. J. Caddick ; shop and house, Bowling Green Road, for Mr. Field ; two houses, Dudley Wood Road, for Messrs. T. Smith and Sons ; four houses, Northfield Road, for Mrs. Lydia Mills ; two houses, The Broadway, for Mrs. J. Hancox ; 12 houses, Grainger Street, for Messrs. Poole Bros. ; seven houses, The Broadway, for Mr. W. Whittingham ; four houses, Himley Avenue, for Mr. L. H. Hodgetts; two shops, Hall Street, for Mr. Horwood. The Corporation has asked the borough engineer to prepare plans for the erection of two shops in Union Street.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A	Aberdeen ..	Scotland	1 6	1 1½
A_1	Abergavenny ..	S. Wales & M.	1 5	1 0½
A_2	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow	N.W. Counties	1 5½	1 1½
A	Barry	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_2	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham ..	Mid Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton	N.W. Counties	1 5½	1 1½
A_2	Boston	Mid. Counties	1 4	1 0
A	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A	Brighton ..	S. Counties	1 4	1 0
A	Bristol	S.W. Counties	1 5½	1 1½
B_2	Brixham ..	S.W. Counties	1 2½	11
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
A	Bursiem ..	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury	N.W. Counties	1 5½	1 1½
A	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE ..	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff	S. Wales & M.	1 5½	1 1½
A	Carlisle	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A	Chelmsford ..	E. Counties	1 4	1 0
A	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A_2	Colchester ..	E. Counties	1 4	1 0
A	Colne	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorches ..	S.W. Counties	1 2½	11
A	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A_2	Dumfries ..	Scotland	1 5	1 0½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N.E. Coast	1 5½	1 1½
A_2	FASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE	E. Counties	1 4	1 0
A	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S. W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A	Glasgow ..	Scotland	1 6	1 1½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	Gosport ..	S. Counties	1 4½	1 0½
A_2	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln ..	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_2	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middlesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid Counties	1 5½	1 1½
A_2	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth	Scotland	*1 5½	1 1½
A_2	Peterborough	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A_1	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	Slough ..	S. Counties	1 4½	1 0½
A_1	Solihull ..	Mid. Counties	1 5	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stirling ..	Scotland	1 6	1 1½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist ..	N.E. Counties	1 5½	1 1½
A_2	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick ..	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby	Yorkshire	1 4½	1 0½
A	Widnes	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A	Wycombe ..	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 8
Mason (Banker) . . . . . ,,	1 7
,, (Fixer) . . . . . ,,	1 8
Plumber . . . . . ,,	1 7
Painter . . . . . ,,	1 6
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 7
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 3
Timberman	1 3
Navvy . . . . . ,,	1 2½
General Labourer . . . . . ,,	1 2½
Lorryman . . . . . ,,	1 5
Crane Driver . . . . . ,,	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . . per ton	2 2 0
Blue Lias Lime . . . . . ,,	1 16 6
Hydrated Lime . . . . . ,,	3 0 9
Portland Cement, in 4-ton lots (d/d site, including Paper Bags) . . ,,	1 18 0
Rapid Hardening Cement, in 4-ton lots (d/d site, including Paper Bags) . ,,	2 5 6
White Portland Cement, in 1-ton lots ,,	8 15 0
Thames Ballast . . . . . per Y.C.	6 3
¾" Crushed Ballast . . . . ,,	6 9
Building Sand . . . . . ,,	7 3
Washed Sand . . . . . ,,	8 3
2" Broken Brick . . . . . ,,	8 0
¼" ,, ,, ... ,,	10 3
Pan Breeze . . . . . ,,	6 6
Coke Breeze . . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

		4" s. d.	6" s. d.
Straight Pipes . .	per F.R.	0 9	1 1
Bends . .	each	1 9	2 6
Taper Bends	,,	3 6	5 3
Rest Bends	,,	4 3	6 3
Single junctions	,,	3 6	5 3
Double ,,	,,	4 9	6 6
Straight channels . .	per F.R.	1 6	2 6
¼ Channel bends . .	each	2 9	4 0
Channel junctions . .	,,	4 6	6 6
Channel tapers . .	,,	2 9	4 0
Yard gullies . .	,,	6 9	8 9
Interceptors . .	,,	16 0	19 6
IRON DRAINS:			
Iron drain pipe . .	per F.R.	1 6	2 6
Bends . .	each	5 0	10 6
Inspection bends .	,,	9 0	15 0
Single junctions .	,,	8 9	18 0
Double junctions .	,,	13 6	30 0
Lead wool . . .	lb.	6	—
Gaskin . . .	,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . . Per M.	2 18 0
Grooved do. . . . . ,,	3 0 0
Phorpres bricks . . . . ,,	2 17 3
,, Cellular bricks . . ,,	2 17 3
Stocks, 1st quality . . . ,,	4 11 0
,, 2nd ,, . . . ,,	4 2 6
Blue Bricks, Pressed . . ,,	8 17 6
,, Wirecuts . . ,,	7 17 6
,, Brindles . . ,,	7 0 0
,, Bullnose . . ,,	9 0 0
Red Sand-faced Facings . ,,	6 18 6
Red Rubbers for Arches . ,,	12 0 0
Multicoloured Facings . . ,,	7 10 0
Luton Facings . . . . ,,	7 10 0
Phorpres White Facings . ,,	3 17 3
,, Rustic Facings . ,,	3 12 3
Midhurst White Facings . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . . ,,	21 0 0
Headers . . . . . ,,	20 10 0
Bullnose . . . . . ,,	27 10 0
Double Stretchers . . ,,	29 10 0
Double Headers . . . ,,	26 10 0
Glazed Second Quality, *Less* . ,,	1 0 0
,, Buffs and Creams, *Add* . ,,	2 0 0
,, Other Colours . . ,,	5 10 0
2" Breeze Partition Blocks . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 10
3" ,, ,, ,, . . ,,	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

The following d/d F.O.R. at Nine Elms:	s. d.
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 7½
Bath stone . . . . . ,,	2 10
York stone . . . . . ,,	6 6
,, ,, Sawn templates . . ,,	7 6
,, ,, Paving, 2" . . . F.S.	1 8
,, ,, ,, 3" . . . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24"×12" Duchesses . . . per M.	28 17 6
22"×12" Marchionesses . . ,,	24 10 0
20"×10" Countesses . . . ,,	19 5 0
18"×10" Viscountesses . . ,,	15 10 0
18"× 9" Ladies . . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20"×10" medium grey per 1,000 (actual)	21 11 6
,, ,, green ,, ,,	24 7 4
Best machine roofing tiles . ,,	4 10 0
Best hand-made do. . . ,,	5 0 0
Hips and valleys . . . each	9½
,, hand-made . . . ,,	11
Nails, compo . . . . lb.	1 4
,, copper . . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . . as 1" F.S.	9
Deal, Joiner's . . . . ,, ,,	5
,, 2nds . . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . . ,, ,,	1 1
,, Cuban . . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . ,, ,,	4
Teak, Moulmein . . ,, ,,	1 3
,, Burma . . . ,, ,,	1 2
Walnut, American . . ,, ,,	2 3
,, French . . . ,, ,,	2 3
Whitewood, American . . ,, ,,	1 1
Deal floorings, ¾" . . Sq.	18 6
,, 1" . . ,,	1 1 6
,, 1¼" . . ,,	1 2 0
,, 1½" . . ,,	1 5 0
,, 1¾" . . ,,	1 10 0
Deal matchings ¾" . . ,,	14 0
,, 1" . . ,,	15 6
,, 1¼" . . ,,	1 4 0
Rough boarding ¾" . . ,,	16 0
,, 1" . . ,,	18 0
,, 1¼" . . ,,	1 6 0

Plywood, per ft. sup.

—Thickness	¼"			⅜"			½"			¾"		
Qualities	AA	A	B	AA	A	B	AA	A	B	AA	A	B
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
Birch.	4	3	2	5	4	3	7½	6	4½	8½	7	6
Alder.	3½	3	2	5	4	3	6½	5½	4½	8	7	6
Gaboon Mahogany	4	3	3	6½	5½	4½	9½	7½	–	1/0½	10	–
Figured Oak 1 side	8½	7	–	10	8	–	11½	–	–	1/6	–	–
Plain Oak . 1 side	6½	6	–	7½	7	–	9½	–	–	1/-	–	–
Oregon P.ne	5	4	–	5½	5	–	6	–	–	–	–	–

	d.
Scotch glue . . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:
(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	¼"	⅜"	½"	¾"	1"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
,, 3"-11½" long ,,	7	9	1/3	1/8	3/-
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3
,, ,, 3"M-½" long ,,	8	10	1/5	1/11	3/6
Bends . . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . ,,	2/-	3/-	5/6	6/9	10/-
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . . ,,	1/-	1/3	1/10	2/6	5/1
Crosses . . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/-	2/-
Flanges . . . . ,,	9	1/-	1/4	1/9	2/9
Caps . . . . ,,	3½	5	8	1/-	2/-
Backnuts . . . ,,	2	3	5	6	1/1
Iron main cocks . . ,,	1/6	2/3	4/2	5/4	11/6
,, ,, with brass plugs ,,	2/-	4/-	7/6	10/-	21/-

Discounts:

TUBES.	Per cent.		Per cent.
Gas . . .	65	Galvanized gas .	52½
Water . . .	61½	,, water	47½
Steam . . .	57½	,, steam	42½
FITTINGS.			
Gas . . .	57½	Galvanized gas	47½
Water . . .	52½	,, water	42½
Steam . . .	47½	,, steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ⅜" . . ,,	8 6
,, ,, ½" . . ,,	8 3
,, ,, ⅝" . . ,,	8 0
,, ,, ¾" . . ,,	7 6
,, ,, ⅞" . . ,,	7 6
,, ,, 1" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1½" . . ,,	7 6

Cast-iron rain-water pipes of ordinary thickness metal .	3" s. d.	4" s. d.
	F.R. 8	10
Shoes	each 2 0	3 0
Anti-splash shoes . .	,, 4 6	8 0
Boots	,, 3 0	4 0
Bends	,, 2 7	3 9
,, with access door . .	,, —	6 3
Heads	,, 4 9	5 0
Swan-necks up to 9" offsets .	,, 3 9	6 0
Plinth bends, 4½" to 6" .	,, 3 9	5 3
Half-round rain-water gutters of ordinary thickness metal .	F.R. 5	6
Stop ends	each 6	6
Angles	,, 1 7	1 11
Obtuse angles . . .	,, 2 0	2 6
Outlets	,, 1 9	2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	18 6
,, drawn pipes . . . ,,	17 0
,, soil pipe . . . . ,,	18 6
,, scrap . . . . ,,	10 6
Solder, plumbers' . . . lb.	9½
,, fine do. . . . ,,	1 0
Copper, sheet . . . . ,,	8½
,, tubes . . . . ,,	11

L.C.C. soil and waste pipes:	3" s. d.	4" s. d.	6" s. d.
Plain cast . .	F.R. 1 0	1 2	2 6
Coated . .	,, 1 1	1 3	2 8
Galvanized . .	,, 2 0	2 6	4 6
Holderbats . .	each 3 10	4 0	4 9
Bends . . .	,, 3 9	5 3	10 3
Shoes . . .	,, 2 10	4 4	9 6
Heads . . .	,, 4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . . per ton	2 5 0
Plaster, coarse . . . ,,	2 10 0
,, fine . . . ,,	4 15 0
Hydrated lime . . . ,,	3 0 9
Sirapite . . . . ,,	3 6 0
Keene's cement . . . ,,	5 0 0
Gothite Plaster . . . ,,	3 6 0
Thistle Plaster . . . ,,	3 6 0
Sand, washed . . . Y.C.	11 6
Hair . . . . lb.	6
Laths, sawn . . . bundle	2 4
,, rent . . . ,,	3 9
Lath nails . . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft.	s. F.S.	2½
,, ,, 26 oz. ,, ,, ,,	,,	3
Flemish, Arctic, Figured (white)*	,,	7
Blazoned glasses . . .	,,	2 6
Reeded; Cross Reeded	,,	11
Cathedral glass, white, double-rolled, plain, hammered, rimpled, waterwite		6½
Crown sheet glass (n/e 12 in. 1 10 in.)	,,	2 0
Flashed opals (white and coloured)	,, 1 0 and	2 0
⅛" rough cast; rolled plate .	,,	5½
¼" wired cast; wired rolled .	,,	9½
¼" Georgian wired cast. . .	,,	11
¼" Polished plate, n/e 1 ft. .	,, † 10 to ‡1	1
,, ,, 2 . .	,, †1 2 ,, ‡1	4
,, ,, 4 . .	,, †2 3 ,, ‡2	6
,, ,, 8 . .	,, †2 9 ,, ‡3	2
,, ,, 20 . .	,, †3 7 ,, ‡4	2
,, ,, 45 . .	,, †3 11 ,, ‡4	7
,, ,, 100 . .	,, †5 0 ,, ‡5	7
Vita glass, sheet, n/e 2 ft. .	,,	1 3
,, ,, over 2 .	,,	1 9
,, ,, plate, n/e 2 ft. .	,,	3 0
,, ,, ,, . .	,,	5 0
,, ,, 15 . .	,,	6 0
,, ,, over 15 . .	,,	7 6
"Calorex" sheet 21 oz., and 32 oz.	,, 2 6 and	3 6
,, rough cast ⅛" and ¼"	,, 8½ ,,	1 0
Putty, linseed oil . . . lb.		3

* *Colours*, 1d. *F.S. extra.*
†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s. d.
White lead in 1 cwt. casks . . cwt.	2 6 0
Linseed oil . . . . gall.	2 2½
Boiled oil . . . . ,,	2 4½
Turpentine . . . . ,,	4 1½
Patent knotting . . . ,,	14 0
Distemper, washable . . cwt.	2 6 0
,, ordinary . . ,,	2 0 0
Whitening . . . . ,,	4 0
Size, double . . . firkin	3 0
Copal varnish . . . gall.	13 0
Flat varnish . . . ,,	14 0
Outside varnish . . ,,	10 0
White enamel . . . ,,	1 15 0
Ready mixed paint . . ,,	13 6
Brunswick black . . ,,	7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR

		£ s. d.
Digging over surface n/e 12″ deep and cart away	Y.S.	2 9
,, to reduce levels n/e 5′ 0″ deep and cart away	Y.C.	8 6
,, to form basement n/e 5′ 0″ deep and cart away	,,	9 0
,, ,, 10′ 0″ deep and cart away	,,	9 6
,, ,, 15′ 0″ deep and cart away	,,	10 0
If in stiff clay	add ,,	6
If in underpinning	,,	4 0
Planking and strutting to sides of excavation	F.S.	1 0
,, ,, to pier holes	,,	5
,, ,, to trenches	,,	5
,, ,, extra, only if left in	,,	3
Hardcore, filled in and rammed	Y.C.	10 0
Portland cement concrete in foundations (6-1)	,,	1 6 0
,, ,, (4-2-1)	,,	1 12 6
,, ,, underpinning	,,	1 16 0
Finishing surface of concrete, spade face	Y.S.	7

DRAINLAYER

		4″ s. d.	6″ s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
,, ,, junctions	,,	3 9	4 6
Gullies and gratings	,,	16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER

	£ s. d.
Brickwork, Flettons in lime mortar	Per Rod 27 10 0
,, ,, in cement	,, 28 15 0
,, Stocks in cement	,, 35 0 0
,, Blues in cement	,, 52 0 0
Extra only for circular on plan	,, 2 0 0
,, backing to masonry	,, 1 10 0
,, raising on old walls	,, 2 0 0
,, underpinning	,, 5 10 0
Fair Face and pointing internally	F.S. 1½
Extra over fletton brickwork for picked stock facings and pointing	,, 8
,, ,, ,, red brick facings and pointing	,, 11
,, ,, ,, blue brick facing and pointing	,, 1 4
,, ,, ,, glazed brick facings and pointing	,, 3 6
Tuck pointing	,, 7½
Weather pointing in cement	,, 3
Slate dampcourse	,, 10
Vertical dampcourse	,, 1 1

ASPHALTER

	s. d.
½″ Horizontal dampcourse	Y.S. 4 6
½″ Vertical dampcourse	,, 6 9
½″ paving or flat	,, 4 0
1″ paving or flat	,, 5 6
1″ × 6″ skirting	F.R. 1 6
Angle fillet	,, 2
Rounded angle	,, 2
Cesspools	Each 5 0

MASON

	s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C. 17 9
Bath stone and do., all as last	,, 13 6
Artificial stone and do.	,, 13 0
York stone templates, fixed complete	,, 10 6
,, thresholds	,, 13 6
,, sills	,, 1 0 6

SLATER AND TILER

	£ s. d.
Slating, Bangor or equal, laid to a 3″ lap, and fixing with compo nails, 20″ × 10″	Sqr. 3 10 0
Do., 18″ × 9″	,, 3 7 0
Do., 24″ × 12″	,, 3 17 0
Westmorland slating, laid with diminished courses	,, 6 0 0
Tiling, best hand-made sand-faced, laid to a 4″ gauge, nailed every fourth course	,, 3 0 0
Do., all as last, but of machine-made tiles	,, 2 16 0
20″ × 10″ medium Old Delabole slating, laid to a 3″ lap (grey)	,, 4 6 0
,, ,, ,, ,, ,, ,, (green)	,, 4 15 0

CARPENTER AND JOINER

	£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr. 2 5 0
Shuttering to sides and soffits of beams	F.S. 8
,, to stanchions	,, 8
,, to staircases	,, 1 8
Fir and fixing in wall plates, lintols, etc.	F.C. 3 9
Fir framed in floors	,, 4 6
,, ,, roofs	,, 6 6
,, ,, trusses	,, 7 6
,, ,, partitions	,, 8 6
¾″ deal sawn boarding and fixing to joists	Sqr. 1 14 6
1″ ,, ,, ,, ,,	,, 1 17 6
1½″ ,, ,, ,, ,,	,, 2 3 0
4″ × 2″ fir battening for Countess slating	,, 9 6
Do. for 4″ gauge tiling	,, 12 0
Stout feather-edged tilting fillet	F.R. 4½
Patent inodorous felt, 1 ply	Y.S. 2 3
,, ,, ,, 2 ,,	,, 2 9
,, ,, ,, 3 ,,	,, 3 3
Stout herringbone strutting to 9″ joists	F.R. 10½
1″ deal gutter boards and bearers	F.S. 1 2
1½″ ,, ,, ,,	,, 1 6
2″ deal wrought rounded roll	F.R. 8
1″ deal grooved and tongued flooring, laid complete, including cleaning off	Sqr. 2 1 0
1¼″ do.	,, 2 10 0
1½″ do.	,, 2 17 0
1″ deal moulded skirting, fixed on, and including grounds plugged to wall	F.S. 1 6
1¼″ do.	,, 1 9

CARPENTER AND JOINER—*continued*

	s. d.
1½″ deal moulded sashes of average size	F.S. 1 9½
2″ ,, ,, ,, ,,	,, 1 11½
1½″ deal cased frames double hung, of 6″ × 3″ oak sills, 1¼″ pulley stiles, 1¼″ heads, 1″ inside and outside linings, ⅝″ parting beads, and with brass faced axle pulleys, etc., fixed complete	,, 3 7
2″ ,, ,, ,, ,,	,, 3 10
Extra only for moulded horns	Each 6
1½″ deal four-panel square, both sides, door	F.S. 2 0
2″ ,, ,, ,, ,,	,, 2 8
1½″ ,, but moulded both sides	,, 2 4
2″ ,, ,, ,, ,,	,, 3 0
4″ × 3″ deal, rebated and moulded frames	F.R. 1 0
4½″ × 3½″ ,, ,, ,,	,, 1 4
1½″ deal tongued and moulded window board, on and including deal bearers	F.S. 1 9
1½″ deal treads, 1″ risers in staircases, and tongued and grooved together on and including strong fir carriages	,, 2 6
1½″ deal moulded wall strings	,, 2 1
1½″ ,, outer strings	,, 2 4
Ends of treads and risers housed to string	Each 1 9
3″ × 2″ deal moulded handrail	F.R. 1 3
1″ × 1″ deal balusters and housing each end	Each 2 0
1½″ × 1½″ ,, ,, ,, ,,	,, 2 9
3″ × 3″ deal wrought framed newels	F.R. 1 3
Extra only for newel caps	Each 6 0
Do., pendants	,, 6 0

SMITH AND FOUNDER

	£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt. 15 6
Riveted plate or compound girders, and hoisting and fixing in position	,, 19 6
Do. stanchions with riveted caps and bases and do.	,, 19 0
Mild steel bar reinforcement, ½″ and up, bent and fixed complete	,, 17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S. 11
Wrot-iron caulked and cambered chimney bars	Per cwt. 1 10 0

PLUMBER

	£ s. d.
Milled lead and labour in flats	cwt. 1 12 0
Do. in flashings	,, 1 15 6
Do. in covering to turrets	,, 2 3 0
Do. in soakers	,, 1 7 6
Labour to welted edge	F.R. 3½
Open copper nailing	,, 3
Close ,, ,,	,, 4

	½″ s. d.	¾″ s. d.	1″ s. d.	1¼″ s. d.	2″ s. d.	4″ s. d.
Lead service pipe and fixing with pipe hooks F.R.	10	1 0	1 3	2 0	2 10	—
Do. soil pipe and fixing with cast lead tacks	—	—	—	—	—	5 6
Extra, only to bends Each	—	—	—	—	2 0	6 9
Do. to stop ends ,,	6½	8	9	11	1 0	—
Boiler screws and unions ,,	3 3	3 9	5 0	8 0	—	—
Lead traps ,,	—	—	—	6 3	8 9	—
Screw down bib valves ,,	6 9	9 6	11 0	—	—	—
Do. stop cocks ,,	7 0	9 6	12 6	—	—	—

	£ s. d.
4″ cast-iron ½-rd. gutter and fixing	F.R. 1 0
Extra, only stop ends	Each 1 0
Do. angles	,, 1 6
Do. outlets	,, 2 9
4″ dia. cast-iron rain-water pipe and fixing with ears cast on	F.R. 1 2
Extra, only for shoes	Each 1 3
Do. for plain heads	,, 5 6

PLASTERER AND TILING

	s. d.
Expanded metal lathing, small mesh	Y.S. 2 0
Do. in n/w to beams, stanchions, etc.	,, 2 9
Lathing with sawn laths to ceilings	,, 1 3
½″ screeding in Portland cement and sand for tiling, wood block floor, etc.	,, 1 5
Do. vertical	,, 1 7
Rough render on walls	,, 1 2½
Render, float and set in lime and hair	,, 1 9
Render and set in Sirapite	,, 1 11
Render, backing in cement and sand, and set in Keene's cement	,, 2 9
Extra, only if on lathing	,, 4
Keene's cement, angle and arris	F.R. 6
Arris	,, 1½
Rounded angle, small	,, 3
Plain cornices in plaster, including dubbing out, per 1″ girth	,, 1½
1″ granolithic pavings	Y.S. 3 6
1½″ ,, ,,	,, 4 6
6″ × 6″ white glazed wall tiling and fixing on prepared screed	,, 17 6
9″ × 3″ ,, ,, ,,	,, 1 2 6
Extra, only for small quadrant angle	F.R. 8

GLAZIER

	s. d.
21 oz. sheet glass and glazing with putty	F.S. 7½
26 oz. do and do.	,, 8½
Flemish, Arctic Figured (white) and glazing with putty	,, 1 1
Cathedral glass and do.	,, 1 2
Glazing only, British polished plate	,, 7
Extra, only if in beads	,, 2
Washleather	F.R. 4

PAINTER

	s. d.
Clearcolle and whiten ceilings	Y.S. 6
Do. and distemper walls	,, 9
Do. with washable distemper	,, 1 1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	,, 3 3
Do. on woodwork	,, 3 6
Do. on steelwork	,, 3 0
Do. and brush grain and twice varnish	,, 5 6
Stain and twice varnish woodwork	,, 1 11
Stain and wax-polish woodwork	,, 4 6
French polishing	F.S. 1 2
Stripping off old paper	Piece 2 0
Hanging ordinary paper	from ,, 2 9

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INFORMATION SHEET : SUN RANGE AND ALTITUDE DIAGRAMS.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1

Supplement to THE ARCHITECTS' JOURNAL for October 11, 1934

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INFORMATION SHEET

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ASPECT

THE upper figure, overleaf, shows the maximum sunshine obtainable during the year in the latitude of London. It gives the times and orientations of the periods during which

(1) The sun shines all the year round;
(2) The sun shines at morning or evening only, and
(3) There is no sun.

This diagram gives the *maximum* sun to be expected under perfect conditions, but in practice the total amount of sunshine actually *recorded* over a 35 year period does not amount to more than 27 per cent. of these figures. The outer section of the diagram gives the desirable aspects for various rooms in a private dwelling, though these aspects can seldom be obtained for all rooms in any particular house.

South of London the "sunless" and "sun all the year round" periods are increased; to the *North* of London they are decreased, depending on the earliest and latest times at which the sun rises and sets.

The lower diagram shows the varying altitudes of the sun at midday from January to December, and may be usefully employed when considering light wells, the amount of sunshine cut off by tall buildings or the lay-out of sloping sites.

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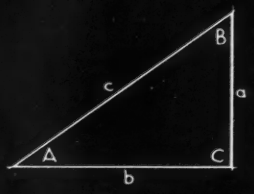

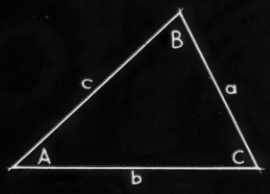

$$S = \frac{a+b+c}{2}$$

Given	Sought	Formulae
RIGHT-ANGLED TRIANGLES		
a, c	A, B, b	$\sin A = \frac{a}{c}$, $\cos B = \frac{a}{c}$, $b = \sqrt{c^2 - a^2}$
	Area	Area $= \frac{a}{2}\sqrt{c^2 - a^2}$
a, b	A, B, c	$\tan A = \frac{a}{b}$, $\tan B = \frac{b}{a}$, $c = \sqrt{a^2 + b^2}$
	Area	Area $= \frac{ab}{2}$
A, a	B, b, c	$B = 90° - A$, $b = a \cot A$, $c = \frac{a}{\sin A}$
	Area	Area $= \frac{a^2 \cot A}{2}$
A, b	B, a, c	$B = 90° - A$, $a = b \tan A$, $c = \frac{b}{\cos A}$
	Area	Area $= \frac{b^2 \tan A}{2}$
A, c	B, a, b	$B = 90° - A$, $a = c \sin A$, $b = c \cos A$
	Area	Area $= \frac{c^2 \sin A \cos A}{2}$ or $\frac{c^2 \sin 2A}{4}$
OBLIQUE-ANGLED TRIANGLES		
a, b, c	A	$\sin \frac{1}{2}A = \sqrt{\frac{(s-b)(s-c)}{bc}}$, $\cos \frac{1}{2}A = \sqrt{\frac{s(s-a)}{bc}}$, $\tan \frac{1}{2}A = \sqrt{\frac{(s-b)(s-c)}{s(s-a)}}$
	B	$\sin \frac{1}{2}B = \sqrt{\frac{(s-a)(s-c)}{ac}}$, $\cos \frac{1}{2}B = \sqrt{\frac{s(s-b)}{ac}}$, $\tan \frac{1}{2}B = \sqrt{\frac{(s-a)(s-c)}{s(s-b)}}$
	C	$\sin \frac{1}{2}C = \sqrt{\frac{(s-a)(s-b)}{ab}}$, $\cos \frac{1}{2}C = \sqrt{\frac{s(s-c)}{ab}}$, $\tan \frac{1}{2}C = \sqrt{\frac{(s-a)(s-b)}{s(s-c)}}$
	Area	Area $= \sqrt{s(s-a)(s-b)(s-c)}$
a, A, B	b, c	$b = \frac{a \sin B}{\sin A}$ $c = \frac{a \sin C}{\sin A} = \frac{a \sin (A+B)}{\sin A}$
	Area	Area $= \frac{1}{2} a b \sin C = \frac{a^2 \sin B \sin C}{2 \sin A}$
a, b, A	B	$\sin B = \frac{b \sin A}{a}$
	c	$c = \frac{a \sin C}{\sin A} = \frac{b \sin C}{\sin B} = \sqrt{a^2 + b^2 - 2ab \cos C}$
	Area	Area $= \frac{1}{2} a b \sin C$
a, b, C	A	$\tan A = \frac{a \sin C}{b - a \cos C}$, $\tan \frac{1}{2}(A-B) = \frac{a-b}{a+b} \cot \frac{1}{2}C$
	c	$c = \sqrt{a^2 + b^2 - 2ab \cos C} = \frac{a \sin C}{\sin A}$
	Area	Area $= \frac{1}{2} ab \sin C$

$a^2 = b^2 + c^2 - 2bc \cos A$, $b^2 = a^2 + c^2 - 2ac \cos B$, $c^2 = a^2 + b^2 - 2ab \cos C$.

INFORMATION SHEET: TRIGONOMETRIC SOLUTION OF TRIANGLES.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS, ONE MONTAGUE PLACE BEDFORD SQUARE LONDON. W.C.1.

Supplement to THE ARCHITECTS' JOURNAL for October 11, 1934

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

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TRIGONOMETRICAL FORMULÆ

THIS Sheet gives various trigonometrical formulæ for the solution of right and oblique-angled triangles. Only those formulæ likely to be required for relatively simple calculations have been included and no attempt has been made to employ the more elaborate formulæ and equations, which, though simplifying occasional calculations, would not be used often enough to justify their inclusion.

OPENED LAST THURSDAY

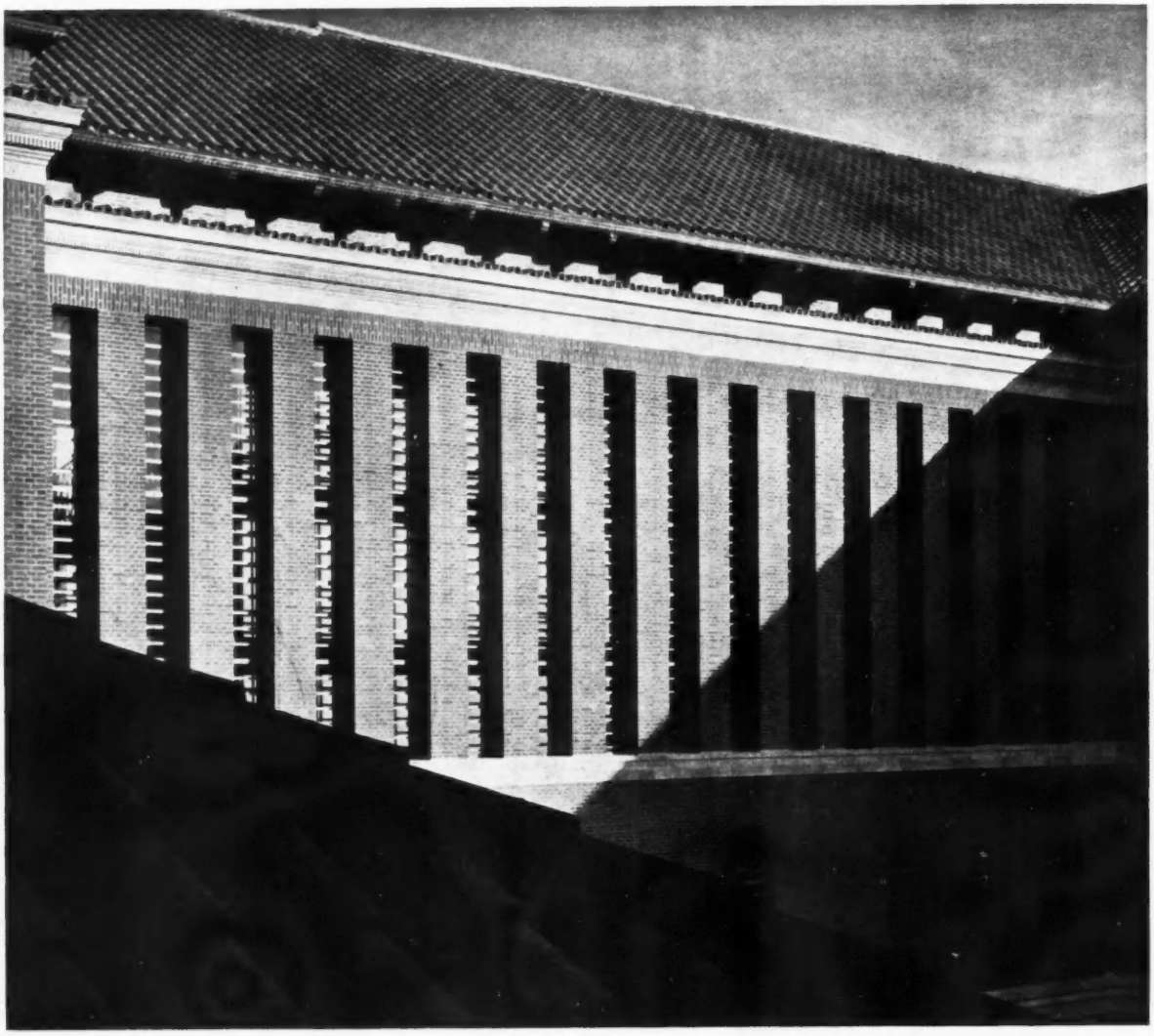
FLATS IN NORTH KENSINGTON

S. W. NEWBERY

PRINCESS Alice House, the new five-storey block of flats erected by the Kensington Housing Trust, in Dalgarno Gardens, North Kensington, was opened on October 11 by Princess Alice Countess of Athlone.

The building, which was erected at a cost of £36,000, contains 6 five-room flats; 48 four-room flats; 23 three-room flats; and 4 two-room flats—making a total of 81 flats. The rents, which include rates and charge for constant hot water, are as follows: five-room flats, 14/- and 18/- per week; four-room flats, 12/- and 13/- per week; three-room flats, 10/- and 10/9 per week; two-room flats, 7/6 and 8/- per week.

The architect is Mr. Duncan Hendry.

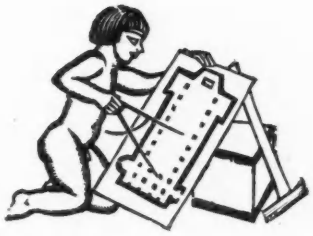


DELL AND WAINWRIGHT

UNIVERSITY LIBRARY, CAMBRIDGE

The new University Library at Cambridge is officially to be opened by H.M. the King on Monday, October 22. The building, for which Sir Giles Gilbert Scott, R.A., is the architect, was erected at a cost of approximately £350,000.

Above is a view looking across one of the two internal courtyards; further photographs are reproduced on pages 559–568 of this issue.



INDUSTRIAL DESIGN: A NEW EXHIBITION

WHEN one examines the catalogue of any of the numerous exhibitions of design from the Great Exhibition of 1851 onwards an invariable characteristic appears to be the absolute conviction that is expressed in every case that here at last are revealed the true standards of design that previous generations have somehow stupidly failed to appreciate. In each successive exhibition the organizers have confidently asserted the arrival of the millennium—permanent and indisputable, and it is only when all the exhibitions are looked back upon, and it is found that the only quality most of their products have preserved is the quaintness belonging to a "period-piece," that the absurdity of this continually renewed declaration of ultimate achievement becomes apparent.

These exhibitions are continued up to the present day and one sometimes has misgivings as to whether we, who also claim to be establishing at last the true bases of good design, are not also guilty of setting up as a permanent standard what is only the measure of contemporary taste: whether ours also shall not one day have to take its place among the peculiar periods that perversely missed what to a subsequent generation may seem the only reasonable approach to design.

The language in which our conviction of rightness is expressed is disturbingly reminiscent of that in which the products of 1851, of William Morris in the sixties and seventies and of *art nouveau* in the early nineteen-hundreds were all equally enthusiastically extolled. What difference, then, can we find in contemporary exhibitions that will enable us to believe, as believe we must if there is to be sincerity behind the work we do, that we really have a more than eclectic contribution to make to the progress of design: that the modern movement in design is based on something more permanent and more valuable than the mere pleasing of contemporary taste: that we *have* at last found the rational basis on which our idea of things must rest, a basis which shall remain when our tentative efforts at putting the idea into practice have been overshadowed by the more confident achievements of later generations.

These observations are occasioned by the opening this week of another exhibition of industrial design. This is at Dorland Hall in Lower Regent Street, London. It is called the *1934 Contemporary Industrial Design Exhibition*, and is intended to continue the work of the very successful exhibition that was held in the same hall sixteen months ago.

The most hopeful sign that these exhibitions do represent a real advance in design and help to encourage an enlightened approach to the subject that will be of permanent value is contained quite obviously in the word "industrial." The weakness of earlier exhibitions of this sort has been that the exhibits were for the most part single objects, personally designed as isolated works rather than as general standards; appealing in price only to those likely already to possess some cultivated standards and having little influence (except perhaps as examples to be copied in cheap materials for snobbish reasons) on the general low level of "trade" production. Directly, however, mass-production is accepted as a method to be taken advantage of rather than escaped from, the exhibition becomes an immense potential influence for good. Goods are designed in the materials of industry for the technique of industry, instead of being designed in the archaic materials of hand-craftsmanship that the industrialist can afford only to imitate in a cheaper material, thereby destroying the functional basis of the original and making the common object a meaningless parody. Spurious expensiveness was indeed the greatest curse of Victorian and Edwardian and is of much Georgian design.

The extent, therefore, to which the new exhibition has followed this pragmatic principle will be the extent to which it will have any constructive contemporary value. The lesson of the last one was spoiled in places by the introduction of individual "set-pieces," presumably for publicity reasons, which, though often entertaining in themselves, can only have served to give the general public a wrong idea of the meaning of modern design. Modern design is not having enough money to use unexpected materials for expensive stunts, but having the sense to use the expected materials in a natural, economical way. When that lesson has been thoroughly learnt it will be time to experiment with fancies and ingenuities we know our designers to be capable of.

The preliminary announcement of the new exhibition indicates that that fault in the last has been successfully eliminated; and its secondary title, "5 designs for living," reveals a preoccupation with essential principles which promises well for its effect on public and producer. The sections into which the main part of it is divided: five living rooms by five designers, five bedrooms by five designers, five bathrooms in glass, bakelite, enamel, tiles and rubber, five kitchens for gas, oil, solid fuel, "minimum electricity" and electricity as it may be utilized in the future and five offices, all point in the excellent direction of the widest possible public application. The all-electric house is indeed an improvement on the all-glass bedroom.

The exhibition opens to the public today and we are confident the public will find it as real a contribution to the problems of contemporary design as the last, with the addition of such authority as a year's study of the subject has produced.

The Architects' Journal
Westminster, S.W.1
Telephones: Victoria
9212-7
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Part
London

NOTES & TOPICS

EXHIBITION

DORLAND HALL Exhibition, or, to give it its full title, The 1934 Contemporary Industrial Design Exhibition, opens today.

*

"Although," as the catalogue says, "the implications of the Exhibition are serious enough, it is hoped that some of the gaiety and freshness of original design will be brought out by the ensembles exhibited there."

*

I have been wandering round the unfinished stands earlier this week and so far as I can tell the gaiety and freshness will be there. It will be all of a piece—which is the keynote of success in an exhibition, and if I am the sort of fellow who finds it hard to believe that contemporary life and modern architecture give opportunity for quite as many curving walls and circular rooms as I found there, I admit I am often in a minority.

*

Again I find myself wincing a trifle when I find that the approaches to the contemporary house are featured as tennis, golf, fishin', huntin' and shootin'. Not my house. Nor yet the houses of the majority of good people. But let that pass. Here comes this exhibition of genuine collaboration of designers and manufacturers to show us that we are at last beginning to understand the nature of such things.

WATERLOO BRIDGE

Sir Giles Gilbert Scott's final design for Waterloo Bridge strikes me as being a poor thing—thankful, as I am, that the mediæval pylons have been shorn away, and that we shall not have to suffer the girder road spans of the earlier design.

*

I still find in this design every sign of compromise and little of the true vigour that can only arise from complete confidence in one's material and in the logic of its employment.

*

Sir Owen Williams is surely right when he damns the shallow arch as an expensive and illusory form for adoption in reinforced concrete design, and one can agree wholeheartedly (for once) with Sir Reginald Blomfield in wishing the stone veneer removed.

*

Students of architecture should study carefully the junction of the arches with the piers, and the bridge with its abutment. These are the testing points in modern bridge design.

SWEDEN FOLLOWS BOND STREET

On the 23rd of this month the Swedish Building Centre opens. I hear that the Swedish Government itself is behind the venture. It recently sent over an emissary to study the methods adopted in our own Building Centre in Bond Street, and on his findings the affair has been based.

*

It may surprise people here to find such action taken by a government; in this country only private initiative and perseverance could launch it. It may also surprise those who doubted the practicability of the English one to learn that the system to be adopted in Stockholm is virtually identical with ours. It is, in fact, a tribute to some measure of success.

FLATS IN NORTH KENSINGTON

Princess Alice House, a block of 80 flats built by the Kensington Housing Trust, marks a further stage towards the establishment of low-rental dwellings. Flats in this block cost from 18s. per week for a five-room flat to 7s. 6d. per week for a two-room flat, rates and constant hot water being provided.

*

It is quite true that the land was nearly given by the Kensington Borough Council and that a government subsidy was accepted.

*

These rentals are none the less an achievement, especially when one realizes that the flats are particularly well equipped, and will be cared for by a particularly zealous Housing Trust.

THE P.M.G. AND SLUM

Meanwhile, something will happen to the slum clearance movement as a whole, one hopes.

*

There is talk of the possible transference to the Ministry of Health of Sir Kingsley Wood, the P.M.G. I wonder whether he will put up with the present cock-eyed system of clearing the slums via local authorities.

*

If he does I should have no great hopes of relief were Sir Kingsley Wood the biggest man on earth.

AUTUMN MESSAGE

Now that we are back to the long dark evenings again, there is some time for thought and reflection. The manu-

St. Andrew's Church, Kingsbury, which was reconsecrated on October 13 by the Bishop of London. The Church was removed from its site in Wells Street, W.1, and re-erected at Kingsbury, under the direction of Mr. W. A. Forsyth.

facturing community could not choose a better theme than the effect of reduced prices on telephone sales.

*

For years we have been assured that the prices of calls could not be economically reduced, and I have no doubt that the old policy of carefulness was supported by the welter of figures which have replied to every attempt at improvement.

*

The advent of Sir Kingsley Wood to St. Martins-le-Grand put several cats among the pigeons. To permanent officials he appears something of a cad—he won't observe the rules. He courageously decides to take charge and *tells* the staff instead of *asking* it. He overrides long experience with new organization.

*

There are all sorts of manufacturing firms in this country which would be the better, not only in themselves, but as members of society—if they had an attitude of mind similar to that of the P.M.G.

*

I have no doubt I shall be told that the staggering increase of the number of trunk calls during the first week of the reduced rate was due really to jubilation and urge to use the novelty. Well, that may be so, and even if it is my point is none the less true. Let us wait, therefore, and examine the matter again, say in six months' time. Meanwhile let the manufacturers and traders ponder upon the common-sense ethics of the adventure. Who knows but what there may be a leaf to take from the G.P.O. book?

A MOSQUE IN THE MALL?

I am sorry to reintroduce Carlton House Terrace; but I hear that there may be a mosque there before very long. Personally, I do not think it very likely; but, according to a Sunday paper, the famous vista of The Mall "may be completely changed when the new mosque is completed."

*

If the mosque were completed (or even begun) the famous vista *would* be completely changed.

*

"The glittering white marble structure, with green copper domes, graceful minarets, filigree gates and beautiful fountains, will rise somewhere in St. James's. A site in the exclusive Carlton House Terrace has been under consideration, and other sites near Buckingham Palace have been examined and debated."

*

One really ought to see the "architect's drawing of the new mosque as it will look when finished." Meanwhile, I am under the impression that (so far as Carlton House Terrace is concerned) "exclusive" is the operative word.

*

What specially interests me is that somebody has either failed to read what I have been painstakingly writing for many months or else has wantonly disregarded every bit of it. Here is a design quite ably (as far as I can see) worked out and presented; a nice couple of domes, a minaret, and nowhere to put them!

*

Now, short of Carlton House Terrace, where in all Saint James's, I wonder, could we find a nice place . . .? Or could we think again and find the site first?

DAYLIGHT ON "HISTORIC BUILDINGS"

The periodic outcry has broken out again over the piecemeal removal of historic buildings to America and other places. I am bound to admit that I have felt uncomfortable about it myself on occasion, though such things can easily be, and most usually are, richly overdone.

*

In *The Daily Telegraph* of Monday appeared, curiously enough, two independent letters which gave me some comfort and much heart searching. The public consciousness, goaded sharply enough, awakes, and rises far above the usual mawkish urge for "preservation at all costs."

*

The theory of the two writers is that, as we in this country evidently care so little for our masterpieces of building, it is well that they should be sent to America where they will receive their proper measure of appreciation and attention.

*

I could wax quite philosophical on this point. I could applaud it as one means of undermining the worship of the "old" rather than of the "good." I could hope that in that attitude of mind lay the key to a sane and proper form of reconstruction of the whole social system. But, because I am in no mood to be controversial, I merely think it to be a very intelligent argument.

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

Flats in Princess Alice House, Kensington, cost from 18s. per week for a five-room flat to 7s. 6d. per week for a two-room flat, including rates and charge for constant hot water 555

"No architect today can earn his living unless he is a complete modernist" 556

The proposed new Waterloo Bridge is estimated to cost £1,195,000 557

"Though there are plenty of good modern inns, there are still far too many which are either idiotic fakes or offensively 'slick' and smart." 570

THE ARCHITECTS' DIARY

Thursday, October 18

R.I.B.A. *Architects' Unemployment Committee. At 7, Bedford Square, W.C.1. Exhibition of work done under the Architects' Emergency Scheme. Open until further notice.*

1934 CONTEMPORARY INDUSTRIAL DESIGN EXHIBITION. *At Dorland Hall, Regent Street, W.1. Until November 10.*

Friday, October 19

LONDON SOCIETY. *At the Royal Society of Arts, 18, John Street, W.C.2. "No Needless Noise." By Sir Henry Fowler, K.B.E., LL.D., D.Sc.* 5 p.m.

Saturday, October 20

ARCHITECTURAL ASSOCIATION. *At 36, Bedford Square, W.C.1. "Building England—the Village." By the Hon. Humphrey Pakington, F.R.I.B.A., A.A. Dip.* 3 p.m.

Monday, October 22

STORRAN GALLERY, 106, *Brompton Road, S.W. Exhibition of Bainbridge Copnall's working drawings of his sculptures on the new R.I.B.A. Building. Last day.*

Wednesday, October 24

L.C.C. CENTRAL SCHOOL OF ARTS AND CRAFTS. *At Southampton Row, W.C.1. "History of Architecture: IV. Italian Renaissance 2. By Sir Banister Fletcher, M.Arch., F.S.A., P.P.R.I.B.A.* 6 p.m.

LONDON SOCIETY. *Visit to Lafarge Cement Works at West Thurrock, Essex. By motor coach at 1.45 from Charing Cross Embankment Station.*

SLUM

Accommodation to rehouse slum dwellers during the last five months has been provided under the 1930 Housing Act at the rate of 1,427 houses per month, states the Special Committee for Public Relations of the Building Industries National Council, in a review of progress, recently issued.

In September, 1933, the Special Committee continue, the Minister of Health put forward his plan for providing 285,189 houses to replace the slums in five years. The first six months of the scheme provided 5,654 houses—an average of 942 per month—as compared with 3,377 during the preceding six months—an average of 563 per month. During the five months March-August the total for the previous six months had already been exceeded, 7,135 houses being built—an average of 1,427 per month.

Actual monthly figures are :—

April	..	1,305	houses completed.
May	..	1,275	,, ,,
June	..	1,377	,, ,,
July	..	1,545	,, ,,
August	..	1,633	,, ,,

While the total for the first year will, naturally, be less than for succeeding years, doubts are expressed in many quarters as to whether a sufficiently high rate of building can be attained quickly enough to ensure that all the schemes will be completed in five years.

The completion of the plan requires an average rate of building of 57,000 houses a year under the Act. The total for the first eleven months is 12,789. It seems possible that 15,000 houses will be built in the first year of the scheme, but even so 270,000 remain to be completed in the next four years—an average rate of 65,000 a year or four times the rate in the first year. If the houses completed during the second year of the plan are treble the first year's total 225,000 houses must be built during the remaining three years of the plan—an average of 75,000 a year.

The Committee also point out that, contrary to a belief expressed in many quarters, slum clearance schemes do not provide for the building industry a large and totally new source of demand. While building under slum clearance schemes increased from 1,305 houses in April to 1,633 in August the total number of houses for lower-paid workers built with State assistance (including those built for slum replacement) declined from 5,598 to 1,663.

Actual monthly totals of all houses built with State assistance are :—

April	..	5,598	houses completed.
May	..	4,739	,, ,,
June	..	4,744	,, ,,
July	..	1,594	,, ,,
August	..	1,663	,, ,,

LIVERPOOL ARCHITECTURAL SOCIETY

On October 17, Lt.-Col. Ernest Gee, F.R.I.B.A., gave his presidential address at the season's first meeting of the Liverpool Architectural Society. He said :

"I would like to see a group of young and enthusiastic architects specializing in laying out estates and designing small houses. There is a great future for this and I believe this work is only done by builders because they cannot get the necessary help.

"The science of building has made enormous strides during recent years. An architect is expected to know the law of properties and building contracts, have a thorough knowledge and experience of the ever-changing building materials, be an expert constructionalist and planner, and know all the intricacies of the vast problem of modern services. He is supposed to be a tactician, an accountant, a surveyor, a humorist, and above all, to produce beautiful buildings. He must know the fundaments in order to co-ordinate and direct the whole.

"Is the architect being trained on these lines? I doubt it, and if I may be permitted to give a little advice I would say—'Give up this battle of the styles: beauty of building is the birth-right of every age.' We have heard and read a good deal lately about functionalism, which, presumably, is a word coined to define so-called modern architecture, and no architect is supposed to be a modernist unless he expresses himself in this wonderful style. No architect today can earn his living unless he is a complete modernist."

MANCHESTER SOCIETY OF ARCHITECTS

Mr. J. R. Adamson, F.R.I.B.A., in his presidential address to the Manchester Society, said that once again we appeared to be upon the threshold of a new epoch. New ideas, new materials, new forms of construction, and the improved and extended use of the machine had engendered a spirit of restlessness evident in all design. These tendencies seemed to be leading away from the past and its lessons. In architecture an informed study and understanding of the past tended—or so one felt—to diminish. It seemed that students devoted less time to it; and sketching measuring, recording, and cultivating an appreciation of the features and spirit of great buildings of the past had almost gone.

"We have a great architectural tradition," he continued. "In our enthusiasm for new forms and new modes of expression let us not forget the trials and tribulations, the struggles, the failures, and the many successes of our predecessors—in fact, the accumulated experience of man's expression of himself in building. Let us make an improved and understanding grasp of this experience; let our most revolutionary attempts in design—if we must make them—be arrived at by a definite and conscious discarding of parts of a known, and yet a well-loved and understood, tradition and not by the uninformed strivings of a mind ill equipped and without vocabulary or power of expression."

The study of the past could give not only grace and scholarship in the work of to-day and to-morrow but would seem to provide conditions necessary before any work could emerge from the stage of varied experiment into coherence and a character worthy of the country and time.

GLASGOW HOUSING AND HEALTH EXHIBITION

The Glasgow Housing and Health Exhibition was opened in the Kelvin Hall last week by Lord Provost A. B. Swan.

Before he declared the exhibition open until October 27, the Lord Provost said that in the past Glasgow had had many stones cast at her because of her housing conditions. But the Housing Committee had been as energetic as any similar body in trying to accommodate the people.

He knew it had been said that the houses were all of a sameness—a sameness that was almost sordid in its character. The Corporation had to work within certain limits of cost and provide as many houses as possible. Under the various Housing Acts 36,000 houses had been built by the Corporation, and with the help of the Corporation 46,488 houses had been built up to August 31, 1934.

WATERLOO BRIDGE

The Highways Committee of the London County Council decided last week to recommend the Council to adopt a new design for Waterloo Bridge. On this page are reproduced two drawings of the proposed bridge and Sir Giles Gilbert Scott's original design, which was estimated to cost £1,295,000.

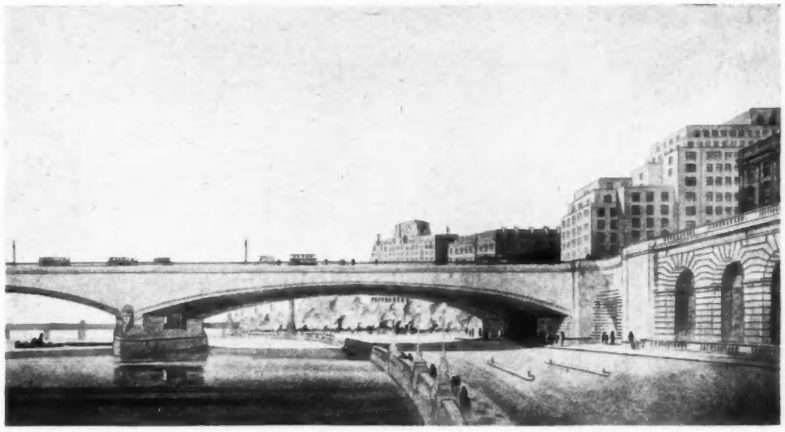
Following are some extracts from a statement issued by the Highways Committee :

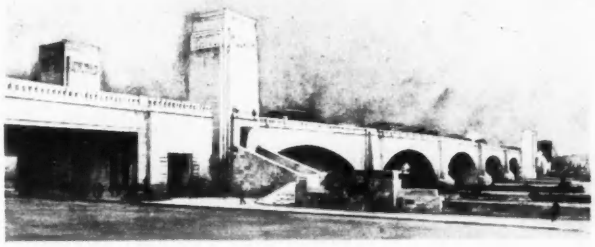
"The Highways Committee of the London County Council have decided to recommend to the Council the adoption of a new design submitted by the Council's appointed engineers and Sir Giles Gilbert Scott in collaboration, for a bridge with five equal arches.

"This new design is a conception whose great appeal lies in its grace and straightforward simplicity, with five wide arches springing from shore to shore, the first stretching right over the embankment out into the river. High, relatively flat arches, which seem to skim the tops of the piers, give a very light and delicate effect to the bridge, which can claim a special æsthetic quality of its own. The springing of the initial arch from the northern shore would open up the embankment in an extraordinary manner. Although the Victoria Embankment is an important thoroughfare, its attractive character is that of a riverside drive, with low parapet, wide pavement, seats, trees and a view of a curving river of which few capitals can boast.

"The Committee feel that anything that can be done to open up the view of the curving Thames, with its moving craft, between Blackfriars and Westminster is to the good, and this is one of the advantages to be gained by making the bridge spring from the old river bank instead of from the edge of the low-level embankment. Moreover, the reduction of the screening effect of a bridge at this site, particularly on distant views, afforded by the comparative slenderness of the new design is a point greatly in its favour. On the Surrey side the terminal span is complete in itself from the outset and, although lending itself to the construction of a future embankment, is in no way dependent on it. All the advantages to river traffic which accrue from a bridge with not more than five arches are afforded by the recommended design. The spacious arches of 230 ft. span, as against 120 ft. in the case of old Waterloo Bridge, spring high from the piers and afford ample fairway for vessels even in the cross-currents arising from the curve of the river at this point. From a navigational point of view, the Port of London Authority and the river users are satisfied with a bridge of the type proposed, which makes available the working waterway of the river in a highly favourable manner. The Committee believe that the bridge, with its flat table and clean simple lines, will blend harmoniously with both the old and the new in its surroundings. It will be seen that Sir Giles Gilbert Scott has retained the twin-arch effect which gave an individual character to his previous design, and the materials of construction proposed are the same, being granite-faced concrete for the piers, reinforced concrete spans, and Portland stone facing. As far as cost is concerned, the Committee are advised that the type of bridge they recommend will cost at least £100,000 less than a bridge of the more elaborate design previously contemplated."

PROPOSED NEW WATERLOO BRIDGE





Above : Two drawings of the proposed new Waterloo Bridge ; right, Sir Giles Gilbert Scott's original design. See note on this page.

SIR EDWIN LUTYENS ON THE MODERN HOUSE

Sir Edwin L. Lutyens, R.A., in his presidential address to the Wigan Education Society last week, said : "In the spring of this year the Prime Minister spoke of the beautiful houses the Government was about to build for the people, and prophesied they would be more than houses—they would be homes. One cannot imagine the possibility of a modern house built under

present economic pressure ever creating a home. A home is ess ntially a building that wears with grace, and without the creation of disintegrating dust by the azing and cracking of its surface.

"The modern house is but a sardin°-tin to a garden basket of old, though I must own that the sardines in their tins look thoroughly at home until disturbed, and perhaps it is the tight tidines of sardines that gives engineers and modern architects the promise of a promised land.

MANCHESTER HOUSING PUSH

During 1934 nearly 4,000 additional houses were built in the city of Manchester. The Manchester Corporation now propose to embark on another big housing push which will involve the expenditure of nearly £450,000. The plans provide for 914 houses, costing £350,920, and 204 flats at a cost of £98,000.

SOUTH WALES INSTITUTE OF ARCHITECTS

Under the auspices of the South Wales Institute of Architects (Central Branch) and the Institute of Builders (South Wales Branch), a lantern lecture entitled "Italy —Old and New" was given at the Engineers' Institute, Park Place, Cardiff, on October 4, by Mr. F. R. Yerbury, HON. A.R.I.B.A. Mr. J. Williamson, A.R.I.B.A., presided.

Mr. Yerbury's lecture, which was illustrated by lantern slides, dealt mainly with the buildings of Milan, Florence and Rome, representative examples being shown of Classic, Renaissance and modern structures.

A vote of thanks to the lecturer was proposed and seconded by Mr. Percy Thomas and Mr. W. S. Purchon, respectively.

WELSH SCHOOL OF ARCHITECTURE

The students and staff of the Welsh School of Architecture paid a visit, on October 3, to Queen Anne Square, Cathays Park, Cardiff.

Captain J. J. Williams, F.S.I., F.L.A.S., Land Agent to Lord Bute, and Mr. Howard Williams, A.R.I.B.A., architect to the scheme, explained the lay-out and the design of the entrance gates and houses.

AN ARCHITECT'S WILL

Mr. Albert Nelson Bromley, F.R.I.B.A., of Nottingham, left estate of the gross value of £63,359 (net personalty £55,158). He left £300 to the Nottingham and Derby Architectural Society for one annual prize for the best architectural design, to be competed for by the students of the Society.

R. I. B. A.

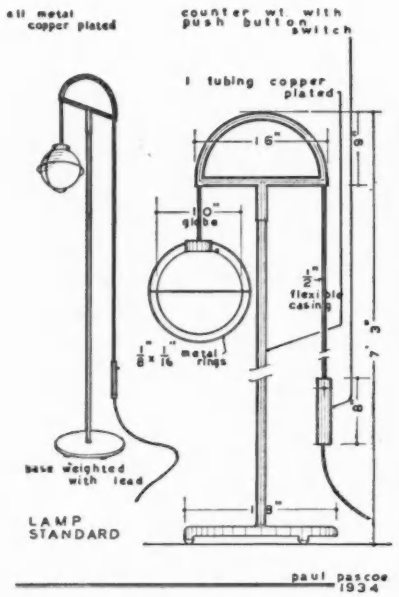
SESSIONAL MEETINGS

Following is a list of the sessional meetings to be held at the R.I.B.A., 66 Portland Place, W.1, at 8 p.m., unless otherwise stated.

December 3, 1934: "John Nash," by John N. Summerson, B.A.ARCH.(LOND.), A.R.I.B.A. December 17: "Modern Church Architecture," by Edward Maufe, M.A.(OXON), F.R.I.B.A.; presentation of the London Architecture Medal, 1933, to Messrs. Welch, Cachemaille-Day and Lander, F. and AA.R.I.B.A. January 14, 1935: Award of Prizes and Studentships. Criticism by Edward Maufe, M.A.(OXON), F.R.I.B.A., on works submitted for the Prizes and Studentships. January 28: 8.30 p.m. Presentation of medals and prizes by the President. Address to students by A. H. Moberly, M.A.(CANTAB.), F.R.I.B.A., Chairman of the Board of Architectural Education. February 11: "The Planning of Municipal Buildings," by Percy E. Thomas, O.B.E., F.R.I.B.A. February 25: Social evening arranged by the Social Committee. March 11: "The Exhibition of Industrial Art at the Royal Academy," by J. Spedan Lewis and John de la Valette. March 25: "The Work of Messrs. Smith and Brewer," by Henry M. Fletcher, M.A.(CANTAB.), F.R.I.B.A. April 15: 8.30 p.m. Presentation of the Royal Gold Medal. April 29: Social evening, arranged by the Social Committee. May 13: One hundred and first annual general meeting. Discussion of annual report. June 24: Announcement of results of annual elections of Council and Standing Committees. Informal discussions on matters of professional interest.

R.I.B.A. OFFICE

The R.I.B.A. Office will be transferred to the new headquarters in Portland Place, W.1, on Monday, October 22. All communications should be addressed to 66 Portland Place on and after this date. The telephone numbers will be Welbeck 5721-4.



From the Assistant Controller's Room, Broadcasting House, London. Designer: Raymond McGrath.

COMPETITION NEWS

SWIMMING BATH FOR SCARBOROUGH

At a special meeting of the Baths Committee of the Scarborough Corporation consideration was given to the question of the provision of swimming baths, slipper baths, etc. The Committee decided to recommend the Council to invite competitive designs for the lay-out of a comprehensive scheme to include all corporate land and property in or in the vicinity of the Crescent, the aquarium baths and the gala land, such scheme to include the provision of a swimming bath, winter gardens, beach and sun bathing, and such other facilities as might, in the opinion of the Council, be desirable.

Competitions Open

No date.—Proposed Public Offices, Bridge Road, Welwyn Garden City, for the Welwyn Garden City U.D.C. (open to architects of British nationality). Assessor: C. H. James, F.R.I.B.A. Premiums: £75, £35 and £25, for designs placed first, second and third, respectively. Conditions, etc., obtainable from B. H. Deamer, Clerk to the Council, Council Offices, Bridge Road, Welwyn Garden City (deposit £1 1s.).

July 31, 1935.—Competition for designs for open fireplaces and surrounds (to be constructed in any materials the competitor deems practical or desirable) for the Coal Utilization Council. Assessors: the Directors of the Building Centre. Premiums: 50 guineas, 20 guineas and 10 guineas for designs placed first, second and third, respectively. Conditions, etc., are obtainable from the Coal Utilization Council, Columbia House, Aldwych, W.C. (The closing date for this competition has been extended; see note on page 580.)

No date.—Proposed new public elementary school, Coventry, for the City of Coventry Local Education Authority (open to registered architects who, on August 1, were residing or practising in the City of Coventry). Assessor: A. C. Bunch, F.R.I.B.A. Premiums: £100, £50 and £30 for designs placed first, second and third respectively.

(For Competitions Pending, see page 521 of last week's issue).

THIS ARSHETECTURE

TUDOR ESTATE NEAR FAMOUS BEAUTY SPOT

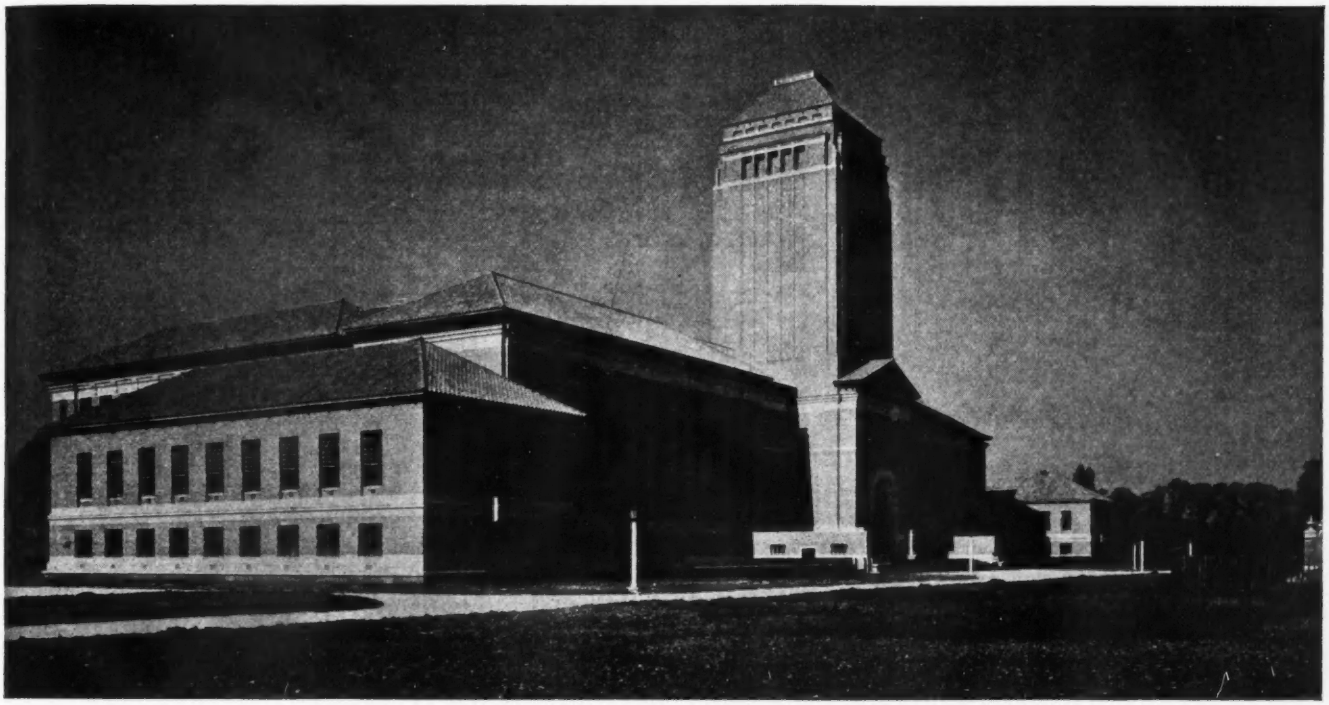
Everyone has heard of the glories of Richmond Park—every Londoner has spent joy-filled hours wandering over those broad acres of heath and romantic woodland.

In this historic locality it is fitting that the architecture should be of the historic Tudor design. Everywhere the Estate reveals picturesque gabled houses, with half-timbered fronts, lattice windows and massy beams, reminiscent of the beauty of places which are still largely Tudor, like Stratford-on-Avon, or, nearer home, Staples Inn, Holborn. An imposing Tudor gateway, flanked by charming gardens, forms a fitting entrance.

Yet, within, one o'erleaps the centuries. All is modern, or, indeed, ultra-modern: spacious, labour-saving, lustrous.

—*From* THE EVENING NEWS.

UNIVERSITY LIBRARY, CAMBRIDGE



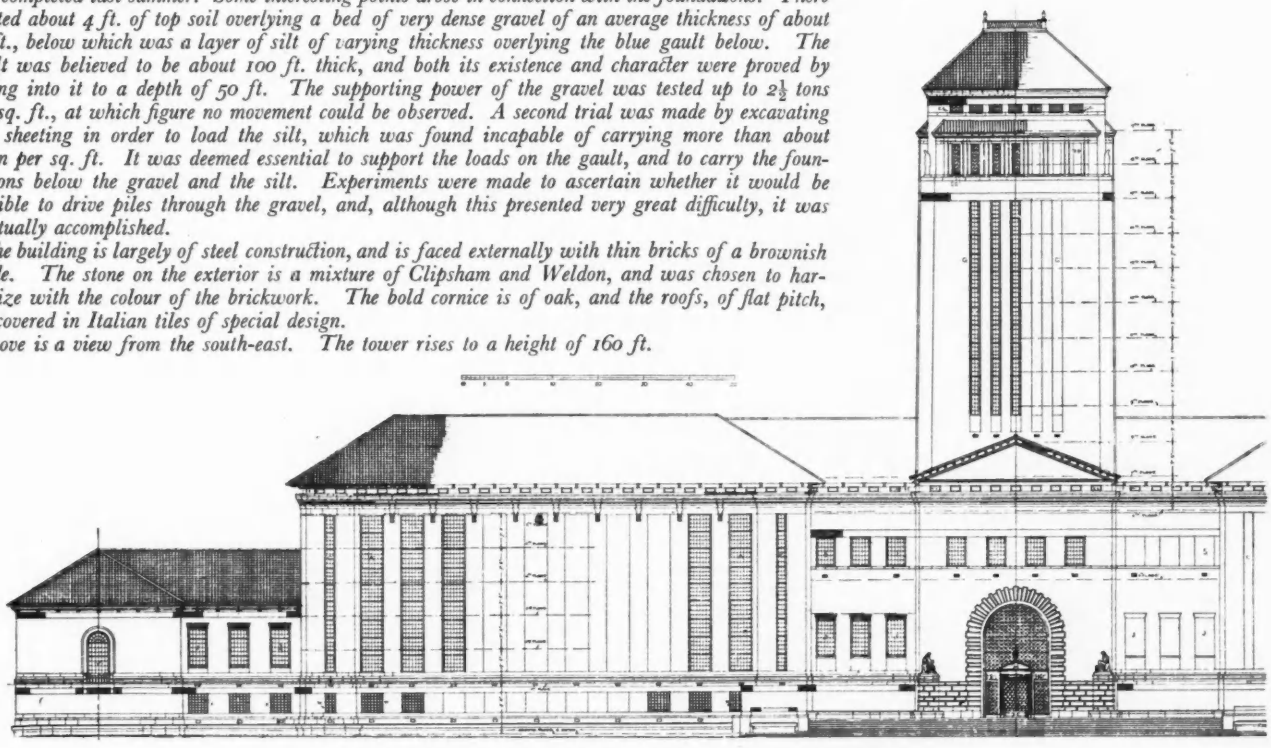
DELL AND WAINWRIGHT

This building occupies a comparatively level site, approached from Burrell's Walk (which branches off Queen's Road) and faces the western boundary of the new Clare College Buildings.

The foundations are of reinforced concrete pile construction, and were dealt with as a separate contract, which was finished in the autumn of 1932. The superstructure was put in hand immediately, and completed last summer. Some interesting points arose in connection with the foundations. There existed about 4 ft. of top soil overlying a bed of very dense gravel of an average thickness of about 12 ft., below which was a layer of silt of varying thickness overlying the blue gault below. The gault was believed to be about 100 ft. thick, and both its existence and character were proved by boring into it to a depth of 50 ft. The supporting power of the gravel was tested up to 2½ tons per sq. ft., at which figure no movement could be observed. A second trial was made by excavating and sheeting in order to load the silt, which was found incapable of carrying more than about ½ ton per sq. ft. It was deemed essential to support the loads on the gault, and to carry the foundations below the gravel and the silt. Experiments were made to ascertain whether it would be possible to drive piles through the gravel, and, although this presented very great difficulty, it was eventually accomplished.

The building is largely of steel construction, and is faced externally with thin bricks of a brownish shade. The stone on the exterior is a mixture of Clipsham and Weldon, and was chosen to harmonize with the colour of the brickwork. The bold cornice is of oak, and the roofs, of flat pitch, are covered in Italian tiles of special design.

Above is a view from the south-east. The tower rises to a height of 160 ft.



PART OF THE MAIN (EAST) ELEVATION

DESIGNED BY SIR GILES GILBERT SCOTT, R.A.

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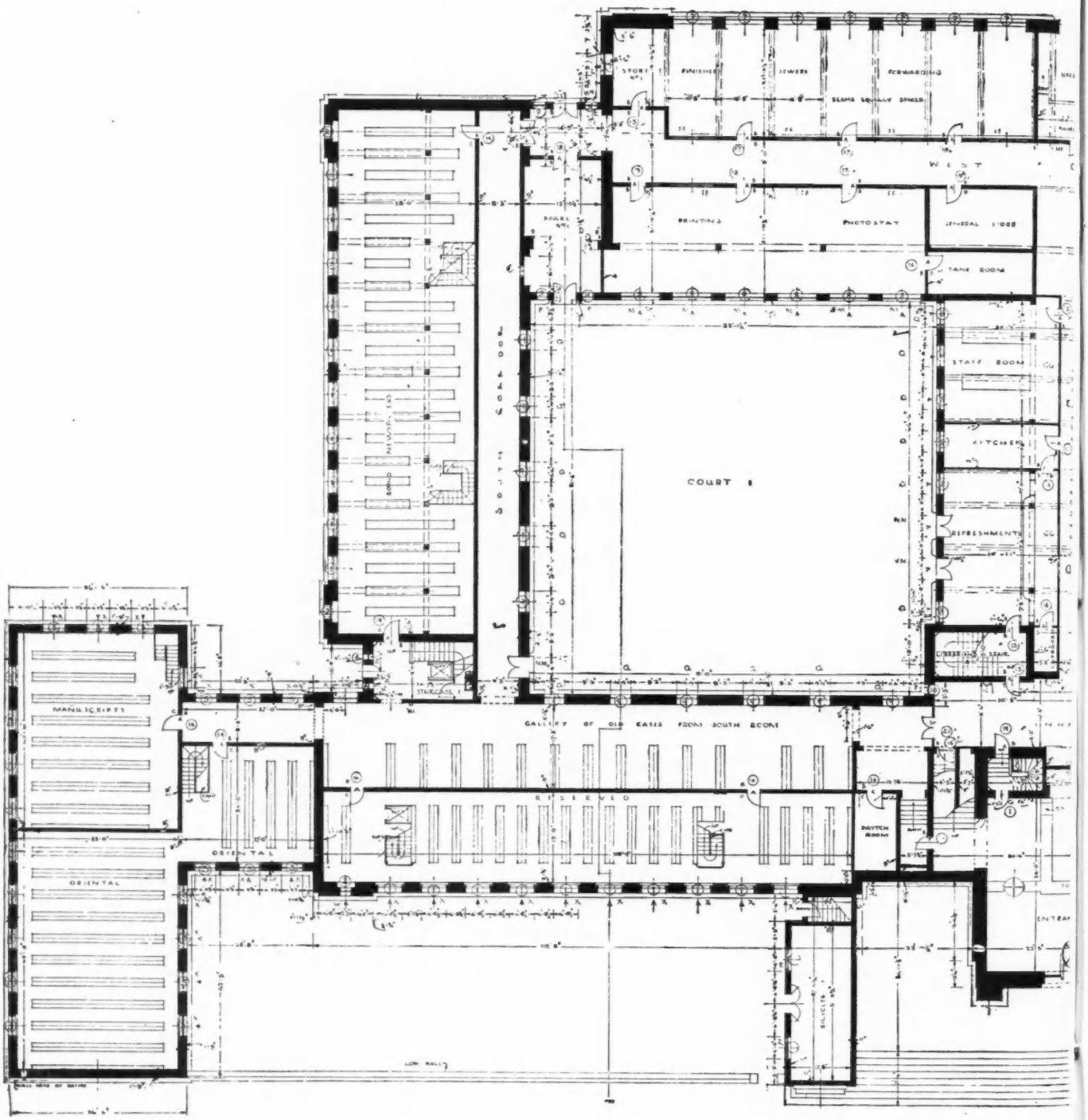
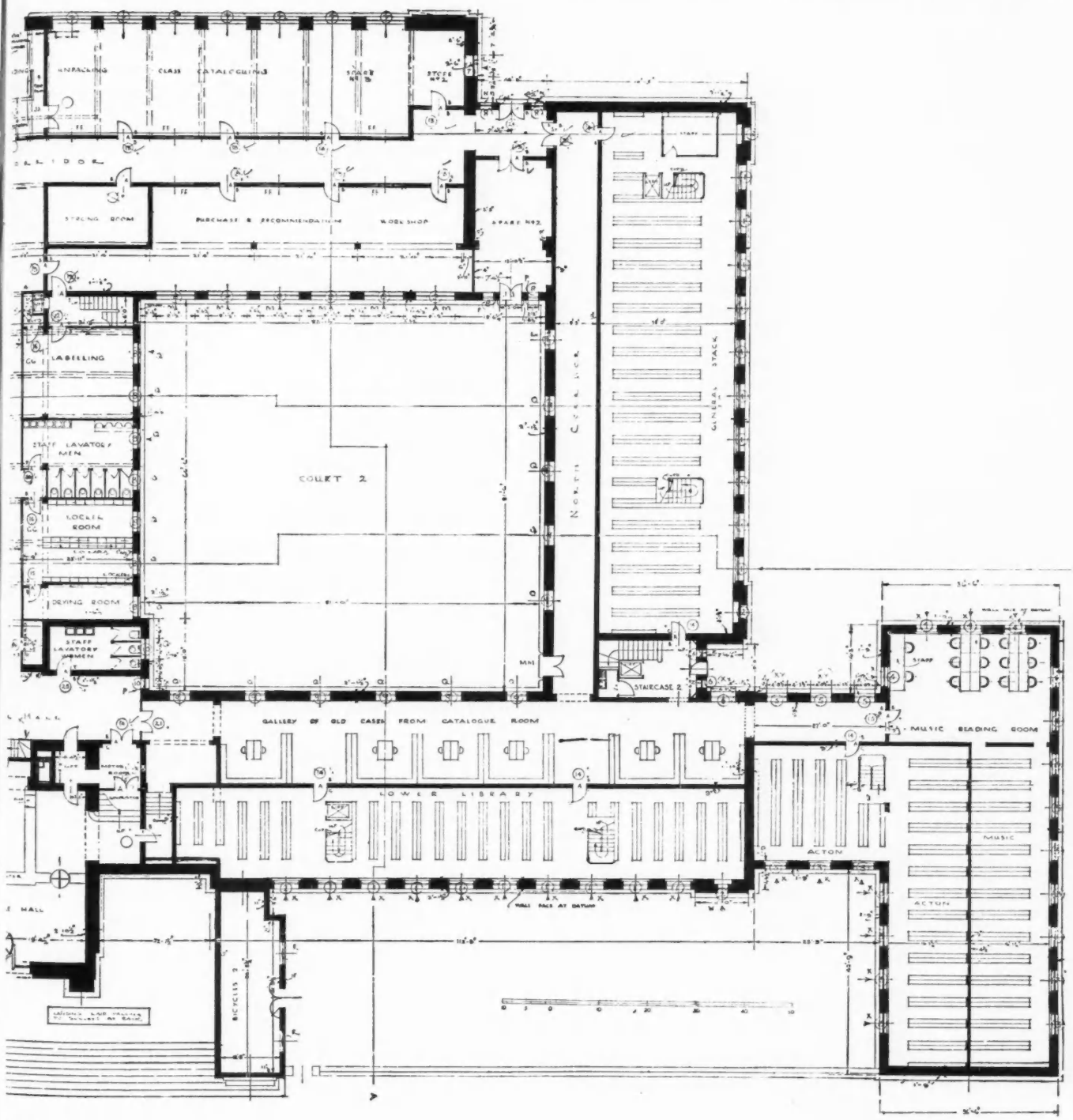


GROUND

There are four main bookstacks, each seven storeys in height. On the ground floor they are connected by corridors to the working part of the Library, that is, to the Receiving, Class Cataloguing, Printing and Workshop departments, etc., while on the first floor they are accessible to the general reader. The ground floor is almost entirely closed to the public and planned to give the staff a free circulation round the building, with access to the various stacks and without interfering with the general public, who in turn have the first, or main, floor upon which to circulate and reach the various stacks. It is only on two floors, ground and first, that a complete circuit by means of corridors is provided; above this level the corridors cease, and the floor area is entirely devoted to stacking. Passenger lifts and staircases are provided in the stacks themselves, but two staircases and lifts are situated outside the stacking, although giving access to them; these allow the upper floors of any of the stacks to be approached without going through the lower

BY SIR GILES GILBERT SCOTT, R.A.



FLOOR PLAN

floors. There are, altogether, eight electrically driven lifts for the accommodation of books and passengers. These lifts are fully automatic in their control and operated from within the cages. The workshops are fitted throughout with power units for the necessary bookbinding, repairing and stitching. Glue pots and such units are heated electrically. A complete photostatic apparatus is also provided.

For fire-fighting purposes, a hydrant ring main, with branches to each Court, is provided, while hand-extinguishers of a type which will not stain or damage books and documents is installed for use inside the building. The fire alarms are of two types, hand and automatic. The automatic fire alarm operates on the thermostatic principle, by the use of a bi-metal strip, and is so arranged that it will operate both under the influence of a slow fire or a quick-burning fire. It is said to be the first time that a system of this description has been installed in any building.

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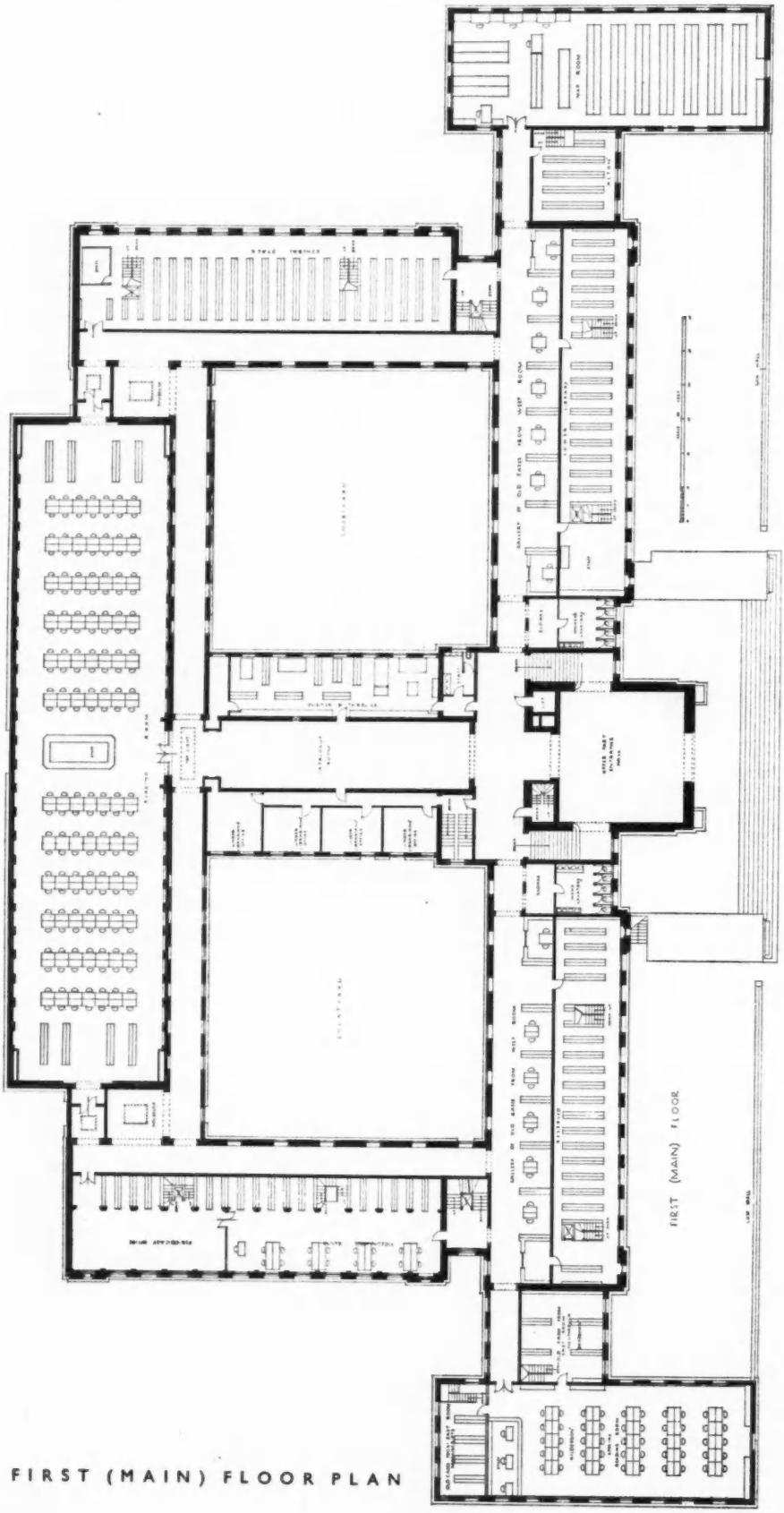


FIRST (MAIN) FLOOR PLAN

The main Reading Room and Catalogue Room are on the first floor; these are on the central axis, the Catalogue Room being near the main entrance and the Reading Room in a central position, that will become even more central as the future extensions to the Library, at the back, are carried out. A feature is made of the Galleries for Old Cases; these are the cases in the old Library, which have been moved to the new building. The tower over the entrance hall is fitted up as a vertical stack, and though the accommodation here will not be required for some time, it will probably be used for stacking books that are in small demand.

The lighting fittings are spaced at 6 ft. centres, with diffusing lamps of 60 watt capacity.

An unusual method of ventilating the stack room has been adopted. The window-frames are 4½ ins. from the inner face of the walls, the edge of the floor as it passes the windows is in line with the wall, and an opening 4½ ins. wide is thereby provided at each window, on each floor, on both sides of the room. Alternate openings are blocked and a zig-zag

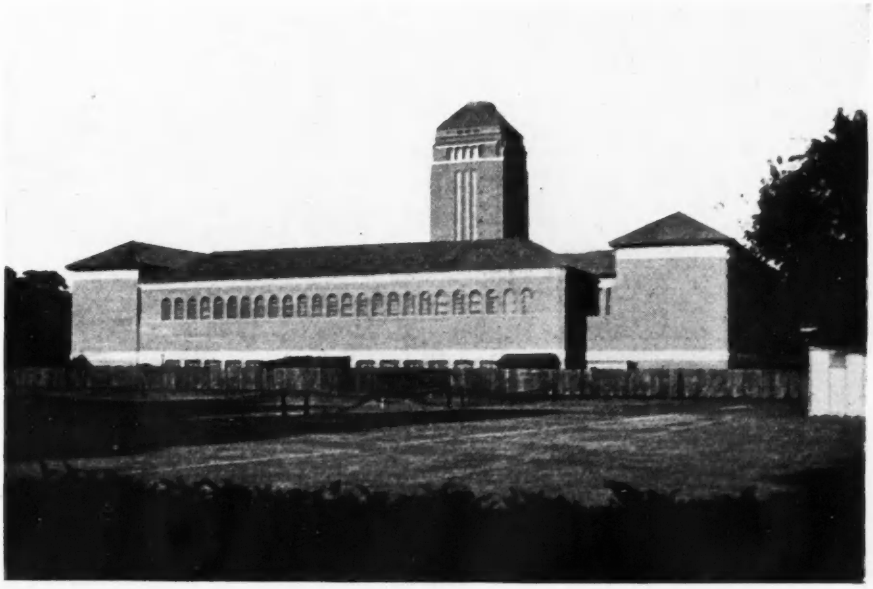
BY SIR GILES GILBERT SCOTT, R.A.

DELL AND WAINWRIGHT

system of natural ventilation is accordingly obtained; air enters an inlet under the cill and through a radiator on the east; the opening over is blocked, but on the west it is open, and the air therefore crosses the room and reaches the next floor on the west, where there is another radiator. Again, the opening over is blocked, so it has to come back to the east and reach the next floor on that side, and so on until the top floor is reached. Provision is made for reinforcing the natural movement of the air up the building by means of extract fans situated in the roof spaces.

The following method has been devised for heating purposes. In the stacks where continuous windows occur, a form of radiator has been used; this consists of a number of horizontal pipes, welded-up to form a guard or balustrade in front of the window openings. By keeping the pipes at very open centres, obstruction of light has been reduced to a minimum, and the radiators are virtually invisible from outside.

The photographs show: top, the main entrance; right, the west elevation.



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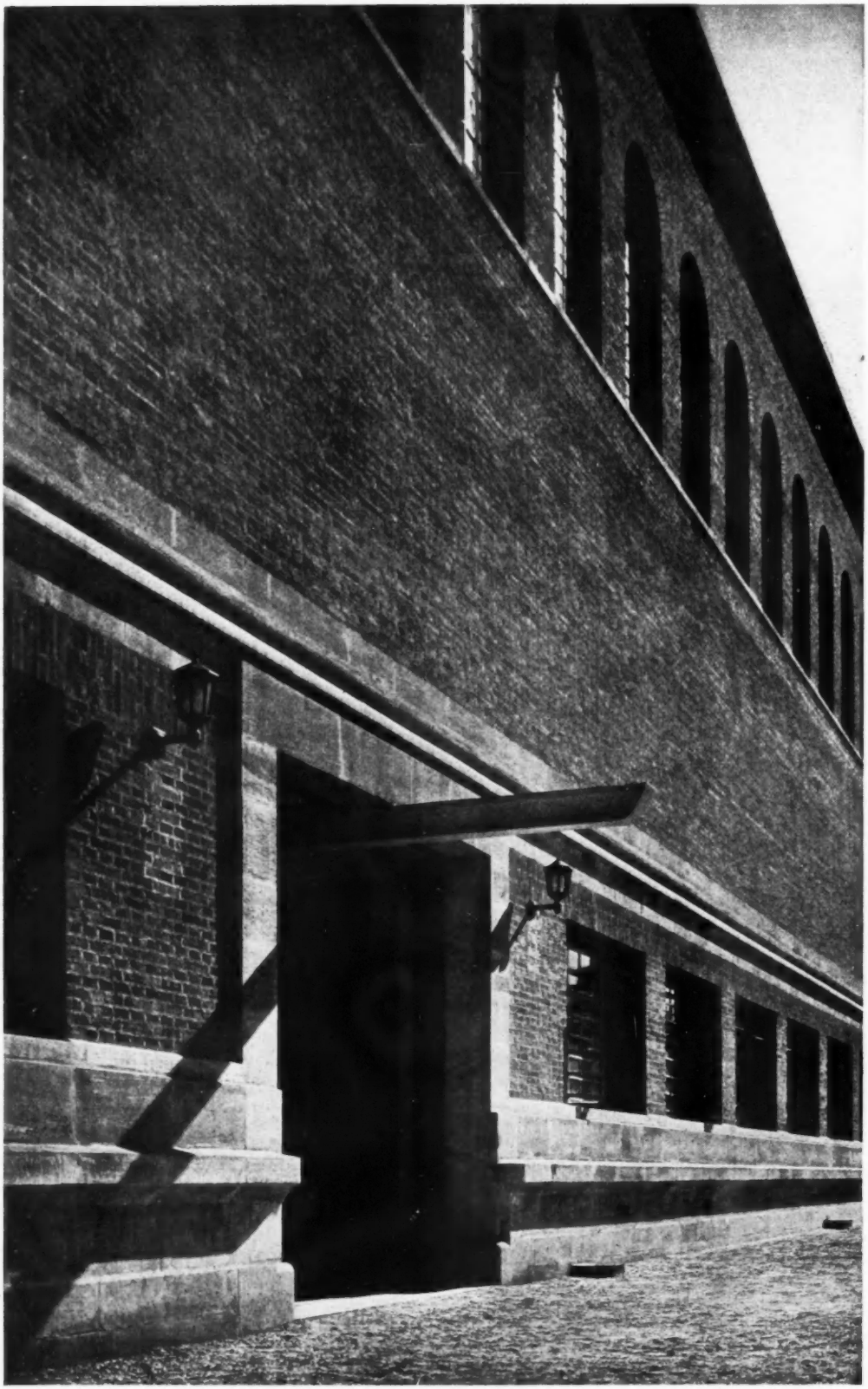


DELL AND WAINWRIGHT

The entrance to the unloading department on the west front, showing the unloading runner.

BY SIR GILES GILBERT SCOTT, R.A.

DELL AND WAINWRIGHT

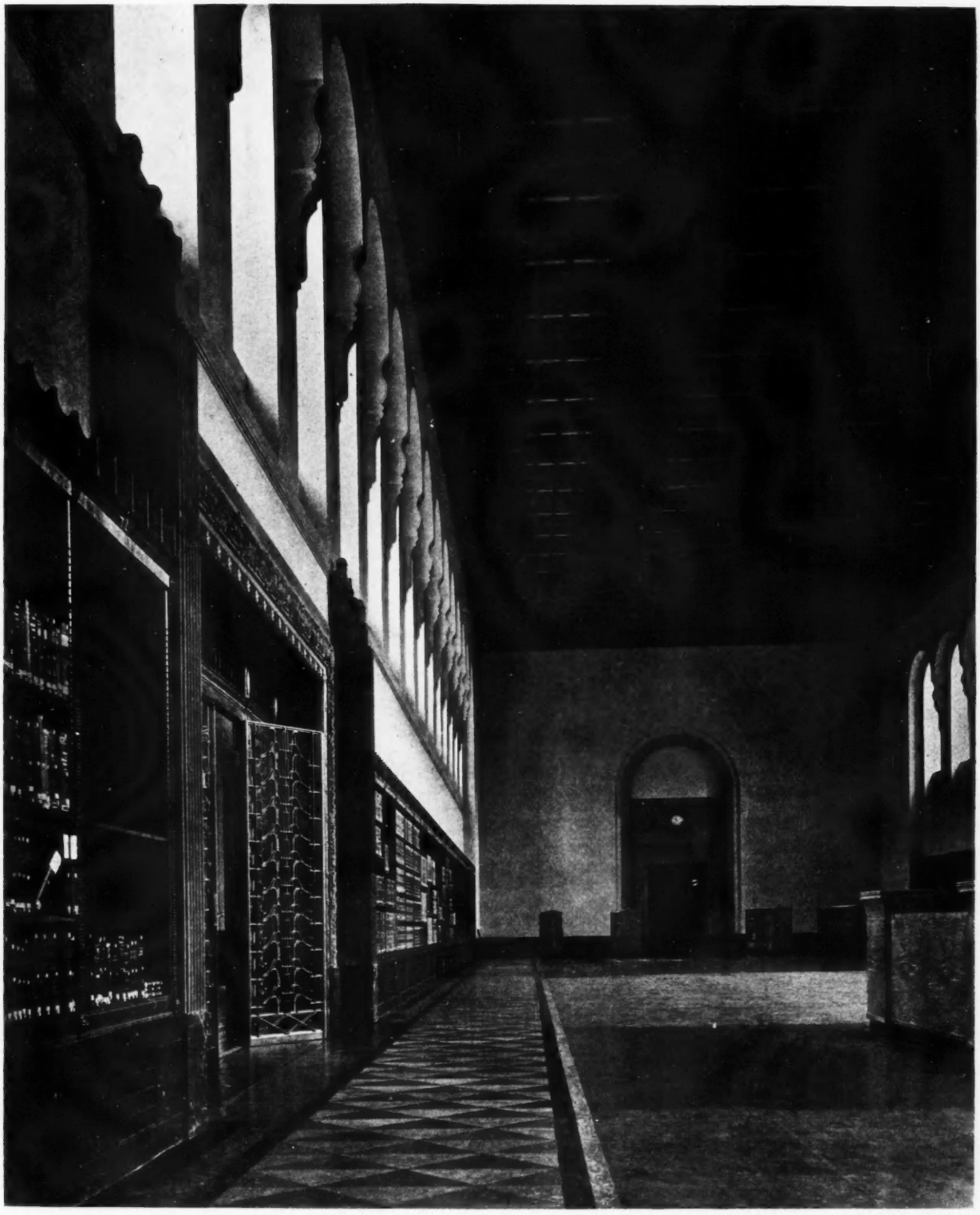
A view in one of the two internal courtyards. The building is faced with bricks from Buckinghamshire.

UNIVERSITY LIBRARY, CAMBRIDGE: DESIGNED

DELL AND WAINWRIGHT

The photograph reproduced at the top of this page is a view looking through the bronze entrance doors of the Catalogue Room into the Reading Room. The other photographs show: left, the Anderson Room; right, the bookstacks. The width of the stacks was limited by the natural lighting from the windows; a narrow "ribbon" type of stack plan has therefore been adopted. The ceilings of the bookstacks are of flushed concrete slabs, without projecting steelwork. The brick wall surfaces, though unplastered, are treated with cement glaze, to provide a hard, impervious surface, the colour being carefully chosen to harmonize with that of the bookcases. The floors are finished with linoleum, of a pale shade.

BY SIR GILES GILBERT SCOTT, R.A.

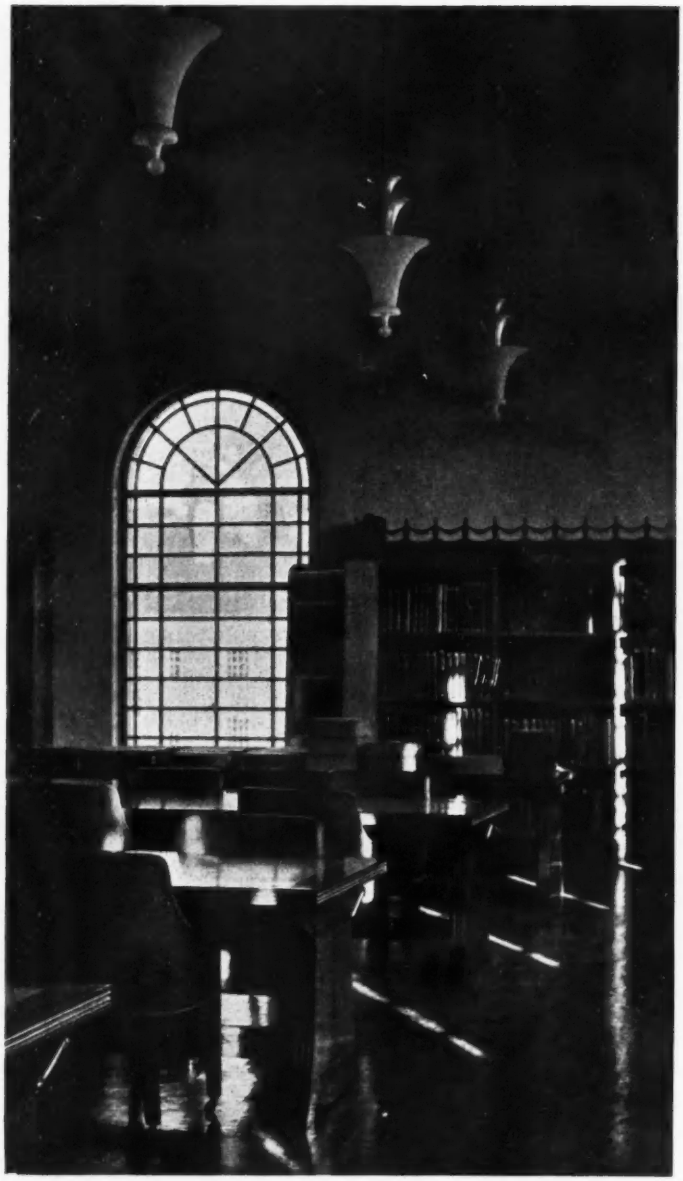


DELL AND WAINWRIGHT

The Reading Room, looking towards the door leading to the Periodicals Room. The Catalogue Room is reached through the door shown on the left. The Reading Room is 193 ft. long, 43 ft. wide, and 33 ft. high. The walls are of rough plaster, left from the wood float; the ceiling is a pale wood, with a sparse decoration in colour; and the floor is of rubber. The general lighting of the room is by means of flood-lighting from the top of the bookcases.

UNIVERSITY LIBRARY, CAMBRIDGE

DESIGNED BY SIR GILES GILBERT SCOTT, R.A.



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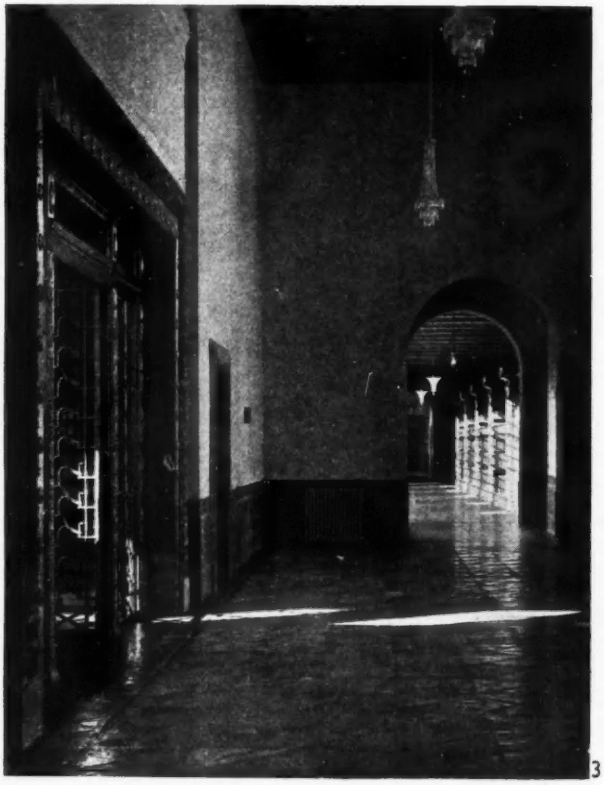

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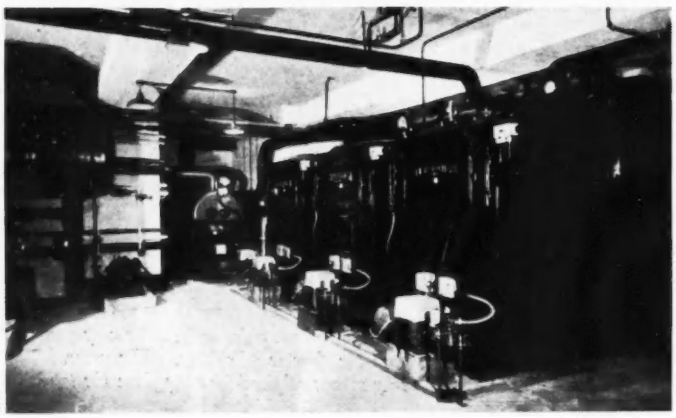
DELL AND WAINWRIGHT



2

The photographs show : 1, the Anderson Room ; 2, the boiler room ; 3, a view from the inner hall, looking into the Gallery of Old Cases. The door on the left gives access to the Catalogue Room.

LETTERS FROM READERS

SIR MICHAEL E. SADLER, K.C.S.I.
A.R.I.B.A.
J. C. ROSE
ERIC HAYMAN, M.A.(Cantab)., A.R.I.B.A.
AUGIAS
ARCHICONOMIST

Oxford and Architecture

SIR,—I have just seen your note entitled "Oxford and Architecture" in your issue for October 4 and, through some omission in the report of what I said, or through my want of precision in speaking, you have misunderstood what I meant.

Unless I am mistaken, the University of Liverpool accepts as part of the qualification for a degree course, successful attendance at, and examination in, a number of studies which had not hitherto been recognized by any university as forming part of an academic liberal education. This was a triumph of statesmanship on the part of Liverpool University. It had the insight to perceive that a liberal education is not tied up with the previously recognized academic studies for a degree which most of us at Manchester, and again at Leeds, and here in Oxford, believed it to be.

Had there been tied round the leg of every student at the Liverpool School of Architecture the clog of certain academic requirements in addition to the onus of their professional course, the students would have been overburdened, the work of the School would have been hampered, the brilliancy of its achievements would have been blurred.

If Oxford will boldly accept as qualification for a degree in architecture a course of education essentially liberal in tone and outlook, but not conventionally academic in the present sense, I, for one, shall rejoice in the establishment of a School of Architecture here, leading up to the degree of B.A., or whatever else is desired, but only on two conditions, viz. :—(1) that it is proved that there is real need for another School of Architecture at the present time in England, and (2) that the new School start from the first with a building, studio, equipment and staff—especially staff—ample for the high requirements of a School of Architecture that is to rise to eminence and full efficiency.

MICHAEL E. SADLER

Architectural Trade Unionism

Sir,—You have in my opinion rendered excellent service to the architectural profession in publishing in your issue of October 4 your leading article on this subject. I happen to have read the complete statement on the matter in *The Keystone*, the journal of the Association of Architects, Surveyors and Technical Assistants, and would wish that you could have reproduced this in full, but no doubt reasons of space forbade this.

The Keystone statement maintains that co-operation in all matters affecting the profession has been offered by the A.A.S.T.A. to the R.I.B.A., but that this offer has simply been left in the air. I am sure that many of your readers will agree with Astragal's point, made in the same issue, to the effect that a statement by the R.I.B.A. on the matter is desirable. More than that, it seems to me that on so important a point the members of the R.I.B.A., particularly salaried members, are entitled to the fullest information.

A.R.I.B.A.
Welwyn Garden City

SIR,—I was much interested in your leading article and Astragal's comments in the issue dated October 4 regarding the R.I.B.A. and the A.A.S.T.A. I am in complete agreement with Astragal's remark that there is much work waiting to be done. The point is, however, what kind of work and who is to do it ?

The A.A.S.T.A. is apparently experiencing great difficulty in obtaining from the R.I.B.A. the exact nature of the work which that body was formed and received its Charter to do. I await developments with interest.

J. C. ROSE
London

Plumbing Bye-Laws

SIR,—After suffering frequently from the customary bye-law to which Astragal refers, I have recently had a fortunate experience. A house was submitted to a Rural District Council showing internal soil vents, and internal bath and lavatory wastes connected to a common internal lead waste of suitable size. The plans were approved without comment, and on raising the vexed question with the surveyor after approval, I was told that the method proposed was recognized as better practice than the bye-law allowed, and that he was glad of the divergence to be made. Such experiences encourage the architect to go on trying, even in a Rural District.

ERIC HAYMAN
London

The R.I.B.A. Club at the Building Exhibition

SIR,—As a visitor both to the Building Exhibition and the R.I.B.A. Club, and as one who spent an uncomfortable fifteen minutes watching venturers recoil from the Club, I was interested in Astragal's comments.

Olympia is so large that it seems difficult to believe that the Institute could not have begged, borrowed, or even paid for some more congenial space, and, in any case, the quality of the accommodation offered should not have been based upon the volume of patronage.

In point of fact, another professional body provided itself with a temporary home which was quite presentable and well in the public eye.

It does seem again that on one of the rare occasions when the R.I.B.A. had the opportunity to indulge in discreet publicity it avoided giving this aid to its members, quite apart from the character of the material accommodation provided.

AUGIAS
Southampton

Economics and the Architect

SIR,—I would like to take Mr. Biddulph gently by the hand and lead him back to life—to an alley near the Commercial Road, where every dweller is out of work and has a wife and children, all undergoing a process of slow starvation. I should then (with due slowness, to enhance the dramatic effect) unfold a piece of paper on which he would read these words, taken from current newspapers :

Ireland pours beer into gutter.
Holland destroys 100,000 pigs.

America destroys 2,000,000 sows and 4,000,000 little pigs. 2,000,000 tons of sugar withheld from market in 1933.

Every third row of cotton ploughed in U.S.A., etc., etc.

May I ask you a few simple questions, Mr. Biddulph ; questions that a child can understand—or a working-class man, thank goodness ? If I cannot pin you down here, then the argument will drop. First, do you think the present system works or can any longer work ? Secondly, do you agree that if a machine does the work of ten men then that machine displaces ten men, *in doing that particular piece of work* ? Thirdly, that the object of production is consumption ? Fourthly, that the wealth produced by the machine *per se* should be evenly distributed to every member of a country, the machine being part of the cultural heritage of humanity as a whole ? Fifthly, that since control of the money system means control of the life blood of a country, the money system should be in the hands of the nation and not in the hands of individuals who control it for selfish ends ? Sixthly, that war is caused by the present economic system, and that another war would not be a good thing ? Finally, that a golden age is possible here and now, if we could only make our money system represent physical facts ?

ARCHICONOMIST
London

L I T E R A T U R E

THE ENGLISH INN

[*By S. E. Dykes Bower*]

The Old Inns of England. By Professor A. E. Richardson, F.R.I.B.A. London: B. T. Batsford, Ltd. Price 7s. 6d. net.

PROFESSOR RICHARDSON has already shown that he is well qualified to write about English inns, and there can be no higher praise of this book than to commend it as a worthy successor to his larger work on the same subject, published some years ago.

The new book, at a third of the price of the old one, is hardly less wide in its scope, but even where it covers the same ground, the material is freshly treated while the illustrations are, with few exceptions, entirely different. Their careful choice has contributed not a little to making the book the model of skilful compression that it is, for, being closely related to the text, they have enabled the author to dispense with all the verbal description that too often has to attempt what only a photograph or drawing can perform. They are, in fact, what illustrations ought to be—a visual commentary on the text, and not, as in too many architectural books, a mere picture gallery of photographic skill.

In contrast, too, to those numerous books that are nothing more than compilations hastly thrown together from superficial study of other people's labour, we have here the obvious fruit of real knowledge and first-hand experience. Partly, no doubt, for that reason, and partly because of the lively, sometimes witty, writing the interest is unfailing. It is impossible not to read it without an awakened resolve to look at views with more intelligent attention in future. Not that it is by any means only the architecture of inns that is dealt with; no chapter is more delightful than that which brings together representative passages from English literature (and from authors as widely separated as Langland and Disraeli), descriptive of inn life and manners. The only notable omission from the anthology is one that no doubt the author was constrained to make because of its length—the disquisition on inns, running to some 400 lines, in Crabbe's *The Borough*—a poem dedicated, appropriately enough, to the Marquis of Granby.

However, it is not so much to the mere knowledge of the facts, as to the sympathetic understanding with which the subject has been treated, that this book owes its success. Without it, indeed, the study of inns might prove somewhat barren—at any rate, from the architectural standpoint—for while it is true that the larger coaching inns are not infrequently dignified and even imposing buildings, for the most part the architecture of inns is of that unpretentious character that can make no claim to formal design. No one with an architectural eye is likely to overlook the Stamford Hotel, the Swan at Bedford, or The George at Grantham; their symmetrical and stately fronts attract notice at once. But the virtues of the thousands of little town and country ale-houses that in some inscrutable way succeed in being architecture with only the slightest regard for its accepted conventions, are so subtle that they may easily escape us. Yet where better could one study the right use of materials, the composition of picturesque grouping, or the infinite varieties of fenestration? The development of bow and bay windows might be traced from a study of inns alone. And even in the practice of that popular doctrine, "expression of function," inns have something to teach us. What the modern road-house seems to find itself unable to achieve without the aid of staring advertisements along every road in the vicinity, the country inn has successfully achieved for generations by the simple allurement of a snug bar-parlour window.

Long as the life of many of these village and wayside inns has been, there is no reason why it should not be much longer. Some indeed, like the old "Rose," by the stripling Thames in Oxfordshire, now "The Rose Revived," have reverted to their old calling after a period of alienation to other uses. Many are still such as George Morland delighted to paint or William Barnes to describe—where

> "....the miller's man
> Do zit down at his ease
> On the seat that is under the
> cluster o' trees
> Wi' his pipe an' his cider can."

But our familiar landscape into which the inn has sunk so deeply, is altering all the time and in most places far too quickly. Though there are plenty of good modern inns, there are still far too many which are either idiotic fakes or offensively "slick" and smart. It is just because this book is not propaganda that its influence is likely to be more real. It is content to call attention to the artless charm of our old inns in the certainty that nothing can more effectively quicken that sense of appropriateness and instinctive feeling for the English scene that is the surest protection against its outrage.

PROGRESS IN TIMBER RESEARCH

Report of the Forest Products Research Board for 1933. London: H.M. Stationery Office. Price 1s. 3d. net.

THERE is abundant evidence in this *Report* to show that increasing interest is being displayed in the work of the Department of Scientific and Industrial Research Board's Forest Products Research Laboratory at Princes Risborough. There have, for example, been 40 per cent. more enquiries relating to the seasoning of timber, besides numerous enquiries regarding the quality of commercial timber samples and the suitability of timbers for various purposes. The advice of the Laboratory has been sought, among other matters, in the design of grain silos, of tennis racket frames and in the selection of mine timbers. The number of enquiries relating to damage by timber-destroying insects rose from 330 in 1932 to 526 in 1933, while a great increase is also reported in the enquiries regarding dry-rot in buildings and the types of preservatives to be used to prevent fungus decay.

The *Report* summarizes the results of much import work on the seasoning of timber, both in kilns and in air, on steam bending, on the effect of decay and timber strength, on the relation between the structure of wood and its mechanical strength, and on the preservation of timber.

Discussing the drying of timber in buildings, it is pointed out that changes in the moisture content of timber in buildings are being observed throughout the year, and a number of specimens are being kept under various conditions, that is, in an office, in a bedroom, etc.

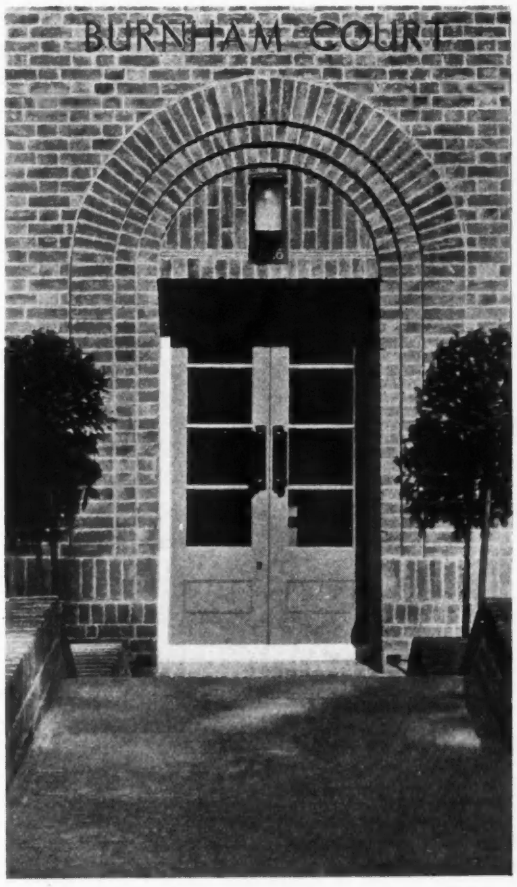
Work on the study of the behaviour of wood samples placed in new or partially constructed buildings has been continued in collaboration with a firm of contractors. Temporary heating in a new building has been found to be very helpful in rendering the rooms more suitable for the installation of seasoned timber.

It was found, however, that if the heating was discontinued or interrupted, reabsorption of moisture took place immediately, even though some months had elapsed since the building was completed.

Observations in a dwelling-house, in which the roof was completed in September, 1933, showed that the moisture content of timber in the building was about 14 per cent. By mid-December, when the atmospheric temperature was, of course, considerably lower, the moisture content had risen to nearly 18 per cent., a condition very close to that obtaining in timber out of doors.

BURNHAM COURT, HENDON, N.W.

S. W. NEWBERY



This new block of 80 flats has been erected on a site at the corner of Brent Street and Victoria Road, Hendon. Externally, the walls are faced with mulberry coloured facing bricks and the flat roof is covered with a special composite bitumen roofing. The construction of the building is fire-resisting, with suspended concrete floors and concrete landings, staircases and skirtings. The windows are of the standard metal casement type.

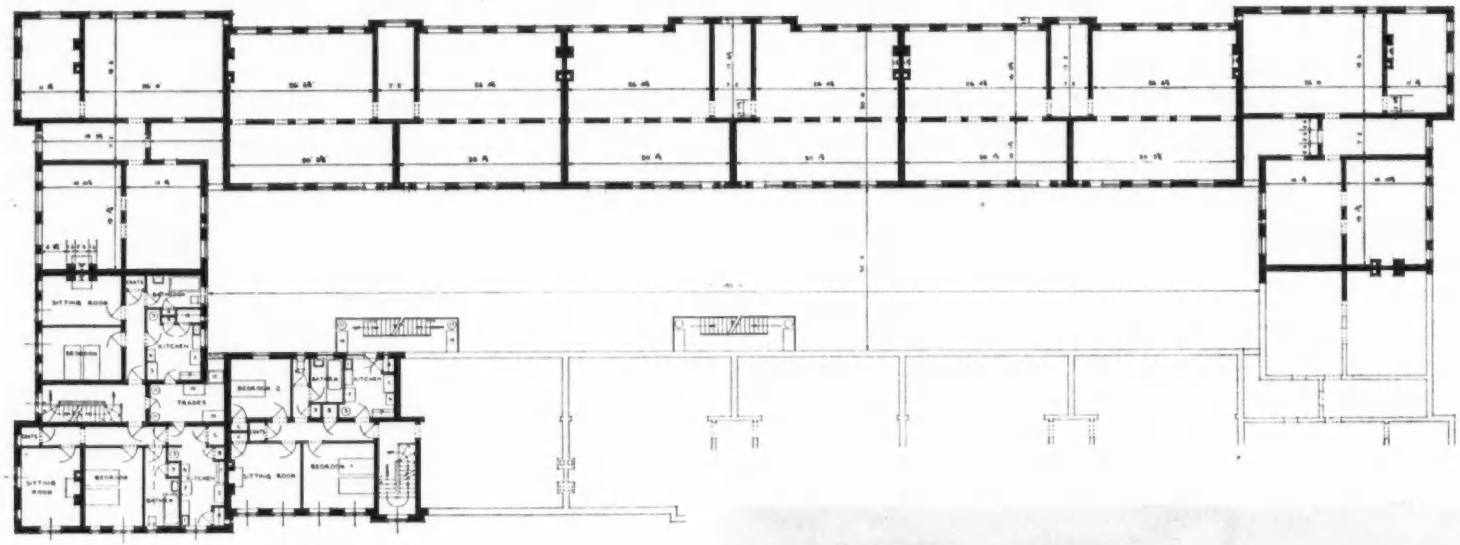
The photographs show: above, the main (west) elevation, facing Brent Road; above, right, the east façade; and, right, one of the entrances in the main front.

DESIGNED BY

TATCHELL

AND WILSON

BURNHAM COURT, HENDON, N.W.

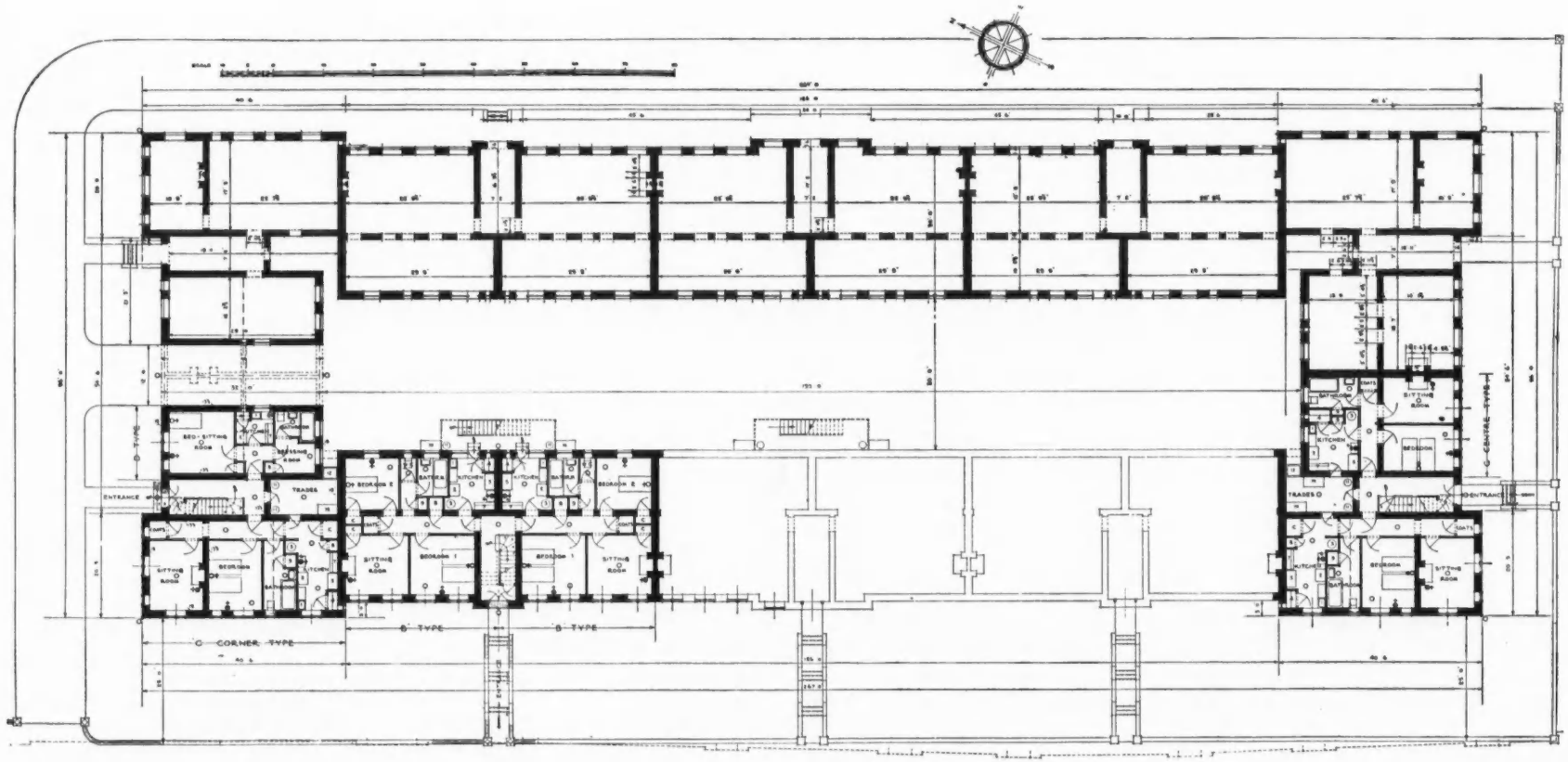


FIRST FLOOR PLAN

S. W. NEWBERY

KEY TO EQUIPMENT

1:	Sink and draining board	7:	Dresser
2:	Gas Cooker	8:	Meter Cupboard
3:	Refrigerator	9:	Linen Cupboard
3a:	Geyser	10:	Fuel
4:	Larder	11:	Dustbin
5:	Cooking cabinet	12:	Service hoist
6:	Drop table	C:	Cupboard



GROUND FLOOR PLAN

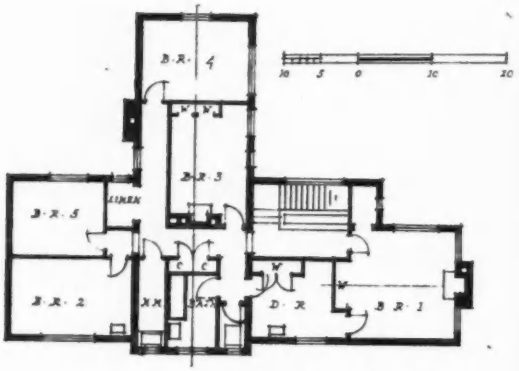
The block has been planned round a central courtyard, and contains 20 flats on each floor, making a total of 80 flats. The various types of flats are four in number: A, B, C, and D. Of the D type flats there are only two; they are situated at the north end of the ground floor and contain a hall, bed-sitting room, dressing room, kitchen, bathroom, and w.c. There are 30 B and C type flats, each containing an entrance hall, sitting room, bedroom, kitchen, bathroom, and w.c. The B type are situated at the south and the C type at the north ends of the block. There are 14 B and C centre type flats, and 16 B and C corner type flats. The A type flats, which are the largest, contain an entrance hall, two bedrooms, sitting room, kitchen, bathroom, and separate w.c. There are 48 of these in all—12 on each floor.

The rents are as follows: A type, £115 per annum; B type (corner), £95, and (centre) £90 per annum; C type (corner) £85, and (centre) £80 per annum; D type, £75 per annum.

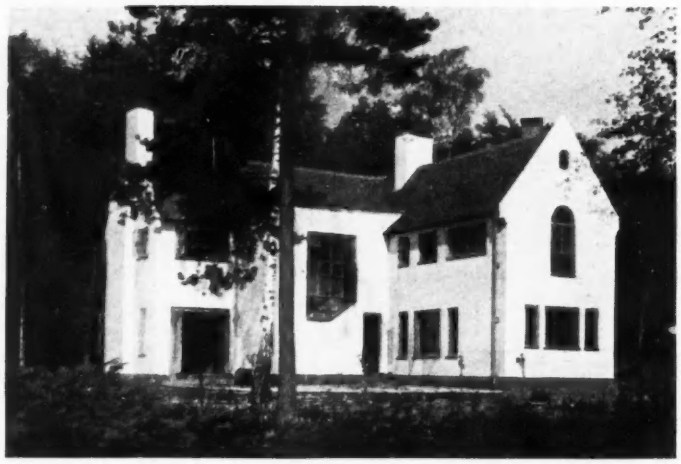
Hot water is provided to the baths, lavatory basins and sinks from a central boiler installed in the basement. All the flats are wired for electric light and power.

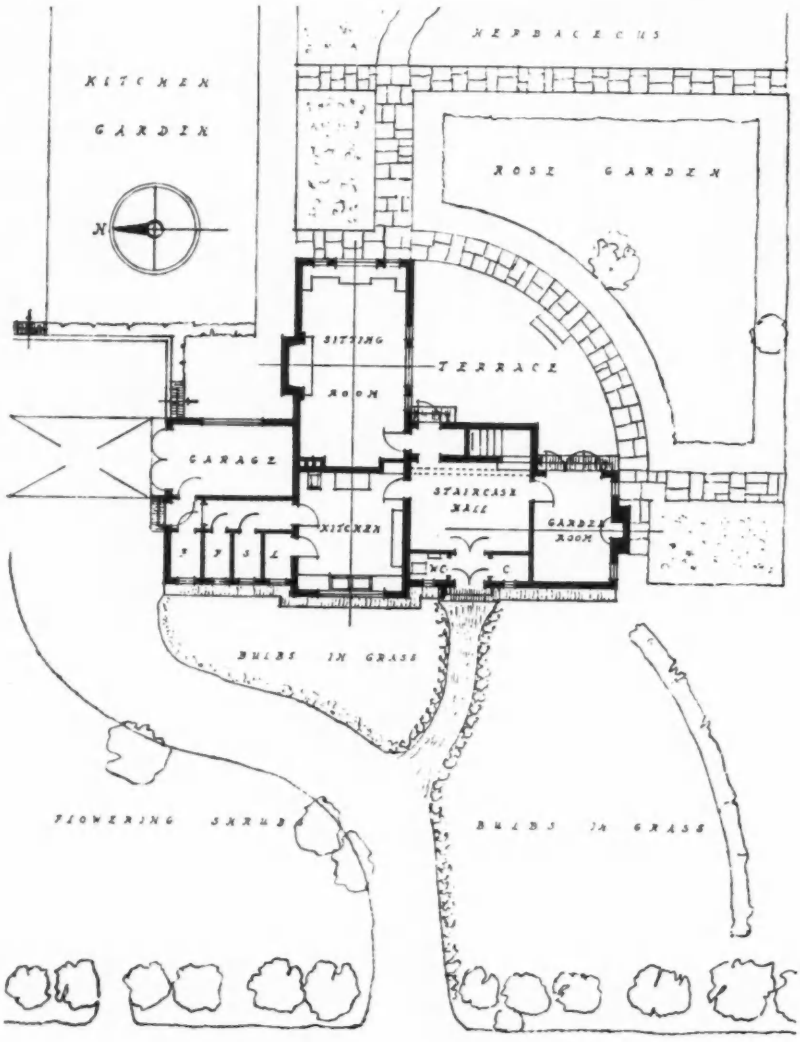
DESIGNED BY TATCHELL AND WILSON

HOUSE NEAR CHALFONT ST. PETER, BUCKS.



FIRST FLOOR PLAN





GROUND FLOOR PLAN

This house has been built in a lane passing through the centre of some fine Buckinghamshire woods, thickly overgrown with fern and heather. The plan was largely determined with the object of preserving certain forest trees, and in particular a large silver birch, which was retained in the angle formed by the south and east wings.

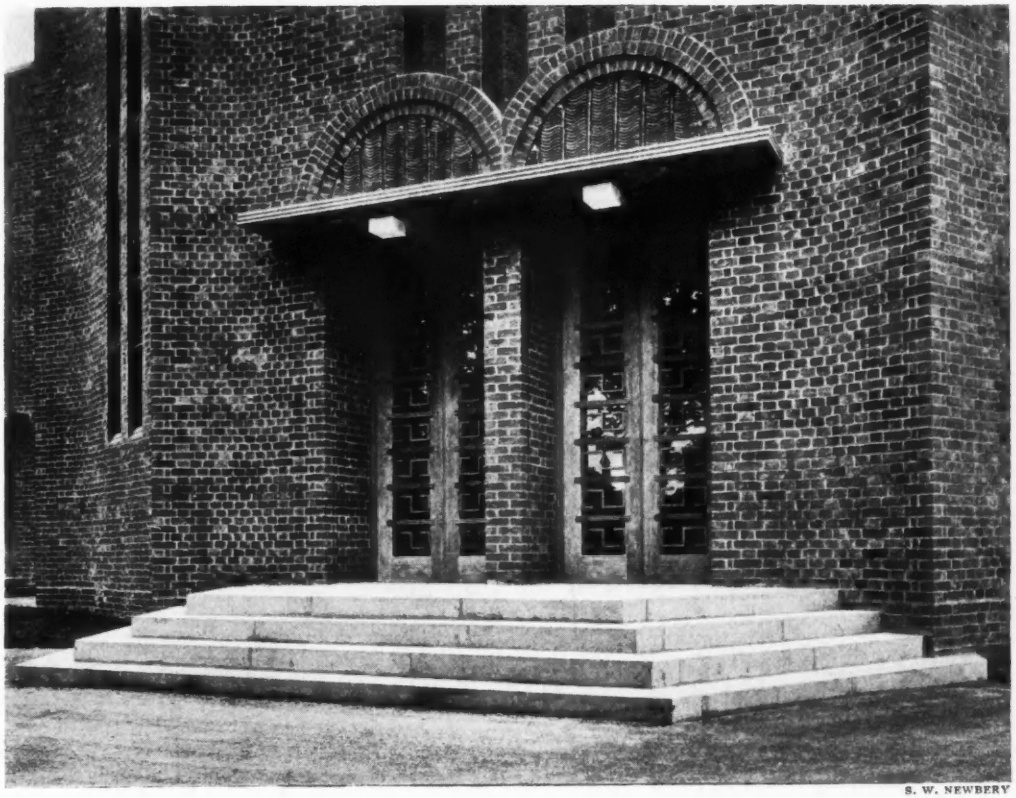
The exterior is built on a grey sand-faced brick plinth, with a flagged terrace in Somerset stone taking up the fall of the ground on the south-east side. The main walling is in solid Fletton brickwork with keyed joints, the walls being proofed and permanently coloured by spraying with a special paint. The long lines of the roof are covered with hand-made Berkshire plain tiling with laced valleys and a purpose-made ridge tile. The steel casements and leaded glass are set in painted wood frames with natural oak cills. The external paintwork is a tone darker than the cream wall colour.

The garden design is shown in part on the ground floor plan. All the major trees are being preserved under perpetual covenant with the vendor of the site. A bank of rhododendrons, growing in a rich peat soil, forms a background to the perennial border, and leads into a natural circle of trees which is to be planted with woodland wild flowers. The remainder of the garden to the east of the plan will be preserved in its natural state.

DESIGNED BY ERIC HAYMAN

WORKING DETAILS : 137

ENTRANCE DOORS • SUTTON BAPTIST CHURCH • WELCH, CACHEMAILLE-DAY AND LANDER

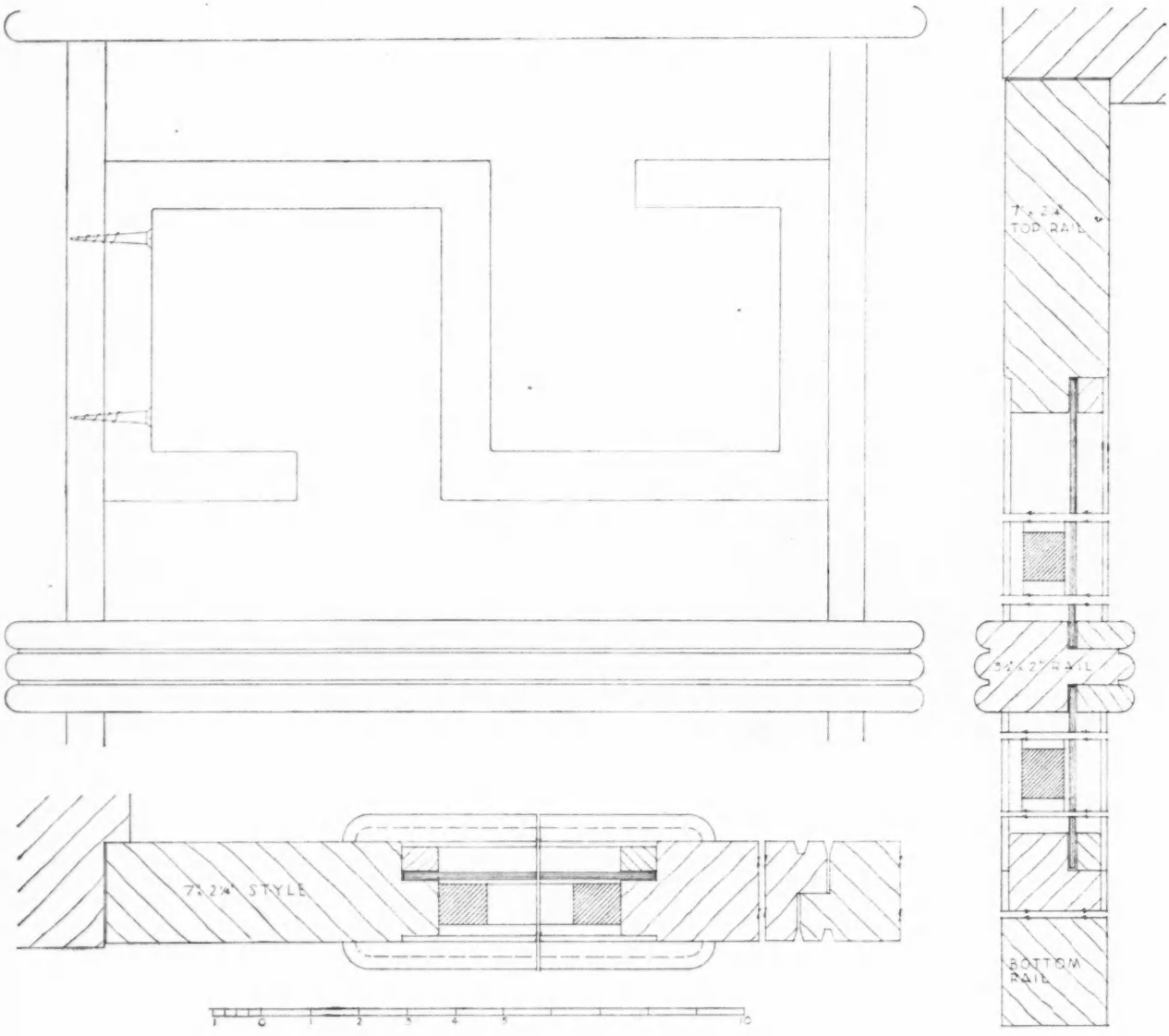


S. W. NEWBERY

Above is a photograph of the entrance doors, of which detail drawings are reproduced overleaf, together with a section through the entrance vestibule. The doors are of oak, and the infillings to the arches above the concrete hood are of pantiles. The steps are of York stone and the exterior of the building is faced with greyish-red bricks.

WORKING DETAILS : 138

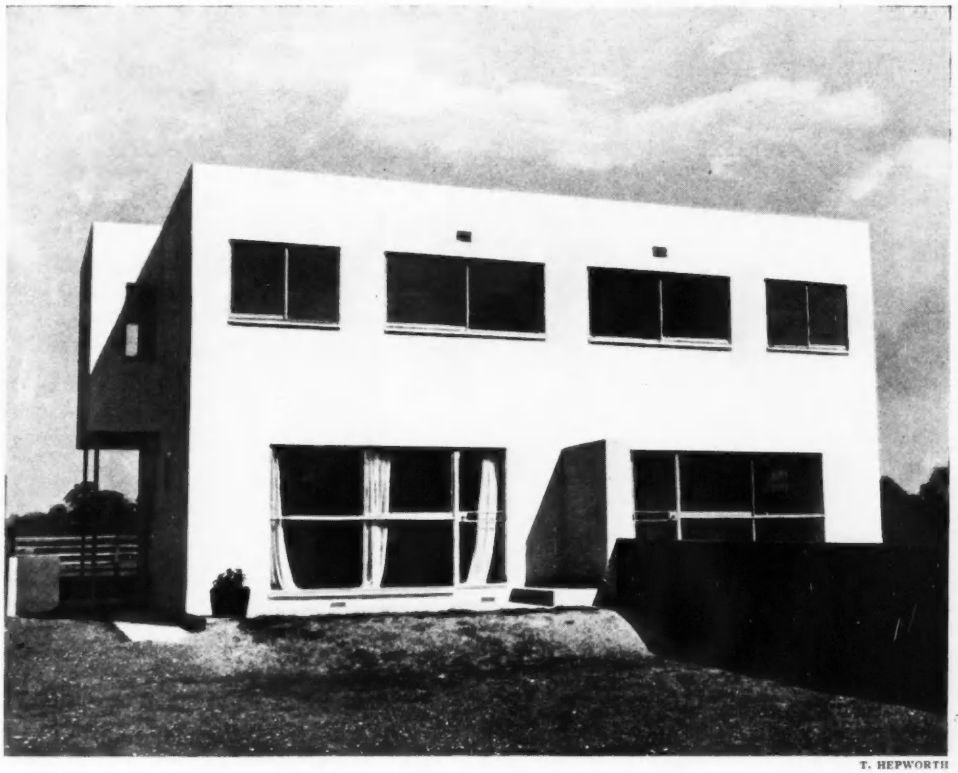
ENTRANCE DOORS • SUTTON BAPTIST CHURCH • WELCH, CACHEMAILLE-DAY AND LANDER



Details of the entrance doors, and section through the entrance vestibule and gallery.

WORKING DETAILS : 139

SLIDING WINDOWS • HOUSE AT GIDEA PARK • HOLFORD, STEPHENSON AND YORKE

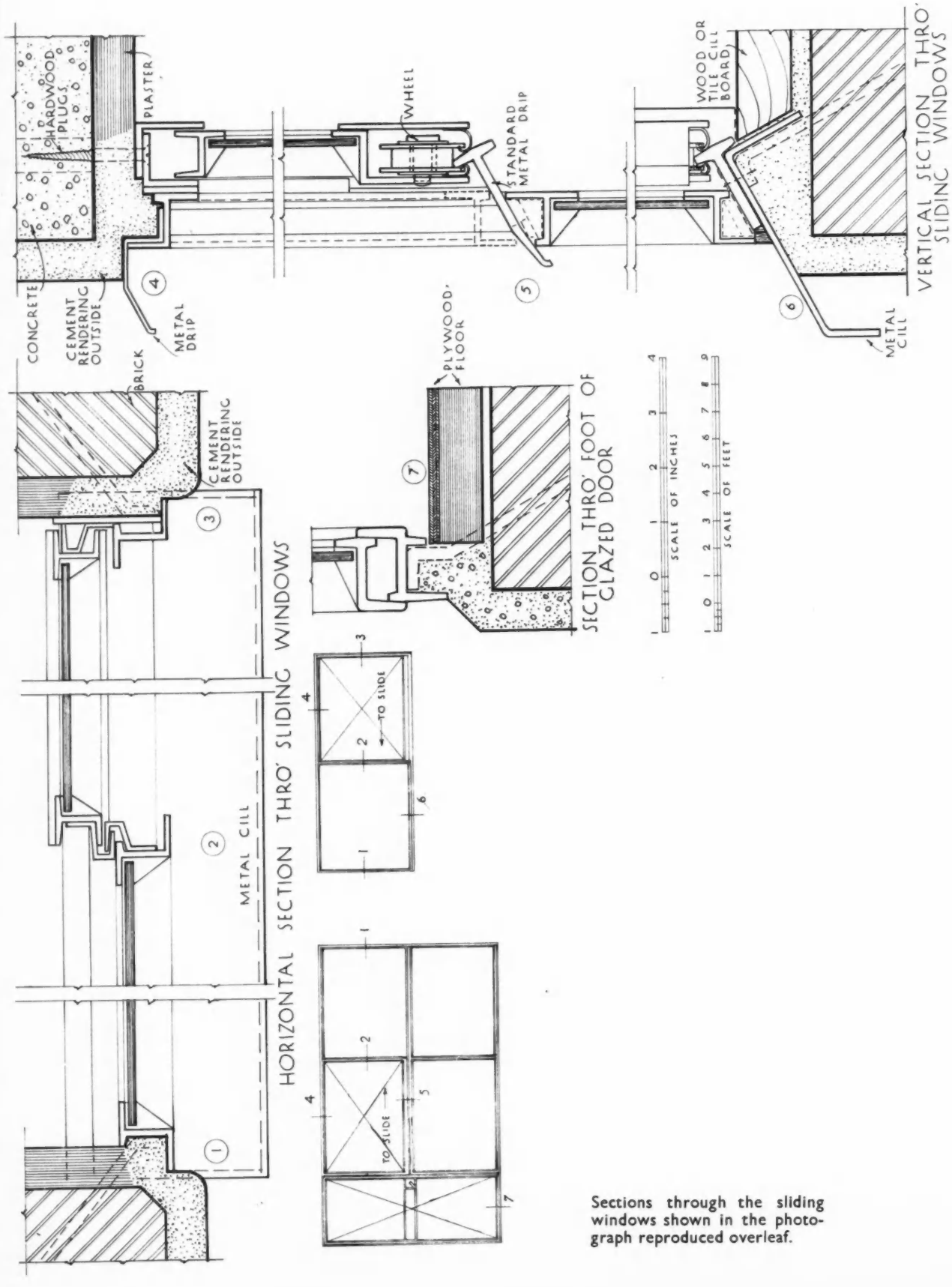


T. HEPWORTH

The above illustration shows two types of sliding windows, made up largely from standard sections and used in a pair of inexpensive semi-detached houses at Gidea Park. As the section overleaf shows, two special pressings were used at the head and the cill, the track carrying the sliding panel being made up with the standard steel drip, set at a slight angle. Draught-excluding spring steel strips are fixed at the bottom of the sliding section.

WORKING DETAILS : 140

SLIDING WINDOWS • HOUSE AT GIDEA PARK • HOLFORD, STEPHENSON AND YORKE



Sections through the sliding windows shown in the photograph reproduced overleaf.

R.I.B.A. FINAL EXAMINATION

Alternative Problems in Design

FOLLOWING is a list of the alternative problems in design for the year ending December 31, 1935. Copies of the list may be obtained free on application at the R.I.B.A.

1 : The drawings, which should preferably be on uniform sheets of paper of not less than Imperial size, must be sent to the Secretary of the Board of Architectural Education, R.I.B.A., 66 Portland Place, W.1, on or before the dates specified below.

2 : Each set of drawings must be signed in ink by the author and must bear his full name and address, and the name of the school, if any, in which the drawings have been prepared.

3 : All designs, whether done in a school or not, must be accompanied by a declaration from the student that the design is his own work, and that the drawings have been wholly executed by him. In the preparation of the design, the student may profit by advice.

4 : Drawings for subjects (*a*) are to have the shadows projected at an angle of 45 deg. in line, monochrome, or colour. Drawings in subjects (*b*) are to be finished as working drawings. Lettering on all drawings must be of a clear, scholarly and unaffected character.

5 : After a design has been approved it may be re-submitted together with the specified working drawings on one of the two published dates for the receipt of drawings immediately following the date on which the design was submitted.

6 : All candidates taking the Final Examination will be required to include in the four Testimonies of Study for which they must secure approval before being admitted to the Examination, at least one constructional subject and one problem involving an acoustical treatment. In addition, considerations of commonsense acoustics as they apply in ordinary modern design must not be ignored in any Final Testimony of study. Where a reverberation table is asked for it should be as complete as possible and the reverberation formula should be quoted. Acoustic diagrams showing the reflection of sound beams should be to a scale of one-eighth of an inch to a foot. The two subjects set for 1935 which may be treated acoustically are Problems Nos. 8 and 11. The two subjects which may be treated acoustically may be submitted *on any of the published dates* for receiving Problems in Design in any particular year, *provided that they are treated acoustically.* Design subjects taken from one year's list may not be submitted in any subsequent year. A list of articles and books on the subject to guide candidates in obtaining the necessary information may be obtained free on application to the Secretary R.I.B.A.

No. 7 : *a : A Preparatory Boarding School for 30 Delicate Boys.*—The site of eight acres slopes gently to the south-west and has a frontage on the north of 150 yards to a main road with a secondary road on the east side.

It is left to the student to decide whether the accommodation should be provided in one building or a group of buildings, comprising possibly :—

1 : Teaching and craft rooms.
2 : Living accommodation.
3 : Headmaster's house.

Although no restrictions are placed on the actual accommodation, the following should be provided with all necessary offices, such as kitchen, lavatories, etc. ; three classrooms, including one specially reserved for craft work and one " Open Air " Room ; a common room and dining room. Matron's room and sick room conveniently near the dormitories, but properly cut off therefrom ; headmaster's house (three reception and five bedrooms) ; three assistant masters' bedrooms (one may be accommodated in the headmaster's house) ; and a common Room for masters.

Drawings required : One-eighth inch scale plan of each floor and sufficient one-eighth inch scale elevations and sections to illustrate fully the scheme. A block plan of the whole site, showing position of playing fields, sports pavilion, swimming bath and porter's lodge. (No further details of these buildings are required.)

b : Working Drawings : The design for the Preparatory School may, after it has been approved, be re-submitted as complete one-eighth inch scale working drawings of the school buildings only with a half-inch detail of a central feature and drainage plan.

No. 8 : In accordance with instruction to Candidates No. 6 (above) this problem may be treated acoustically.

a : A Museum for Pottery.—In the chief town of pottery manufacturing district it is proposed to erect a Museum and permanent exhibition of pottery.

The site, 250 ft. by 250 ft., is level, open on all sides and facing a park.

Accommodation required : *Galleries.*
Main contemporary exhibition hall, 3,000 sq. ft.;
Historical, General, 1,400 sq. ft. ;
Historical, European, 1,400 sq. ft. ;
Science and materials 1,400 sq. ft. ;
and study room ; curators' room ; attendants' room ; lavatories and cloaks ; lecture theatre, with separate access, to seat 300. This lecture theatre may be let for occasional concerts as well as lectures and must be thoroughly insulated, as regards sound transmission, from the three galleries and also from the study room and curators' room ; retiring room ; lavatories and cloaks. *In Basement :* Stores, packing and heating chamber. The surrounding grounds should be laid out as gardens and to serve as an open-air display of faience and pottery.

Drawings required : Plans, sections and elevations to a scale of one-sixteenth inch to the foot ; principal elevation to a scale of one-eighth inch to the foot.

Half-inch detail of a portion of the building.

Acoustics. The propagation of sound in the lecture theatre to be analysed, to one-eighth inch scale on plan, on cross section and long section. A reverberation table is required ; and also brief notes as to the architectural treatment of the sound absorbents used and the means taken to insulate the Lecture Theatre.

(Even if this subject is not treated acoustically, regard must be paid in the planning to the possibility of proper sound insulation.)

b : Working Drawings. Complete working drawings of the lecture theatre portion of the building to one-eighth scale with half-inch details.

No. 9 : *a : A Road House and Swimming Pool.* It is proposed to build a road house on a main road some 15 miles from London. An ample site, which is level, has been chosen on the west of the by-pass road (which runs north and south).

The road house and its surroundings is to provide refreshment and entertainment for visitors (but not sleeping accommodation). The chief attractions will be dancing, bathing and tennis.

The accommodation to be provided in the building will be : Entrance ; lounge and cocktail bar ; restaurant (to accommodate 100 diners and where teas also will be served and dancing and other entertainments can take place) ; large verandahs or roof garden (where teas and meals can also be served) ; cloak rooms ; lavatories ; office ; kitchen and services with necessary accommodation for the staff. (The staff will not live on the premises.) Living accommodation for a resident manager : Sitting room ; three bedrooms ; bathroom ; kitchenette. (The manager's meals will usually be served from the general kitchen.)

An open-air swimming bath—approximately 100 ft. by 40 ft. is to be constructed in close proximity to the house so as to form an attractive addition to the facilities for entertainment. This need not be heated, but will require a proper filtration plant. Dressing boxes for both sexes must be provided.

Changing rooms and shower baths for tennis players. (Four tennis courts are to be constructed.) Ample garage and convenient parking facilities are to be provided adjacent to the buildings.

Drawings required : Plans ; sections to illustrate the scheme and three elevations to one-sixteenth inch scale ; a lay-out plan to one-thirty-second inch scale.

b : Working Drawings. The design for the Road House may after if has been approved be re-submitted with the addition of one-eighth inch scale working drawings of the house, together with one-half inch scale constructional detail of the Restaurant.

No. 10 : *a : A Design for a Housing Scheme.* A provincial Borough Council proposes to demolish a slum quarter of the town and re-house 60 families on a neighbouring site already cleared of old warehouses. The site has an area of 2½ acres on which it is proposed to provide a children's playground of at least ½ acre, and accommodate the evacuated slum population in flats. The site measures 218 ft. from north to south, and 500 ft. from east to west. A canal forms the northern boundary, and a street, with a main sewer, the southern boundary. On the east and west sides is commercial property 30 ft. high. The ground falls 10 ft. at an even slope from the street to the canal, which is spanned by a foot bridge, in the middle of the site, giving access to the towing path and a playing field on the north bank.

Forty flats must be provided with three bedrooms and the remainder with two bedrooms. No flat should exceed a total floor area of 880 sq. ft., and pram shelters must be provided in the court or gardens.

Drawings required : 1 : Lay-out plan to 1/500th scale, showing buildings (in block), roads, paths, gardens and playground ; 2 : One-sixteenth inch scale plans, elevations and sections sufficient to illustrate the scheme.

b : Working Drawings. The design for a Housing Scheme may, after it has been approved, be re-submitted with the addition of :—

1 : Complete working drawings to half-inch scale, showing plans of each floor, sections and elevations, of one unit of a block of flats.

2 : Drainage plans of the whole scheme to 1/500th scale, showing direction and size of drains on the " separate " system. It may be assumed that the soil system will be connected to the main sewer in the street on the south side of the site. and that the surface water drains may be discharged into the canal north of the site.

No. 11. In accordance with instructions to Candidates No. 6 (above) this problem may be treated acoustically.

a : A Concert Hall and Showrooms for a Pianoforte Manufacturer. The site is in the West-End of London. It is a rectangular corner site, and has a frontage of 130 ft. to an important street

and a return frontage of 100 ft. to a minor street. Both streets are noisy. A mews 40 ft. wide provides service access to this and the adjoining properties. The mews level is 8 ft. below pavement level on main frontage.

Light is available from C to D, but the height of wall on this line is limited to 50 ft. above mews level.

B, C and D, E are party walls: the former being 60 ft. and the latter 80 ft. high above pavement level.

The accommodation is to include showroom on ground and first floors, a concert hall to seat about 450 people, offices for the company, and about 10 practice rooms and five teaching rooms. Storage, heating and ventilating plant and other services are to be in the basement. It will probably be necessary to provide for more than three floors above the ground floor.

The concert hall will occasionally be let off, and may be used for pianoforte solos, chamber music or singing, and it must be designed to give good acoustic conditions for these requirements. It must be readily accessible from the street and also from the showrooms, and should be provided with a small stage, cloakrooms and adequate means of escape.

One upper floor may be devoted to the company's offices and another floor to the practice and teaching rooms. These practice rooms, of which at least 10 are required, may be as small as 120 ft. super, may be located on the noisy side, and need not be entirely sound proof as between one and another. But noise from the practice rooms must not penetrate floor and ceiling.

The teaching rooms must be larger, say 400 ft. super, and special precaution must be taken to insulate one from another and to secure protection from traffic noises, as well as to insulate floors and ceilings.

Ample cupboard accommodation is required for the storage of music in the teaching and practice rooms.

The attention of the candidate is drawn to the necessity of planning against noise whether the problem is dealt with as a special acoustic problem or not.

Drawings required: Plans of each floor, one section, and elevation to one street to one-sixteenth inch scale; elevation to other street to one-eighth scale.

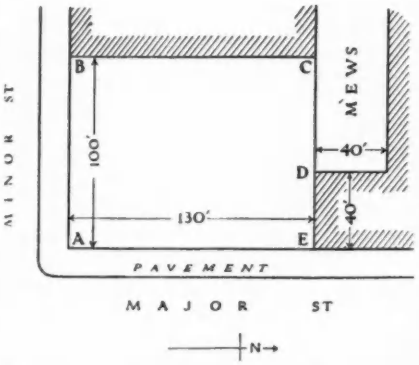
Candidates who are treating this problem acoustically are required to submit a reverberation table of the concert hall, to give an analysis of the hall with full audience, one-third audience and empty, and to analyse the propagation of sound on long section and cross-section.

b: Working Drawings: The design for the concert hall and showrooms may, after it has been approved, be re-submitted with the addition of working drawings of the concert hall. These are to consist of one-eighth inch scale plan of the complete floor on which the concert hall occurs, and also one-half inch scale section of the concert hall.

No. 12: a: Design for Collegiate Rooms: A college in an English university town requires an extension to provide approximately 75 sets of undergraduate's rooms. The site is level, may be regarded as being of unlimited extent, and is adjacent to the existing college buildings. The Hall and Chapel were built of stone in the fifteenth century, and there are two quadrangles in stone of the early Renaissance period. Later additions have been made in a mellow red brick with stone dressings during the nineteenth century. The authorities of the college do not wish to impose any particular style or material upon their architect, but require that the new building should have an appropriate collegiate character. They have expressed a desire that it should take a quadrangular form.

Each of the 75 sets of rooms should contain a study and a bedroom. Common bathrooms, lavatories and cleaners' rooms should also be provided, and there should be a boiler house for heating and hot-water supply.

Drawings required: 1: Plans of each floor and



Site plan for a concert hall and showrooms for a pianoforte manufacturer. See accompanying notes on Design No. 7.

sufficient elevations and sections to explain fully the design to one-sixteenth scale. Details of the plan need not be repeated: 2: One elevation to one-eighth scale; 3: A portion of one elevation to half-inch scale.

b: Working Drawings of a Block of Collegiate Rooms: The design for Collegiate Rooms may, after it has been approved, be re-submitted with the addition of complete working drawings to half-inch scale of one set of rooms on each floor, including entrance and staircase.

DATES FOR THE SUBMISSION OF DESIGNS IN 1935

Subject No. 7	February 28
Subject No. 8	April 30
Subject No. 9	June 28
Subject No. 10	August 30
Subject No. 11	October 31
Subject No. 12	December 31

LAW REPORT

HOUSING ACTS

Jenkinson v. *Leeds Corporation—Court of Appeal. Before the Master of the Rolls, Lord Justice Romer and Mr. Justice Goddard.*

THIS was an appeal by the defendant, Mr. J. R. Jenkinson, the tenant of a subsidized house erected by the Leeds Corporation under the Housing Acts, from an order for possession made by Judge Woodcock, sitting at the Leeds County Court in May last.

It appeared that Mr. Jenkinson's house was completed in 1929 and was therefore not within the Rent Restriction Acts. A notice to quit was served on the defendant, which expired on April 16 last, and would admittedly have been valid and effective if served by a private landlord. But the defendant alleged that, the landlords being a public authority, he was entitled to examine into the reasons for which the notice was given, and he found that it was in fact given in pursuance of a scheme of rent regulation according to the means of the tenants, which was not authorized by the Acts. It was contended that the notice was therefore *ultra vires*.

The County Court Judge made the order for possession and Jenkinson now appealed.

Mr. Comyns Carr, K.C., for Jenkinson, said his rent—"the appropriate normal rent"—was fixed at 9s. 8d. per week, including rates. The Corporation then evolved a scheme, which in his submission was *ultra vires*. They proposed no longer to charge identical rent for identical houses, but to charge a full economic rent to the tenant, in this case his client, at 10s. a week, plus rates, while to the other tenant, if he filled up a form disclosing his means, and satisfied the Corporation of his needs, might be granted relief and charged a rent lower than the "appropriate normal rent." The excess rent paid by his client was used in conjunction with the subsidy to form a "rent pool" to bring the rent paid by the other tenant up to the "appropriate normal rent." The aggregate would thus be kept down to the required limit. At the material date the "rent pool" amounted to £5,000. Counsel contended that there was no authority for any such arrangement, and certainly nothing in the Acts to show that it was within the purview of an authority to consider the circumstances of individual tenants, who, if need arose, could obtain from the public assistance committee a grant in aid of the rent.

Mr. Montgomery, K.C., for the Corporation, contended that it was clear that the Corporation was entitled to differentiate between individuals in certain circumstances, because under section 3 of the Housing (Financial Provisions) Act, 1924, they were required to give reasonable preference to large families. In his view it was difficult to say that that did not import a right to charge less to an applicant with a large family than to a single applicant.

The Court dismissed the appeal.

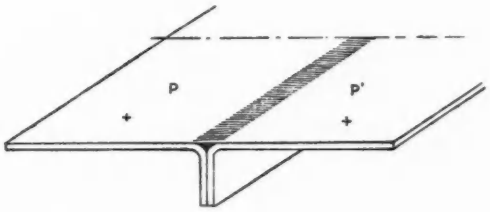
The Master of the Rolls, in giving judgment, drew attention to the Housing Acts prior to 1923 and proceeding said the Act of 1923 provided for encouragement of building by the grant of a subsidy. Its provisions were ancillary to the main provisions of the Housing Acts. Next came the Act of 1924 which gave an increased subsidy in the case of houses subject to special conditions. He did not construe that Act as saying that a "rent pool" was wholly alien to the purposes of the Act. The sections provided a power to provide accommodation and to make reasonable charges, and it seemed a matter for the discretion of the local authority to determine what were the reasonable charges they should make for tenancies, and that they could differentiate as regards the rent to be paid. The provisions of the Act of 1924 seemed appropriate to prevent the local authority from using subsidies in any way which would enure to the benefit of the rates or show a profit, but not to curtail or circumscribe the general powers of management conferred on the local authority. The appeal must therefore be dismissed.

Lord Justice Romer and Mr. Justice Goddard concurred

THE COAL UTILIZATION COUNCIL.

The Coal Utilization Council announce that it has been found necessary, owing to the difficulty in making adequate arrangements between now and November, to postpone the Coal Industries Fair until September–October of next year.

The closing date of the open fireplace and poster competitions has therefore been extended until July 31, 1935.



TRADE NOTES

[BY F. R. S. YORKE, A.R.I.B.A.]

Welding

AN article by M. Chatel, appearing in *The Welder* for September, 1934, describes the application of welding in the construction of rolling stock on the Nord Railway. Since 1923 the Compagnie du Nord have employed various methods of welding in the construction of passenger coaches and goods wagons. The earlier work was performed with oxy-acetylene. When the first experiments were made electric welding was still considered a relatively unimportant process. It had been applied in the "filling up" of corrosions, for quick welding where there was no load, but the electric arc had never been used for joints which were required to transmit stress.

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When two carriage panels were joined the welding metal filled the joints and gave the appearance of a single plate. The distortion caused by the flame was overcome by hammering. (See diagram above)

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By degrees the quality of the electrodes was improved, and the electric arc took the place of gas. The first developments of the process took place in 1927, and by 1930 arc welding was used regularly. Covered electrodes were used in standard practice.

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In the construction of wagons, copper-steel has been found superior to ordinary steel in resisting the effects of atmospheric corrosion. In actual welding no particular difficulties have been experienced, but it has been found that if the plate is of Martin steel and the sections of Thomas steel, irregularities may result from the varying proportion of phosphorus in the materials to be welded, and from the difference of the oxidized slate of the contact surfaces.

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Certain spot weld joints give a strength equal to riveting, some are superior, and others distinctly inferior, owing to contact being affected by oxidization on the surfaces to be welded. It is considered the contacts should be a little tighter than is normal when riveting. It has been found preferable to use an efficient machine that welds quickly and allows the heat to penetrate the plates to be welded, so lowering the stress on points already welded. Where a number of welded points are at close intervals, such a machine can make a continuous weld from point to point.

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The cost of upkeep of welded carriages is almost negligible. The work of painting is reduced, because the solidity of the one-piece panel reduces risk of varnish flaking and eliminates water penetration.

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Tests at the Tergnier workshops included shunting the bare welded wagon, coupled to a 30-ton guards van and running at 35 kilometres per hour on a curved line, against a block of three 30-ton guards vans, each braked. The horizontal dent on the

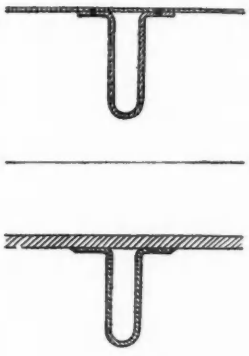


Figure 1.

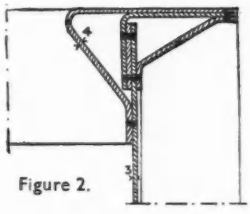


Figure 2.

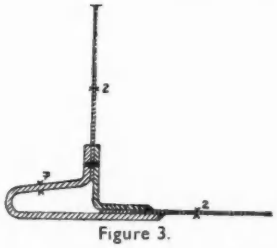


Figure 3.

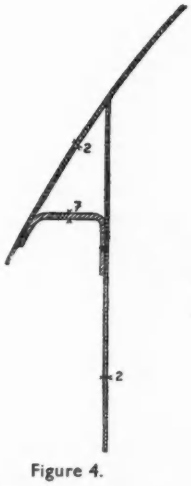


Figure 4.

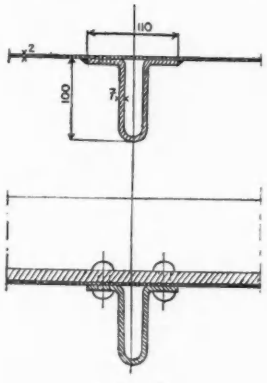


Figure 5.

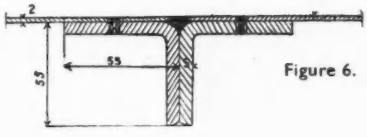


Figure 6.

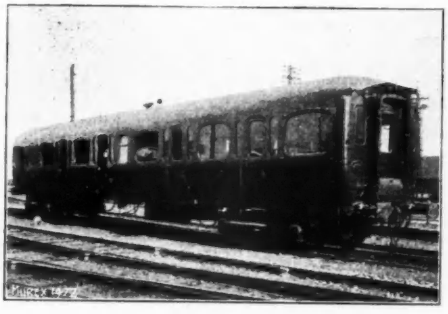


Figure 1, joining of uprights to side sheets and underframe; figure 2, joining of top angles of body; figure 3, joint at corner; figure 4, joining of stay-bracket for roofing to side of body and roof; figure 5, joining of uprights to body and underframe; figure 6, roof plate and carline joint; figure 7, section of bottom plate to the side of closing device. The photograph shows a welded steel carriage and the headpiece is a drawing showing the welding of two panels of the carriages.

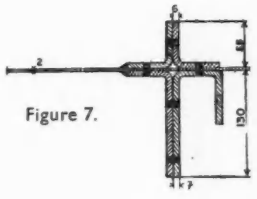
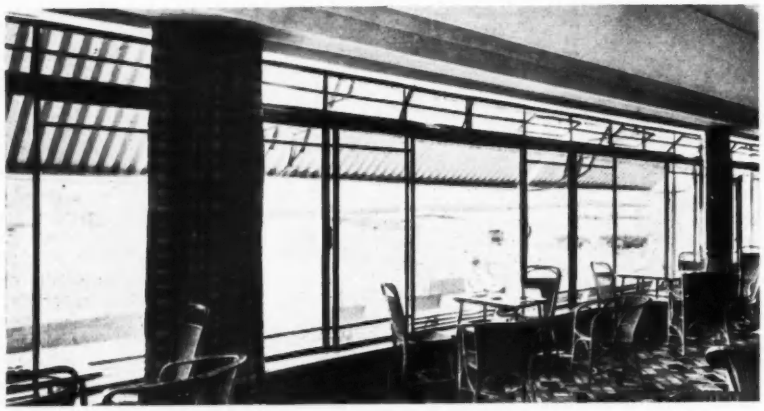
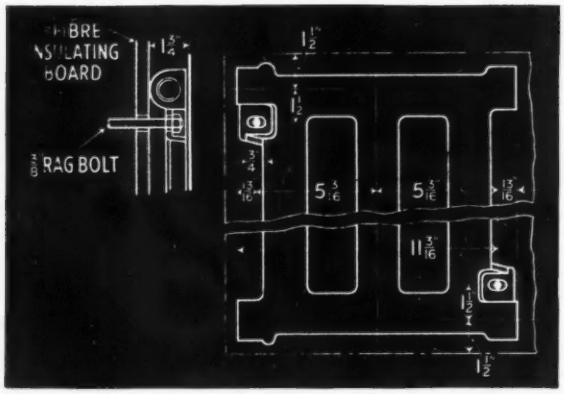


Figure 7.





Above: a view of the Frinton Golf Club, showing continuous Rayrad under window. Left: Rayrad No. 35, fixing detail.

underframe was nearly one metre long, but the welded joints withstood the shock without fracture.

Panel Heating

Ideal Rayrad No. 35 is a new light and adaptable Rayrad suitable for fixing to ceilings walls or floors. It is made in sections, comprising a series of vertical and horizontal cast-iron waterways. Specially flattened 14-gauge steel plates are secured to the sections to form the front of the radiator, and present a continuous face on the exposed side. The standard plate extends ½ in. on all sides beyond the sections and connections, to conceal the edge of the plaster.

The sections are 10 in. wide and 12 in., 18 in., 24 in. and 30 in. high. They are connected together with ¾-in. right- and left-hand threaded internal nipples. They are despatched in any size up to a maximum of 10 sections in length and with steel plate to suit. The heating surface should be divided into two or more individual radiators, rather than exceed the length mentioned.

The appearance of the radiator is shown in the accompanying photograph of a room at the Frinton Golf Club, where continuous Rayrad runs between floor and cill along the whole length of the large horizontal window.

New Road at Castle Bromwich

The plan of the Engineering and Hardware Section of the 1935 British Industries Fair at Castle Bromwich, Birmingham, has been approved, subject only to endorsement by the council of the Birmingham Chamber of Commerce, by the Management Committee.

An important feature of the plan is a new road to be specially built for traffic at Castle Bromwich. This road will link up with the Chester trunk road and Aerodrome Road. The road will be thirty feet wide and more than a third of a mile long. This road will be something of an exhibit itself. It will illustrate the methods of modern road-making, as it will be laid in sections in tarmacadam, concrete, rubber, wood, sett, brick and iron.

Manufacturers' Items

An interesting feature of the Balmoral Room in the Connaught Rooms is the range of eighteen lay-lights, recently installed by Messrs. G. V. D. Illuminators to the instructions of the architects, Messrs. H. V. Ashley and Winton Newman, FF.R.I.B.A. The lay-lights are designed for vari-colour lighting, and incorporate a development of the one-bulb principle. In this instance, a single bulb is used for each colour, one red, one green, a blue and a white. The distribution from any one bulb is remarkably uniform, whilst, it is claimed, almost limitless combinations of colour are secured by means of a new type of dimmer, wound to a special formula produced by the consulting engineers, Messrs. Ridge and Aldred.

*

W. T. Henley's Telegraph Works Co., Ltd., of Holborn Viaduct, E.C.1, have sent us a copy of booklet entitled *Lead Tubes Through the Ages*. In the foreword it is pointed out that "the four advertisements which are reproduced in the booklet give a brief history of the development of lead tubing. They were issued as a series in the technical press to call attention to the advantages of lead sheathing produced without a seam on the Henley Straight Through Lead Press. They are now issued in booklet form for the convenience of those who would like to read the story 'straight through' without the delay between each which must necessarily take place during publication in a weekly periodical." Copies of the booklet are obtainable on application to the firm.

*

We regret that in the list of contractors for Basil House, Berner Street, Stepney, published in our last issue, we inadvertently omitted to mention that Messrs. Modern Surfaces, Ltd., were responsible for the supply of materials for, and execution of, the external and internal paintwork. The firm also supplied and rendered their Brizolit stucco on the exterior.

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

Following are the names of the general contractors and some of the sub-contractors for the buildings illustrated in this issue :—

New University Library, Cambridge (pages 559-568). General contractors, Rattee and Kett, Ltd., who were also responsible for the stone carving, joinery and stonework. Sub-contractors : Holloway Bros., Ltd., excavations and foundations ; Ragusa Asphalte Paving Co., Ltd., dampcourses ; Concrete, Ltd., reinforced concrete ; Ames and Finnis, bricks and tiles ; Redpath Brown & Co., Ltd., structural steel ; Speaker & Co., Ltd., partitions ; Acme Flooring and Paving Co., wood block flooring ; Korkoid Decorative Floors, patent flooring ; Roneo, Ltd., bookstacks, etc. ; David Evans and E. Carter Preston, sculpture ; G. N. Haden and Sons, Ltd., central heating, gas fitting, telephones, boilers, ventilation, electric wiring, clocks, water supply and water softening plant ; General Electric Co., Ltd., electric light fittings ; Leeds Fireclay Co., Ltd. sanitary fittings ; James Gibbons, Ltd., door furniture ; Arens Controls, Ltd., casements ; Potter Rax Gate Co., Ltd., folding gates ; John Tann, Ltd., fireproof doors ; Haywards, Ltd., iron staircases ; J. W. Gray and Son, Ltd., lightning conductor ; The Xelite Co., Ltd., plaster ; H. H. Martyn & Co., Ltd., and the Birmingham Guild, metalwork ; Green and Vardy, Ltd., joinery and furniture and wood carving; Hornton Quarries, Ltd., Hornton stone; Clipsham Quarry Co., Clipsham stone ; Weldon Stone ; J. Whitehead and Sons, Ltd., marble ; Express Lift Co., Ltd., lifts ; Herbert Morris, Ltd., cranes ; Hoyle, Robson, Barnett & Co., Ltd., Glazement in the reference rooms and book store rooms and for staircases.

Burnham Court, Hendon, N.W.4 (pages 571-573). General contractors, John Laing and Son, Ltd. Sub-contractors : Rapid Floors, Ltd., suspended concrete floors ; F. Bradford & Co., Ltd., concrete staircases and landings ; Bratt Colbran & Co., Ltd., fireplaces ; Croggon & Co., Ltd., iron service stairs ; Jacob White & Co., Ltd., electric wiring ; Shanks & Co., Ltd., sanitary fittings ; G. N. Haden and Sons, Ltd., hot water installation ; F. McNeill & Co., Ltd., roofing work.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

CATERHAM. *Houses, etc.* Plans passed by the U.D.C.: Four houses, Salmons estate, for Messrs. Thomas and Sutcliffe; lay-out Thriftfield estate, Warlingham, for Mr. P. Adams, F.R.I.B.A.: three shops and flats, Westway, for Messrs. Rouse & Co.; six houses, Bakers Hill, Warlingham, for Mr. A. E. Guest; six houses, Markville Gardens, for Messrs. Gladden and Bridle; three houses, Stuart Road, for Mr. E. C. Ballatti; lay-out, 12 plots, Rook Lane, Chaldon, for Mr. W. Seldon; two houses, Anne's Walk, for Messrs. Thomas and Sutcliffe; two houses, Beechwood Gardens, for Mr. C. H. Harrington; 10 houses, Whyteleafe Hill, for Mr. J. W. Looby; six houses, Essendene Road, for Messrs. Sinden, Thompkins and King; two houses, Alexandra Road, for Mr. M. Wright; two bungalows, Garden Village, Woldingham, for Mr. H. F. Morris; two houses, Roffes Lane, for Messrs. Batchelar and Son. Plans submitted: two houses, Manor Avenue, for Messrs. Thomas Bros.

HARROW. *Houses, Church, Roads, etc.* Plans passed by the U.D.C.: 17 houses, Marsh Lane, Stanmore, for Mr. G. Nicholls on behalf of Mr. W. M. Bassadone; roads for residential development, Tithe Farm estate, Pinner, for Messrs. T. F. Nash, Ltd.; four houses, St. Thomas Drive, Hatch End, for Mr. H. Moon; development, Warren House estate, Stanmore, for Mr. D. Wood, on behalf of Sir John Fitz-Gerald, Bart.; eight flats, West End Avenue, Pinner, for Mr. E. A. Lewis; 54 flats and 25 garages, Sheepcote Road, for Messrs Sharkey and Lambert; church, hall and vicarage, Clifton Avenue, Kenton, for Messrs. Biscoe and Stanton, on behalf of London Diocesan Fund; roads on Aylwards estate, Stanmore, for Messrs. Matthews and Son, on behalf of Mr. F. J. Lawes; 23 flats, South Lodge estate, Stanmore, for Messrs. Marshall and Tweedy, on behalf of Mr. L. F. Richardson; 11 houses, Earlsmead estate, Tregenna Avenue, for Messrs. Eccles and Crowther; seven houses, Arundel Drive, for Messrs. Jones and Owen; five roads on Roxeth estate for Messrs. Geo. Wimpey & Co., Ltd.; 18 houses, Eastcote Lane, for Messrs. H. Dawson (Harrow), Ltd.

WOOD GREEN. *Shops, Houses, Factories.* Plans passed by the Corporation: Two houses, Woodfield Way, for Mr. F. F. Tomlin; two flats, Muswell Road, for Mr. C. W. Boswell; two flats, Roseberry Road, for Mr. S. G. Luckcock; 16 houses, Alexandra Park Road and Vallance Road, for Mr. P. Gorwitch, on behalf of Mr. I. Berry; flats, Cecil Road, for Mr. S. G. Luckcock; factory reconstruction, Bounds Green Road, for Standard Bottle Co., Ltd. Plans submitted: Four shops and flats, Green Lanes, for Mr. A. Whitaker; four flats, Terrick Road, for Mr. L. F. Ivall.

SOUTHERN COUNTIES

GUILDFORD. *Development Scheme.* At the Town Planning Committee of the Corporation the acting town clerk submitted schemes prepared by Messrs. Clemence & Co., Messrs. Annesley Brownrigg and Hiscock, and Messrs. Hodgson, Dixon and Quick, for the development of the Tuns Gate site, and the Committee decided to hold a special meeting on October 23 next to consider the schemes.

GUILDFORD. *Estate development.* Mr. A. Parsons, of Bramley, is to develop an estate at Barnet Hill, near Wonersh.

MAIDSTONE. *Police Court Premises.* The Corporation is to obtain tenders for the erection of police court premises in Palace Avenue.

SOUTH-WESTERN COUNTIES

BRISTOL. *Houses.* The Corporation has made an agreement with Mr. J. T. Adams for the erection of 88 houses at Beckenham Road, on the Bedminster estate.

PLYMOUTH. *Houses, Warehouses, Shops, etc.* Plans passed by the Corporation: Two houses, Edgecumbe Park estate, for Mr. E. Davy; two houses, Edgecumbe Park estate, for Mr. A. H. White; two houses, Vine estate, for Mr. R. D. Tolkein; two shops and three houses, Bull Point Road, for Messrs. J. E. Deans and Son; two houses, Ayreville Road, for Mr. F. Westcott; 10 houses, Fisher Road, for Messrs. G. H. Smith and Son; two houses, Wolseley Road, for Mr. G. H. Perkins; warehouse, Vauxhall Street, for Mr. W. B. Richardson; six houses, Channel Park Avenue, for Mr. H. Cann; 30 houses, Ladysmith Road, for Mr. J. Rendle; three houses, Mollison Road, and two bungalows, Old Walls estate, for Messrs. Searle and Son; two houses, East Park Avenue, for Mr. R. Hockin; two bungalows, Weston Park Road, for Mr. E. J. Manning; two houses, Edgecumbe Park estate, for Mr. J. Thomas; two houses, Orchard Road, for Mr. F. Westcott; four bungalows, Sunny Hill estate, for Messrs. Coad Bros, two houses, off Old Laira Road, for Mr. J. Blatchford; six houses, Peverell Terrace, for Mr. W. P. G. Hill; two flats, Wolseley Road, for Mr. A. Shields; shop, Tavistock Road, for Britannic Assurance Co.; motor showrooms extensions, Tavistock Road, for Mr. A. C. Turner; two houses, Effingham Crescent, for Messrs. Donald and Tucker; four houses, Little Ash estate, St. Budeaux, for Mr. C. James; four houses, Culme Seymour estate, for Mr. F. Hender; and two houses, Tor Lane, for Ideal Homesteads. Plans submitted: Four houses, Elms estate, for Mr. B. C. Brien; two houses, Durban Road, for Mr. J. T. Capell.

MIDLAND COUNTIES

CHESTERFIELD. *Re-housing.* The Corporation has purchased land in Devonshire Avenue for a re-housing scheme.

CHESTERFIELD. *Police Premises.* The Corporation has instructed the architect to prepare plans for the extensions of the police premises, incorporating suggestions made by the Home Office.

CHESTERFIELD. *Baths.* The Corporation has interviewed Mr. A. J. Hope, the architect for the erection of the new municipal buildings, regarding the possibilities of a site on the Rose Hill estate for the erection of the proposed central baths. The Corporation has approved plans for the construction of an open-air swimming bath in Stand Road recreation ground at a cost of £4,200.

CHESTERFIELD. *Houses.* Plans passed by the Corporation: Two houses, Hady Hill, for Water Board; two houses, Highfield View, for Mr. J. A. B. Short; four houses, Gipsey Lane, for Mr. A. Mowbray; two shops, Newbold Road, for Mr. F. Fairburn; three houses, Hughfield Lane, for Mr. Arthur Needham; two houses, Upper Newbold, for Messrs. Fred Wale, Ltd.; two houses, Cotthorpe Four Lanes End, for Messrs. G. Beresford and Sons; two houses, Hady Hill, for Messrs. C. Buckley and Sons; two houses, Boythorne Road, for Mr. A. E. Herring; two houses, Brockwell Lane, for Messrs. J. Collis and Sons, Ltd.; two houses, Brinington Road, for Messrs. Revill and Beresford; six houses Storforth Lane, for Messrs. Clarke Bros.; four houses, Upper Newbold, for Mr. W. Bargh; two houses, Smithfield Avenue, for Mr. A. Smith; four houses, Newbold Road, for Mr. F. Durham; four houses, Dunston Lane, for Messrs. G. Beresford and Sons.

NORTHERN COUNTIES

BLACKPOOL. *Ambulance Station.* The Watch Committee has approved plans for the erection of a new ambulance station.

BLACKPOOL. *Houses and Shops.* Plans passed by the Corporation: Bank and house, Westcliffe Drive and Annesley Avenue, for Messrs Williams Deacon's Bank, Ltd.; three houses, Harrow Place, for Sir Lindsay Parkinson and Co.; warehouse, garage, etc., Cecil Street, for Messrs. W. B. Anderson and Sons, Ltd.; two houses, Devonshire Road, Norbreck, for Messrs. Brotherton & Co., Ltd.; two houses, Queen's Drive, for Mr. P. Wood; Park Drive, for Mr. J. H. Lowe; two houses, Sherringham Avenue, for Mr. W. Spencer; 12 houses, Primrose Avenue, for Mr. R. Eaves; two houses, Patterdale Avenue, for Mr. R. Hollis; two houses, Warbreck Hill Road, for Mr. A. Ashworth; two houses, Albany Avenue, for Mr. T. Foster; boarding house and garage, Promenade South, for Mr. W. Fielding; two houses, Beetham Place, for Mr. B. Lloyd; two houses, Ascot Road, for Mr. R. Parkinson; 20 houses, Brentwood Avenue, etc., for Messrs. R. and H. Fletcher, Ltd.; 14 houses and 11 garages, Park Road, for Messrs. J. Gregson and Son: three houses, South Park Drive, for Mr. J. Parker; 12 houses, Denstone Avenue, for Mr. J. V. Marsh; four houses and shops, Devonshire Road, for Messrs. R. Fielding and Son; seven houses, Holgate, for Mr. H. Eckersley; two houses, Lawson Road, for Mr. T. Southworth; five houses, Preston New Road, for Messrs. Clarkson and Suthers; two boarding houses, Luton Road, for Mr. R. W. Findlay; four houses, Preston New Road, for Mr. J. E. Dugdale; two houses, Moss House Road, for Mr. G. Cardwell; 16 houses, Colchester Road, etc., for Messrs. G. and G. H. Whitehead; two shops, Highfield Road, for Blackpool Co-operative Society; 18 houses and garages, Mossom Lane, etc., for Mr. W. Spencer. Plans submitted: Two bungalows, Granville Road, for Messrs. Cardwell Bros.; 12 houses, Deneway Avenue, for Mr. A. Wilson and others; two houses, Hodgson Road, for Messrs. G. Hodgson and Sons; 22 houses, Park Road and Bloomfield Road, for Mr. S. A. Howard; 67 houses and 17 garages, Warbreck Hill Road, for Messrs. R. Fielding and Son; nine houses and shops, Moor Park Avenue, for Mr. T. Brierley.

BLYTH. *Shops.* The Corporation is to erect six shops on the housing estate.

BOOTLE. *Houses.* The Town Planning Committee of the Corporation has approved lay-out plans submitted by the North Western Estates Development Co., Ltd., for the erection of 16 houses at Southport Road. The Housing Committee of the Corporation has approved lay-out plans for the erection of 166 A3 type houses in terraces and pairs on sites north of Aintree Road and east of the proposed Southport Road.

DURHAM. *Hospital.* The Hospital Committee of the County Council recommends a scheme for the erection of a central hospital at the Dryburn estate, at an estimated cost of £240,000.

HULL. *Airport.* The Corporation is to obtain a further report from the Aerodrome Committee regarding the proposal for the enlargement of the airport.

HULL. *Cinema.* The Watch Committee has approved plans for the erection of the new Rex cinema in Endyke Lane.

ROTHERHAM. *Houses, etc.* Plans passed by the Corporation: Five houses, Wortley Road, for Mr. E. Ogley; 14 houses, Lister Street, for Messrs. L. Fraser & Co.; works extensions, Armer Street, for the British Oxygen Co., Ltd.; eight houses, Wortley Road, for Mr. G. Lancaster; two houses, Treherne Road, for Miss B. Sidall; shop, etc., Searby's Yard, Rawmarsh Road, for Mr. E. A. Wood.

SCARBOROUGH. *Houses and Shops.* Plans passed by the Corporation: Two shops, Scalby Road, for Mr. F. Baker; two houses, Cornelian Drive, for Mr. J. Rennard; two houses, Devonshire Drive, for Messrs. F. Mitchell and Sons; 18 houses, Mount Park Avenue, for Mr. C. J. Wilson, on behalf of Messrs. Hovington and Gibson.

STALYBRIDGE. *Houses.* The Corporation is to obtain tenders for the erection of 12 houses in Harrison Street and 64 in Cambridge Street.

WAKEFIELD. *Cinema.* Associated British Cinemas are in negotiation with the Corporation for the lease of a site at Sun Lane for the proposed erection of a cinema.

WAKEFIELD. *Houses, Offices, etc.* Plans passed by the Corporation: Two houses, Farne Avenue and two houses, Dewsbury Road, for Messrs. Kay and Lunan; two houses, Denby Dale Road, for Mr. W. Wrigley; new office block, Henry Street, for Mr. J. Percy Firth, on behalf of Messrs. J. C. Waterhouse, Ltd. Plans submitted: Warehouse, Union Street, for Messrs. Drake and Warters, on behalf of Messrs. J. Sharphouse and Son, Ltd.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I	II
			s. d.	s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A	Aberdeen ..	Scotland	1 6	1 1½
A_1	Abergavenny ..	S. Wales & M.	1 5	1 0½
A_2	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow	N.W. Counties	1 5½	1 1½
A	Barry	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_2	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham ..	Mid Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton	N.W. Counties	1 5½	1 1½
A_2	Boston	Mid. Counties	1 4	1 0
A	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A	Brighton ..	S. Counties	1 4	1 0
A	Bristol	S.W. Counties	1 5½	1 1½
B_2	Brixham ..	S.W. Counties	1 2½	11
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
A	Bursiem ..	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury	N.W. Counties	1 5½	1 1½
A	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE ..	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A	Chelmsford ..	E. Counties	1 4	1 0
A	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A_2	Colchester ..	E. Counties	1 4	1 0
A	Colne	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett	N.E. Coast	1 5	1 0½
A_2	Conway	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON ..	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorches	S.W. Counties	1 2½	11
A	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley	Mid. Counties	1 5½	1 1½
A_2	Dumfries ..	Scotland	1 5	1 0½
A	Dundee	Scotland	1 5½	1 1½
A	Durham	N E. Coast	1 5½	1 1½
A_2	EASTBOURNE ..	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter	S.W. Counties	*1 4½	1 0½
B	Exmouth	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE ..	E. Counties	1 4	1 0
A_2	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S. W. Counties	1 2½	11
A	GATESHEAD ..	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A	Glasgow	Scotland	1 6	1 1½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	Gosport	S. Counties	1 4½	1 0½
A_2	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX	Yorkshire	1 5½	1 1½
A	Hanley	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich	E. Counties	1 3½	11½
B_1	Hastings	S. Counties	1 3	11½
A_2	Hatfield	S. Counties	1 4½	1 0½
B	Hereford	S.W. Counties	1 3½	11½
A_2	Hertford	E. Counties	1 4½	1 0½
A	Heysham	N.W. Counties	1 5½	1 1½
A	Howden	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull	Yorkshire	1 5½	1 1½
A	ILKLEY	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich	E. Counties	1 4½	1 0½
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal	N.W. Counties	1 3½	11½
B	Keswick	N.W. Counties	1 3½	11½
	Kettering	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A	Luton	E. Counties	1 4	1 0
A	Lytham	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_2	Malvern	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate	S. Counties	1 3	11½
A	Matlock	Mid. Counties	1 4	1 0
A_1	Merthyr	S. Wales & M.	1 5	1 0½
A	Middlesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid Counties	1 5½	1 1½
A_2	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth	Scotland	*1 5½	1 1½
A_2	Peterborough	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY ..	N.W. Counties	1 5½	1 1½
A_2	READING	S. Counties	1 4½	1 0½
B	Reigate	S. Counties	1 3½	11½
A	Retford	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A	Ripon	Yorkshire	1 4	1 0
A	Rochdale	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon	N.W. Counties	1 5	1 0½
A	Rugby	Mid. Counties	1 5½	1 1½
A_2	Rugeley	Mid. Counties	1 4½	1 0½
A	Runcorn	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton	Yorkshire	1 4½	1 0½
A_2	Slough	S. Counties	1 4½	1 0½
A_1	Solihull	Mid. Counties	1 5	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport	N.W. Counties	1 5½	1 1½
A	S. Shields	N.E. Coast	1 5½	1 1½
A_1	Stafford	Mid. Counties	1 5	1 0½
A	Stirling	Scotland	1 6	1 1½
A	Stockport	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swansea	S. Wales & M.	1 5½	1 1½
A	Swindon	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton	S.W. Counties	1 3½	11½
A	Teesside Dist. ..	N.E. Counties	1 5½	1 1½
A_2	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD ..	Yorkshire	1 5½	1 1½
A	Walsall	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby	Yorkshire	1 4½	1 0½
A	Widnes	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop	Yorkshire	1 4	1 0
A_1	Wrexham	N.W. Counties	1 5	1 0½
A	Wycombe	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 8
Mason (Banker) . . . . . ,,	1 7
,, (Fixer) . . . . . ,,	1 8
Plumber . . . . . ,,	1 7
Painter . . . . . ,,	1 6
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 7
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 3
Timberman	1 3
Navvy . . . . . ,,	1 2½
General Labourer . . . . . ,,	1 2½
Lorryman . . . . . ,,	1 5
Crane Driver . . . . . ,,	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . . per ton	2 2 0
Blue Lias Lime . . . . . ,,	1 16 6
Hydrated Lime . . . . . ,,	3 0 9
Portland Cement, in 4-ton lots (d/d site, including Paper Bags) . ,,	1 18 0
Rapid Hardening Cement, in 4-ton lots (d/d site, including Paper Bags) . ,,	2 5 6
White Portland Cement, in 1-ton lots ,,	8 15 0
Thames Ballast . . . . per Y.C.	6 3
¾" Crushed Ballast . . . . ,,	6 9
Building Sand . . . . . ,,	7 3
Washed Sand . . . . . ,,	8 3
2" Broken Brick . . . . . ,,	8 0
¾" ,, ,, ... ,,	10 3
Pan Breeze . . . . . ,,	6 6
Coke Breeze . . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . . per F.R.	0 9	1 1
Bends . . . each	1 9	2 6
Taper Bends . . ,,	3 6	5 3
Rest Bends . . ,,	4 3	6 3
Single junctions . . ,,	3 6	5 3
Double . . . ,,	4 9	6 6
Straight channels . . per F.R.	1 6	2 6
¼" Channel bends . each	2 9	4 0
Channel junctions . ,,	4 6	6 6
Channel tapers . . ,,	2 9	4 0
Yard gullies . . ,,	6 9	8 9
Interceptors . . ,,	16 0	19 6
IRON DRAINS:		
Iron drain pipe . . per F.R.	1 6	2 6
Bends . . . each	5 0	10 6
Inspection bends . . ,,	9 0	15 0
Single junctions . . ,,	8 9	18 0
Double junctions . . ,,	13 6	30 0
Lead wool . . . lb.	6	—
Gaskin . . . ,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . . Per M.	2 18 0
Grooved do. . . . . ,,	3 0 0
Phorpres bricks . . . . ,,	2 17 3
,, Cellular bricks . . ,,	2 17 3
Stocks, 1st quality . . . ,,	4 11 0
,, 2nd ,, . . . ,,	4 2 6
Blue Bricks, Pressed . . ,,	8 17 6
,, Wirecuts . . ,,	7 17 6
,, Brindles . . ,,	7 0 0
,, Bullnose . . ,,	9 0 0
Red Sand-faced Facings . . ,,	6 18 6
Red Rubbers for Arches . . ,,	12 0 0
Multicoloured Facings . . ,,	7 10 0
Luton Facings . . . ,,	7 10 0
Phorpres White Facings . . ,,	3 17 3
,, Rustic Facings . . ,,	3 12 3
Midhurst White Facings . . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . . ,,	21 0 0
Headers . . . . . ,,	20 10 0
Bullnose . . . . . ,,	27 10 0
Double Stretchers . . . ,,	29 10 0
Double Headers . . . . ,,	26 10 0
Glazed Second Quality, *Less* . ,,	1 0 0
,, Buffs and Creams, *Add* . ,,	2 0 0
,, Other Colours . . ,,	5 10 0
2" Breeze Partition Blocks . . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 10
3" ,, ,, ,, . . ,,	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

	s. d.
The following d/d F.O.R. at Nine Elms:	
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 7½
Bath stone . . . . . ,,	2 10
York stone . . . . . ,,	6 6
,, ,, Sawn templates . .	7 6
,, ,, Paving, 2" . . . F.S.	1 8
,, ,, ,, 3" . . . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . . per M.	28 17 6
22" × 12" Marchionesses . . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . . ,,	15 10 0
18" × 9" Ladies . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, ,, green ,, ,,	24 7 4
Best machine roofing tiles . ,,	4 10 0
Best hand-made do. . . ,,	5 0 0
Hips and valleys . . . each	9½
,, hand-made . . . ,,	10
Nails, compo . . . . lb.	1 4
,, copper . . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . as 1" F.S.	9
Deal, Joiner's . . . ,, ,,	5
,, 2nds . . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
O k, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . ,, ,,	4
Teak, Moulmein . . ,, ,,	1 3
,, Burma . . ,, ,,	1 2
Walnut, American . . ,, ,,	2 3
,, French . . ,, ,,	2 3
Whitewood, American . . ,, ,,	1 1
Deal floorings, ⅞" . . Sq.	18 6
,, 1" . . ,,	1 1 6
,, 1¼" . . ,,	1 2 0
,, 1½" . . ,,	1 5 0
Deal matchings ⅞" . . ,,	1 10 0
,, 1" . . ,,	14 0
Rough boarding ⅞" . . ,,	15 6
,, 1" . . ,,	1 4 0
,, 1½" . . ,,	16 0
Plywood, per ft. sup. —Thickness ⅛" ¼" ⅜" ½"	18 0 / 1 6 0

Qualities	⅛" AA. A. B. d. d. d.	¼" AA. A. B. d. d. d.	⅜" AA. A. B. d. d. d.	½" AA. A. B. d. d. d.
Birch .	4 3 2	5 4 3	7½ 6 4½	8½ 7 6
Alder .	3½ 3 2	5 4 3	6½ 5½ 4½	8 7 6
Gaboon Mahogany	4 3 3	6½ 5½ 4½	9½ 7½ –	1/0½ 10 –
Figured Oak 1 side	8½ 7 –	10 8 –	11½ – –	1/6 – –
Plain Oak 1 side	6½ 6 –	7½ 7 –	9½ – –	1/– – –
Oregon Pine	5 4 –	5½ 5 –	6 – –	– – –

	d.
Scotch glue . . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:
(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	⅛"	¼"	½"	1"	1¼"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10	
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9	
,, 3"-11½" long ,,	7	9	1/3	1/8	3/–	
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3	
,, ,, 3"-11½" long ,,	8	10	1/5	1/11	3/6	
Bends . . . . ,,	8	11	1/7½	2/7½	5/2	
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11	
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–	
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3	
Tees . . . . ,,	1/–	1/3	1/10	2/6	5/1	
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6	
Plain Sockets and nipples ,,	3	4	6	8	1/3	
Diminished sockets . ,,	4	6	9	1/–	2/–	
Flanges . . . ,,	9	1/–	1/4	1/9	2/9	
Caps . . . . ,,	3½	5	8	1/–	2/–	
Backnuts . . . ,,	2	3	5	6	1/1	
Iron main cocks . . ,,	1/6	2/3	4/2	5/4	11/6	
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–	

Discounts:

TUBES.	Per cent.		Per cent.
Gas . . .	65	Galvanized gas .	52½
Water . . .	61½	,, water	47½
Steam . . .	57½	,, steam	42½
FITTINGS.			
Gas . . .	57½	Galvanized gas	47½
Water . . .	52½	,, water	42½
Steam . . .	47½	,, steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ⅜" . . ,,	8 6
,, ,, ½" . . ,,	8 3
,, ,, ⅝" . . ,,	8 0
,, ,, ¾" . . ,,	7 6
,, ,, ⅞" . . ,,	7 6
,, ,, 1" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1½" . . ,,	7 6

Cast-iron rain-water pipes of ordinary thickness metal	3" s. d.	4" s. d.
. . F.R.	8	10
Shoes . . . . each	2 0	3 0
Anti-splash shoes . . ,,	4 6	8 0
Boots . . . . ,,	3 0	4 0
Bends . . . . ,,	2 7	3 9
,, with access door . . ,,	—	6 3
Heads . . . . ,,	4 0	5 0
Swan-necks up to 9" offsets ,,	3 9	6 0
Plinth bends, 4½" to 6" . ,,	3 9	5 3
Half-round rain-water gutters of ordinary thickness metal . . F.R.	5	6
Stop ends . . . . each	6	6
Angles . . . . ,,	1 7	1 11
Obtuse angles . . . ,,	2 0	2 6
Outlets . . . . ,,	1 9	2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	18 6
,, drawn pipes . . . ,,	17 0
,, soil pipe . . . ,,	18 6
,, scrap . . . ,,	10 8
Solder, plumbers' . . . lb.	9½
,, fine do. . . . ,,	1 0
Copper, sheet . . . ,,	8½
,, tubes . . . ,,	11

L.C.C. soil and waste pipes:	3"	4"	6"
Plain cast . . F.R.	1 0	1 2	2 6
Coated . . ,,	1 1	1 3	2 8
Galvanized . . ,,	2 0	2 6	4 6
Holderbats . . each	3 10	4 0	4 9
Bends . . ,,	3 9	5 3	10 3
Shoes . . ,,	2 10	4 4	9 6
Heads . . ,,	4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . per ton	2 5 0
Plaster, coarse . . . ,,	2 10 0
,, fine . . . ,,	4 15 0
Hydrated lime . . . ,,	3 0 9
Sirapite . . . ,,	3 6 0
Keene's cement . . . ,,	5 0 0
Gothite Plaster . . . ,,	3 6 0
Thistle Plaster . . . ,,	3 6 0
Sand, washed . . . Y.C.	11 6
Hair . . . . lb.	6
Laths, sawn . . . bundle	2 4
,, rent . . . ,,	3 9
Lath nails . . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft.	s. F.S.	2½
,, ,, 26 oz. ,, ,, ,,		3
Flemish, Arctic, Figured (white)* ,,		7
Blazoned glasses . . . ,,	2	6
Reeded; Cross Reeded ,,		11
Cathedral glass, white, double-rolled, plain, hammered, rimpled, waterwite		6½
Crown sheet glass (n/e 12 in. x 10 in.) ,,		2 0
Flashed opals (white and coloured) ,,	1 0 and 2	0
¼" rough cast; rolled plate . ,,		5½
¼" wired cast; wired rolled . ,,		9½
¼" Georgian wired cast. . . ,,		11
¼" Polished plate, n/e 1 ft. . ,,	† 10 to	‡1 1
,, ,, 2 . . ,,	†1 2 ,,	‡1 4
,, ,, 4 . . ,,	†2 3 ,,	‡2 6
,, ,, 8 . . ,,	†2 9 ,,	‡3 2
,, ,, 20 . . ,,	†3 7 ,,	‡4 2
,, ,, 45 . . ,,	†3 11 ,,	‡4 7
,, ,, 100 . . ,,	†5 0 ,,	‡5 7
Vita glass, sheet, n/e 2 ft. . ,,		1 3
,, ,, ,, over 2 . ,,		1 9
,, ,, plate, n/e 2 ft. . ,,		3 0
,, ,, ,, 8 . ,,		5 0
,, ,, ,, 15 . ,,		6 0
,, ,, ,, over 15 . ,,		7 6
"Calorex" sheet 21 oz., and 32 oz. ,,	2 6 and	3 6
,, rough cast ¼" and ⅜" ,,	8½ ,,	1 0
Putty, linseed oil . . . lb.		3

* *Colours*, 1d. *F.S. extra.*
†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s. d.
White lead in 1 cwt. casks . . cwt.	2 6 0
Linseed oil . . . . gall.	2 2½
Boiled oil . . . . ,,	2 4½
Turpentine . . . . ,,	4 1½
Patent knotting . . . ,,	14 0
Distemper, washable . . cwt.	2 6 0
,, ordinary . . ,,	2 0 0
Whitening . . . . ,,	4 0
Size, double . . . firkin	3 0
Copal varnish . . . gall.	13 0
Flat varnish . . . ,,	14 0
Outside varnish . . . ,,	16 0
White enamel . . . ,,	1 15 0
Ready mixed paint . . ,,	13 6
Brunswick black . . . ,,	7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR		£ s. d.
Digging over surface n/e 12" deep and cart away	Y.S.	2 9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.	8 6
" to form basement n/e 5' 0" deep and cart away	"	9 0
" " 10' 0" deep and cart away	"	9 6
" " 15' 0" deep and cart away	"	10 0
If in stiff clay	add	6
If in underpinning	"	4 0
Planking and strutting to sides of excavation	F.S.	1 0
" " to pier holes	"	5
" " to trenches	"	5
" " extra, only if left in	"	3
Hardcore, filled in and rammed	Y.C.	10 0
Portland cement concrete in foundations (6-1)	"	1 6 0
" " (4-2-1)	"	1 12 6
" " underpinning	"	1 16 0
Finishing surface of concrete, spade face	Y.S.	7

DRAINLAYER		4" s. d.	6" s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
" junctions	"	3 9	4 6
Gullies and gratings	"	16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER		£ s. d.
Brickwork, Flettons in lime mortar	Per Rod	27 10 0
" " in cement	"	28 15 0
" Stocks in cement	"	35 0 0
" Blues in cement	"	52 0 0
Extra only for circular on plan	"	2 0 0
" backing to masonry	"	1 10 0
" raising on old walls	"	2 0 0
" underpinning	"	5 10 0
Fair Face and pointing internally	F.S.	1½
Extra over fletton brickwork for picked stock facings and pointing	"	8
" " " red brick facings and pointing	"	11
" " " blue brick facing and pointing	"	1 4
" " " glazed brick facings and pointing	"	3 6
Tuck pointing	"	7½
Weather pointing in cement	"	3
Slate dampcourse	"	10
Vertical dampcourse	"	1 1

ASPHALTER		s. d.
½" Horizontal dampcourse	Y.S.	4 6
½" Vertical dampcourse	"	6 9
½" paving or flat	"	4 0
1" paving or flat	"	5 6
1" × 6" skirting	F.R.	1 6
Angle fillet	"	2
Rounded angle	"	2
Cesspools	Each	5 0

MASON		s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17 9
Bath stone and do., all as last	"	13 6
Artificial stone and do.	"	13 0
York stone templates, fixed complete	"	10 6
" thresholds	"	13 6
" sills	"	1 0 6

SLATER AND TILER		£ s. d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr.	3 10 0
Do., 18" × 9"	"	3 7 0
Do., 24" × 12"	"	3 17 0
Westmorland slating, laid with diminished courses	"	6 0 0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3 0 0
Do., all as last, but of machine-made tiles	"	2 16 0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	"	4 6 0
" " " " " " (green)	"	4 15 0

CARPENTER AND JOINER		£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2 5 0
Shuttering to sides and soffits of beams	F.S.	8
" to stanchions	"	8
" to staircases	"	1 8
Fir and fixing in wall plates, lintols, etc.	F.C.	3 9
Fir framed in floors	"	4 6
" " roofs	"	6 6
" " trusses	"	7 6
" " partitions	"	8 6
¾" deal sawn boarding and fixing to joists	Sqr.	1 14 6
1" " " " " "	"	1 17 6
1¼" " " " " "	"	2 3 0
4" × 2" fir battening for Countess slating	"	9 6
Do. for 4" gauge tiling	"	12 0
Stout feather-edged tilting fillet	F.R.	4½
Patent inodorous felt, 1 ply	Y.S.	2 3
" " " 2 "	"	2 9
" " " 3 "	"	3 3
Stout herringbone strutting to 9" joists	F.R.	10½
1" deal gutter boards and bearers	F.S.	1 2
1¼" " " " "	"	1 6
2" deal wrought rounded roll	F.R.	8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2 1 0
1¼" do.	"	2 10 0
1½" do.	"	2 17 0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S.	1 6
1¼" do.	"	1 9

CARPENTER AND JOINER—*continued*		s. d.
1¼" deal moulded sashes of average size	F.S.	1 9½
2" " " " "	"	1 11½
1¼" deal cased frames double hung, of 6" × 3" oak sills, 1½" pulley stiles, 1¼" heads, 1" inside and outside linings, ⅝" parting beads, and with brass faced axle pulleys, etc., fixed complete	"	3 7
2" " " "	"	3 10
Extra only for moulded horns	Each	6
1¼" deal four-panel square, both sides, door	F.S.	2 0
2" " " " "	"	2 8
1¼" " but moulded both sides	"	2 4
2" " " " "	"	3 0
4" × 3" deal, rebated and moulded frames	F.R.	1 0
4½" × 3½" " " "	"	1 4
1¼" deal tongued and moulded window board, on and including deal bearers	F.S.	1 9
1¼" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2 6
1¼" deal moulded wall strings	"	2 1
1¼" " outer strings	"	2 4
Ends of treads and risers housed to string	Each	1 9
3" × 2" deal moulded handrail	F.R.	1 3
1" × 1" deal balusters and housing each end	Each	2 0
1½" × 1½" " "	"	2 9
3" × 3" deal wrought framed newels	F.R.	1 3
Extra only for newel caps	Each	6 0
Do., pendants	"	6 0

SMITH AND FOUNDER		£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.	15 6
Riveted plate or compound girders, and hoisting and fixing in position	"	19 6
Do. stanchions with riveted caps and bases and do.	"	19 0
Mild steel bar reinforcement, ¼" and up, bent and fixed complete	"	17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.	11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1 10 0

PLUMBER		£ s. d.
Milled lead and labour in flats	cwt.	1 12 0
Do. in flashings	"	1 15 6
Do. in covering to turrets	"	2 3 0
Do. in soakers	"	1 7 6
Labour to welted edge	F.R.	3½
Open copper nailing	"	3
Close " "	"	4

		½" s. d.	¾" s. d.	1" s. d.	1¼" s. d.	2" s. d.	4" s. d.
Lead service pipe and fixing with pipe hooks	F.R.	10	1 0	1 3	2 0	2 10	—
Do. soil pipe and fixing with cast lead tacks		—	—	—	—	—	5 6
Extra, only to bends	Each	—	—	—	—	2 0	6 9
Do. to stop ends	"	6½	8	9	11	1 0	—
Boiler screws and unions	"	3 3	3 9	5 0	8 0	—	—
Lead traps	"	—	—	—	6 3	8 9	—
Screw down bib valves	"	6 9	9 6	11 0	—	—	—
Do. stop cocks	"	7 0	9 6	12 6	—	—	—

		s. d.
4" cast-iron ½-rd. gutter and fixing	F.R.	1 0
Extra, only stop ends	Each	1 0
Do. angles	"	1 6
Do. outlets	"	2 9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.	1 2
Extra, only for shoes	Each	1 3
Do. for plain heads	"	5 6

PLASTERER AND TILING		s. d.
Expanded metal lathing, small mesh	Y.S.	2 0
Do. in n/w to beams, stanchions, etc.	"	2 9
Lathing with sawn laths to ceilings	"	1 3
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	"	1 5
Do. vertical	"	1 7
Rough render on walls	"	1 2½
Render, float and set in lime and hair	"	1 9
Render and set in Sirapite	"	1 11
Render, backing in cement and sand, and set in Keene's cement	"	2 9
Extra, only if on lathing	"	4
Keene's cement, angle and arris	F.R.	6
Arris	"	1½
Rounded angle, small	"	3
Plain cornices in plaster, including dubbing out, per 1" girth	"	1½
1" granolithic pavings	Y.S.	3 6
1½" " "	"	4 6
6" × 6" white glazed wall tiling and fixing on prepared screed	"	17 6
9" × 3" " " " "	"	1 2 6
Extra, only for small quadrant angle	F.R.	8

GLAZIER		s. d.
21 oz. sheet glass and glazing with putty	F.S.	7½
26 oz. do and do.	"	8½
Flemish, Arctic Figured (white) and glazing with putty	"	1 1
Cathedral glass and do.	"	1 2
Glazing only, British polished plate	"	7
Extra, only if in beads	"	2
Washleather	F.R.	4

PAINTER		s. d.
Clearcolle and whiten ceilings	Y.S.	6
Do. and distemper walls	"	9
Do. with washable distemper	"	1 1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	"	3 3
Do. on woodwork	"	3 6
Do. on steelwork	"	3 0
Do. and brush grain and twice varnish	"	5 6
Stain and twice varnish woodwork	"	1 11
Stain and wax-polish woodwork	"	4 6
French polishing	F.S.	1 2
Stripping off old paper	Piece	2 0
Hanging ordinary paper from	"	2 9

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FOR LATITUDE 51° 30' N. (LONDON)

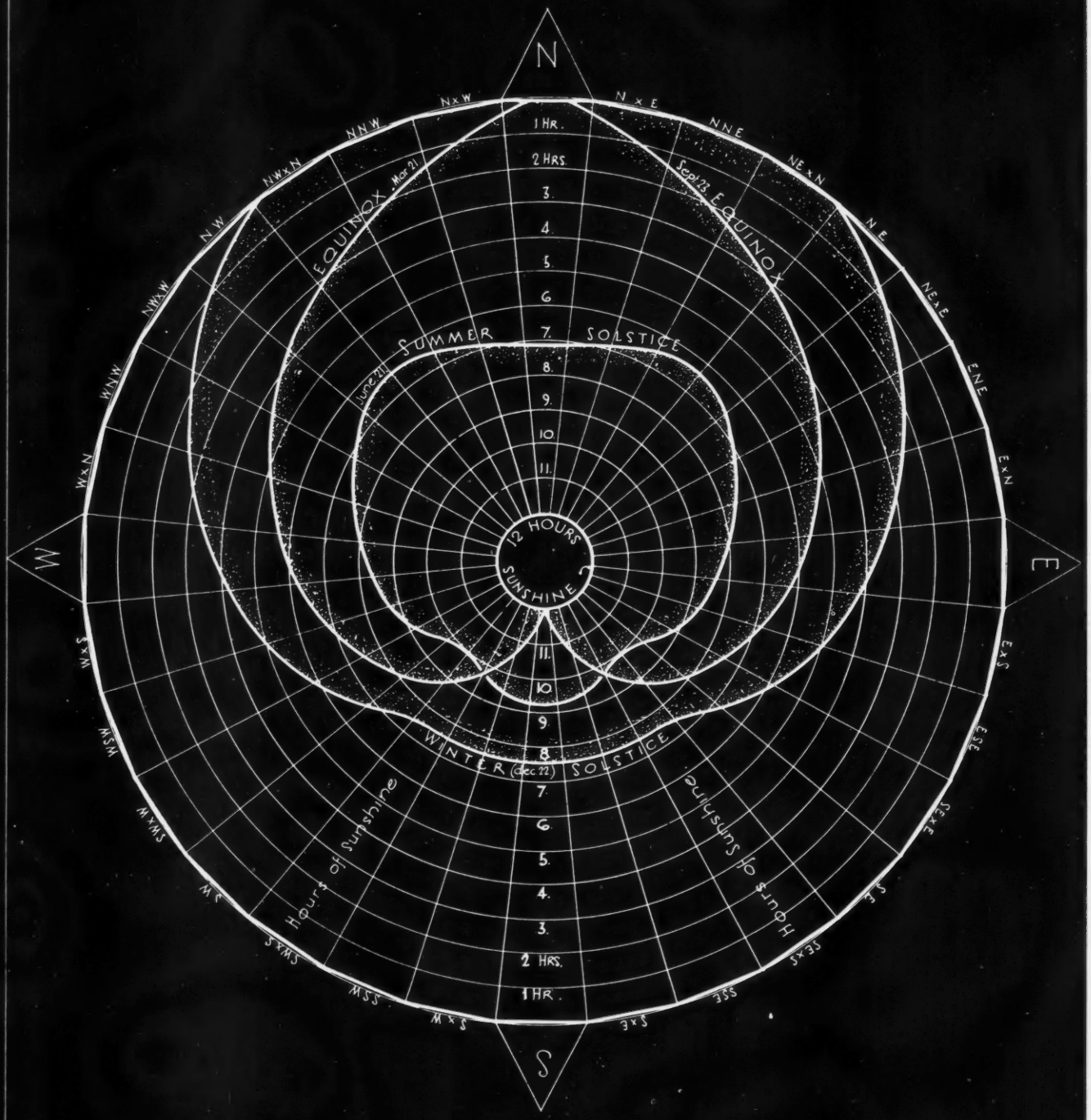

Diagram showing the variation with aspect of the possible insolation of an unobstructed wall.

Note: The numbered circular rings represent the total possible hours of sunshine per day.

INFORMATION SHEET: THE ORIENTATION OF BUILDINGS 1

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1

Supplement to THE ARCHITECTS' JOURNAL for October 18, 1934

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 153 •

ORIENTATION OF BUILDINGS—I

THE curves in the Sheet overleaf show the maximum number of hours of sunshine obtainable per day on unobstructed wall surfaces of various aspects. The figures for the equinoxes and for the summer and winter solstices have been plotted so that, taking the outer circle to represent the wall surface, the hours of possible sunshine for any particular aspect of the wall may be read off from the curve in that sector.

The figures given are for the latitude of London (51° 30′ N) and represent the *maximum* hours of sunshine obtainable under perfect conditions. Actual figures taken over a period of 35 years show that only about 27 per cent. of the "possible" sunshine is obtained in London, the figure for Middlesex generally being about 34 per cent.

The figures on which the curves are based have been obtained by calculation and subsequently checked by Molesworth diagrams and by the Heliodon. It should be noticed that for a South wall, the maximum of sunshine is obtainable at the equinoxes, and not, as might be thought, at the summer solstice. Similarly for a south-western or south-eastern wall the summer figure is 10 hours of sun, a south wall receiving only 9 hours 20 minutes.

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PRIVATE CARS.	TREASURY RATING. H.P.	OVERALL DIMENSIONS. LENGTH	WIDTH.	HEIGHT.	WEIGHT (CWT).	WHEEL TRACK.	TURN'G CIRCLE
Armstrong-Siddeley	12	12' 1"	4' 10"	...	...	3' 10"	...
	15	13' 10"	5' 8"	...	...	4' 8"	...
	20	14' 6"	5' 9"	...	...	4' 8"	...
	30	17' 6 1/4"	5' 9"	...	...	4' 10"	...
Austin	7·8	10' 6 1/2"	4' 3"	5' 3"	12.	3' 7"	38' 2"
	7·8	9' 9"	4' 1 1/2"	4' 4"	9 1/4.	3' 7"	38' 2"
	9·9	11' 0"	4' 7"	5' 4"	16 1/2.	3' 9"	37' 9"
	11·9	13' 2"	5' 0"	5' 6 1/2"	21 1/2	4' 2"	42' 2"
	23·4	16' 4"	5' 8"	6' 5"	38.	4' 8"	50' 0"
Bentley	25·3	15' 5"	5' 8"	5' 2"	32 1/4	4' 8"	39' 7"
Ford	7·96	11' 11"	4' 6"	5' 4"	13 3/4.	3' 9"	31' 5"
	30·01	14' 8"	5' 7 1/2"	5' 5 1/2"	22 1/4	4' 8"	40' 0"
Humber	11·98	13' 4"	5' 3"	5' 6"	24 1/2	4' 3"	36' 0"
	23·8	16' 8"	6' 0"	6' 2"	...	4' 9"	45' 0"
Lanchester	10·0	13' 1 1/2"	4' 9 1/8"	5' 6"	22 1/4.	4' 0"	39' 0"
	17·96	14' 11 1/2"	5' 7"	...	29 3/4.	4' 8"	38' 0"
Daimler	15.	13' 8"	4' 11 1/2"	5' 6"	25 1/4.	4' 2"	40' 0"
	19·3	15' 8 3/4"	5' 6 1/2"	...	33 1/4.	4' 6"	43' 0"
	25·7	16' 11 1/2"	6' 1"	...	44.	4' 9 1/2"	46' 0"
	49·4 (chassis)	17' 0 1/2"	6' 6 1/2"	...	38 1/2.	5' 0 1/4"	48' 0"
Morris	6·057	11' 9"	4' 6 1/2"	5' 0"	13.	3' 9"	37' 0"
	15.	13·7	5' 5 1/2"	5' 5"	25 1/4.	4' 4"	42' 0"
	25.	15' 1"	5' 11 1/4"	5' 11"	35.	4' 8"	48' 8"
Rolls-Royce	43·3	17' 9" (with rear bumpers.)	6' 1 1/2"	...	47.	5' 0"	55' 0"
	43·3	18' 2" (with rear bumpers.)	6' 1 1/2"	...	49.	5' 0"	57' 0"
	25·3	15' 10" (with rear bumpers.)	6' 0"	...	35 1/2.	4' 8 1/8"	47' 0"

COMMERCIAL VEHICLES.	DITTO	DITTO	DITTO	PAY LOAD (CWT)	DITTO	DITTO	DITTO.
A.E.C.	31·1.	19' 0 1/2"	7' 0"	100.	102.	5' 9 1/4"	50' 0"
	31·1.	21' 11"	7' 0"	100.	103.	5' 9 1/4"	56' 0"
	31·1.	23' 11 1/2"	7' 5"	125.	114·5	5' 10"	58' 0"
	45.	25' 0 1/2"	7' 6"	149.	141·5	6' 3"	63' 9"
	49.	27' 9 3/4"	7' 5"	251.	192.	6' 3"	60' 6"
Ford	7·96.	11' 11"	4' 6"	5.	9 3/4. (Chassis only)	3' 9"	31' 5"
	14·9.	13' 1"	5' 7"	12.	16 1/4. (Chassis only)	4' 8"	39' 6"
	24·03.	14' 9 1/2"	5' 7 1/2"	20.	22 3/4. (Chassis only)	4' 7 1/2"	47' 0"
	24·03.	18' 4"	6' 6 3/4"	40.	28 1/2. (Chassis only)	5' 4 1/8"	56' 0"
	24·03.	20' 1 1/4"	6' 1 1/2"	60.	39 3/4. (Chassis only)	4' 10 1/2"	65' 0"
Morris Commercial	13·9.	12' 10 1/4"	5' 10 3/4"	15.	25 7/8.	4' 8"	42' 0"
	24·8.	16' 9 1/2"	6' 1"	30.	38.	4' 9 3/8"	48' 0"
	25·01.	16' 9 1/2"	6' 4 7/8"	40.	41 1/2.	5' 3"	48' 0"
	24·8.	17' 5"	6' 8 1/4"	70.	66 1/4.	5' 3 5/8"	65' 0"
	24·8.	22' 5"	6' 8 1/4"	70.	69.	5' 3 5/8"	70' 0"

OMNIBUSES							
A.E.C.	35·7.	27' 3"	7' 5 5/8"	28/35 seats	145.	6' 3"	64' 5"
	49·0.	27' 5 3/4"	7' 5 5/8"	28/35 "	148	6' 3"	64' 5"
	45·0.	25' 8"	7' 5 5/8"	60 "	172	6' 3"	60' 0"
	49·0	27' 1 7/8"	7' 5 1/2"	...	223	6' 5 3/8"	60' 0"
	45·0.	29' 0 3/8"	7' 5 1/2"	64 "	222.	6' 5 3/8"	65' 9"

INFORMATION SHEET : SIZES, WEIGHTS ETC. OF MOTOR VEHICLES.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1

THE ARCHITECTS' JOURNAL
LIBRARY OF PLANNED INFORMATION

INFORMATION SHEET

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MOTOR VEHICLES

THE tables given in this sheet are selected from a few well-known makes. Not all the models made by each firm are given, but the range covers the largest and smallest cars, as well as medium sizes.

Weight:

The weights given for private cars include all standard equipment, but not water, oil, or petrol. Unless otherwise stated, weights for commercial vehicles and omnibuses include fuel, oil, water and spare wheel and tyre.

Wheel Track:

Where the wheel track of front and back axle varies, the larger figure has been given.

Turning Circle:

The figure given is the diameter of the clear space in which the car can make a complete turn.

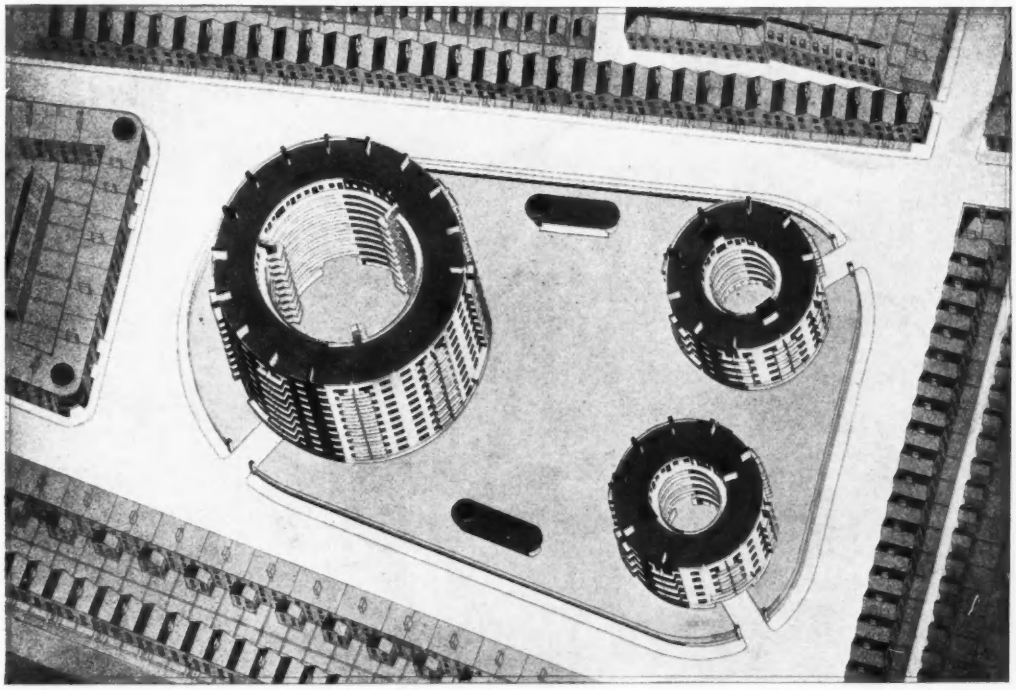
Ground Clearance:

Ground Clearance varies; for the normal private car the usual figure is 7 in. to 8 in. For "sports" models the figure may be as low as 6 in.

Figures for all makes of cars on the English market are available from the Society of Motor Manufacturers and Traders, 83 Pall Mall, London, S.W.1.

PLANNING FOR STANDARDIZATION

A SCHEME FOR TEN-STOREY CIRCULAR FLATS

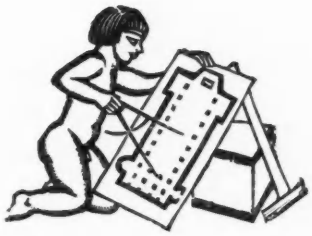


THE solution of the problem of housing the working classes depends on devising a method of construction that will produce buildings that can be let at an economic rent. A big step in this direction has been achieved by a recent design prepared by Mr. L. H. Keay, the Director of Housing of Liverpool, made possible by the structural conception of Mr. Douglas Green, of the Trussed Concrete Steel Co. The drawing reproduced at the top of this page is the scheme for a block of reinforced concrete flats, circular in plan and ten storeys high, submitted to Mr. Keay by Mr. Green ; and below, Mr. Keay's own design. This scheme aroused considerable interest on its presentation to the Liverpool Housing Committee on Thursday, October 18. Plans and sections are reproduced on pages 600-601 of this issue.

S. W. NEWBERY

LONDON'S NEWEST FLATS

A general view of Mount Royal Flats, the new block in Oxford Street, W.1, which is to be opened on Thursday next, November 1. It consists of 650 furnished flats at prices varying from three to seven guineas a week. The building, for which Sir John Burnet, Tait and Lorne are the architects, has been erected at an estimated cost of £1,000,000.



ART NOUVEAU AT DORLAND HALL

SOMETIMES progress seems to be absolutely non-existent. We said in our leading article last week that we hoped that the new Dorland Hall exhibition would show a decided improvement on the one last year; it seemed only natural that it should. Not only was there the experience of that exhibition as a guide to planning the new, but the public for whose enlightenment it was projected must be now far more accustomed to the idea of good design in every-day life. The need for well-designed objects and equipment was now, we felt, strongly established, so that an exhibition of good design ought to be able to stand on its own merits *as* good design, without the confusing addition of those "stunt" exhibits that have nothing to do with the title of the exhibition. They were perhaps worth while last year as bait with which to attract a notoriously apathetic public to a more homely-sounding exhibition of whose importance they might not then have been aware. We expressed the hope that this year the visitors to the exhibition would not be seduced away from serious consideration of the subject of design (and the personal applicability of it to their own existence) by the eclectic ingenuities of modernistic designers. The preliminary announcement of the current exhibition gave us to hope that our optimism would be justified: "good living" seemed to offer a sensible pragmatic basis; and, as we ourselves said, "the all-electric house is indeed an improvement on the all-glass bedroom."

Since that article was written the *1934 Contemporary Industrial Design Exhibition* has opened at Dorland Hall, and a disappointing affair it has turned out to be. In all parts of the exhibition the same stylized pretentiousness obscures the essential issues of modern design. The all-glass bedroom has been succeeded by the all-zoological living-room with fur upholstery and, as *pièce de resistance*, a grand piano completely covered in snake-skin. The origin of a large proportion of the exhibits is no more industrial than Nelson's Column—and no more capable of mass-production. Some of them are "amusing," but that kind of sophisticated appeal not only does no good but definitely does harm to the cause of sensible modern design. We are not criticizing the exhibition for failing to do what it never set out to do; it is specifically introduced as a contribution to modern standards, and must be considered as such.

An exhibition of this sort should be kept strictly within the price and utility limits of those for whom industry caters—the moneyed minority whose surroundings must be original before they need be serviceable (or even beautiful) can be left to look after themselves: their demand will always produce a profit-seeking supply. The purpose of the exhibition should be to prove to the suburban housewife that, when she goes round the corner to buy a new butter-dish, with a little discrimination she can find one that is as suitable to her way of living as the prototypes of the imitation antique she is usually offered were to theirs; or at least that, if she shows interest enough, there is no reason why the manufacturer should not provide one with no increase in price and with great increase in utility. Its purpose should be to teach the buying public that modern design is the result of economy, suitability and use of modern technical opportunity, not to confirm the public, as this exhibition surely will, in its already established belief that modern design consists in having enough money to do smart and peculiar things with unexpected materials—that if they are not the kind of people who must possess an all-glass cocktail bar suitable for detailed description in the society papers, then modernism is not for them.

It is true that in the entrance hall to the exhibition are some encouraging objects (tennis racquets, garden tools, fishing tackle and the like) that demonstrate as clearly as possible how great are the potentialities of truly modern design—objects that have not been "designed" at all in the same sense as the rest of the exhibition. Beyond these, with few exceptions, the modern idea is displayed as a fashion rather than allowed to appear as a sensible way of thinking. The show is filled with entertaining examples of what whimsical ideas designers sometimes have, as stylistically conceived as all the other superficial phases interior design has passed through during the past hundred years. It is *art nouveau* all over again—the same wayward and whimsical Parisian spirit disguised in glass and snakeskin and plywood and chromium plate.

No doubt there are many objects in the show genuinely worth study, hidden away behind the show-pieces; but it is the general impression that matters—the direction in which the exhibition directs the public trend of taste. The public, having learnt to appreciate the products of industry from the mechanical designers by whose machines it is more and more constantly surrounded, is prepared to accept the healthy principles of modern industrial design. This exhibition seems to be a notable educative opportunity wantonly sacrificed for the display of pointless virtuosity.

The Architects' Journal
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NOTES & TOPICS

FLAT ROOFS AT COTTINGHAM

THE Urban District Council of Cottingham has, I gather, sanctioned the erection of ten flat-roofed houses. I commend this action, not because I know whether they will be economic or appropriate to the district or whether they won't, or even as a mere matter of personal preference. I commend it because there *was* discussion about amenities and town planning, because there *was* opposition and reference to a similar "case in Middlesex" where the Ministry of Health had turned down the drawings.

*

In spite of all this the Cottingham Council decided that there was a "need for this type of small house" in the district. Naturally, I hope that the design is good; but then I do not wholly approve the designs of all the working-class houses I see, even *with* roofs.

SHORT STORY

Flat roofs bring to my mind a delicate, not to say dainty, *riposte* by a certain architect to a client for whom he is putting up an hotel, in rather the modern manner, not one hundred miles from Blackpool.

*

The drawings showed a flat roof. "Would not it," asked the client, "be better if it had a roof?"

*

His architect answered, "Well, it *has* a roof, only you can't see it."

MORAL FROM MILDENHALL

In the early hours of Saturday morning I viewed an exhibition of contemporary industrial design. This was at Milden—(not at Dorland) hall, and the exhibits were transcontinental aeroplanes.

*

It is a good many years since Corbusier taught us that aeroplanes were a kind of architecture—only, as it were, more so—and the idea of houses as machines for living in has become a platitude. Nevertheless, we don't seem to have made as much use as we might have of our acquisition of the idea.

*

It is true we have learnt to design on occasion according to this way of thinking, but it has not become to any degree the normal way of thinking. Some of our designers have learnt a few useful tricks from the mechanical engineer (we all know the stream-lined arm-chair), but the nation as a whole—a mechanically minded if ever there was one—seems to be able to find an outlet for its mechanical enthusiasm in nearly everything except architecture.

*

When the public once begins to approach architecture, furniture and domestic equipment with the delight in significant form that it finds in aeroplanes and ships (though it may not recognize its pleasure in them as æsthetic at all), then we shall really have entered the era Corbusier prophesied.

*

At Mildenhall I heard none of the foolish comments modern architecture engenders; no one said: "Well, personally I don't care for these modernist aeroplanes; they're all very well for a stunt, but give me something homelier to travel in."

*

But then the designers didn't give the public a chance to be anything but intelligent. They were far too busy with the job in hand to be able to afford to indulge in any of those whimsicalities that so confuse the architectural issue.

*

I didn't notice a single air-liner covered in snake-skin.

*

I had plenty of time for all this moralising while waiting for the start of the race, in chilly semi-darkness in an almost too ingeniously inaccessible corner of Suffolk—but not too inaccessible for about sixty thousand fellow observers to have got there too. It looked rather like Derby Day during a total eclipse.

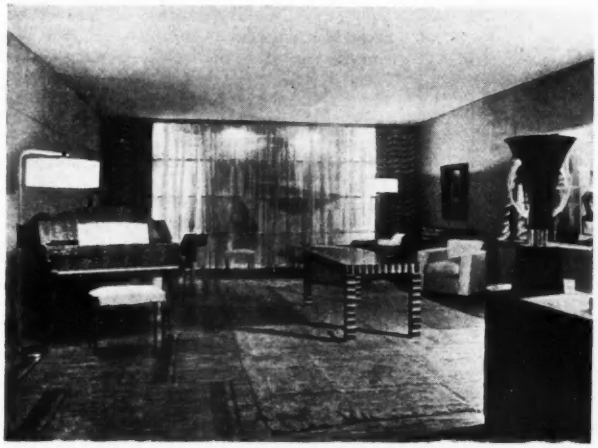
*

The start, as a spectacle, was rather a success—surprisingly, considering that when you come to think about it, an aeroplane taking off to Australia does not look much different from an aeroplane taking off to anywhere else: it just disappears.

*

But these had charmingly characteristic ways of taking off—all against an I. Zingari sunrise: the large ones, heavily laden, that appeared to leave the ground with the

From the exhibition of sculpture by Donald Gilbert at the Wertheim Gallery: a lead casting of a bronze panel over the main entrance door of the British General Assurance Co.'s building in Cheapside.



At the Exhibition of Contemporary Industrial Design at Dorland Hall. The living-room in the "contemporary house" designed by Oliver Hill. The Exhibition will be fully illustrated in next week's issue.

greatest reluctance after an incredibly long run; the efficient Dutchman that rose like a bird with no fuss or bother, and one little green one that shot up into the air like one of the more energetic kinds of firework.

*

One of our more useful exports to Australia.

C.I.D.

I had a brief look round Dorland Hall a few days ago, but before it was complete in every detail. Consequently I myself should not consider it fair to offer any comment. But a layman friend of mine, who has paid it a visit since the opening, made a remark to me which I think must crystallize the views of many people, judging from what I have heard elsewhere.

*

He said: "It doesn't deliver any message; it stops at being very 'amusing'; it seems to me to say merely that if you've got plenty of money there are plenty of clever designers who can spend it for you."

*

From my personal observation I should call that very fair.

CIRCULARIZATION BY TELEPHONE

During the last week or so, several people (practising architects) have poured out their hearts to me about a new scourge, which has been thought out by firms desirous of bringing their wares to the notice of what I believe, in the technical jargon, is known as the "potential consumer." I have not had the trick played upon *me* yet or I should be more harsh about it.

*

The whole thing hinges on the telephone—a highly desirable instrument which salesmen insist upon exploiting, as they exploit the letter post. (To such a length have many architects been goaded that they *dare* not open their own post; they make a subordinate throw out *all* the circulars first, because they themselves have no time to search out the useful ones.)

*

However! This new stunt—described in but a single form, and it takes several in fact—relies on the "personal trunk call" service. I get a "personal call" from a provincial town; "Mr. Smith" (or what not) wants to speak to me; can I refuse? No; it may be a client or, more likely, a death in some forgotten branch of the family; very good!

*

As soon as I admit that I am my caller's quarry, and brace myself to hear how small is the cottage which I am to build, how trifling the legacy on which I am to pay duty to the Exchequer, I have pumped into my ear pæans about "Brikko" as a material for partitions, or a eulogy which somebody imagines will inevitably cause me to roof my next house with "Slabbo" (non-discolouring, lichen-proof, dead-flat, and so on) tiles.

*

I think that manufacturers and salesmen cannot realize how absolutely they damn themselves and their products by this practice. Architects *will* NOT have it. Apart from the irritation which a leg-pull causes (even when it is carried out by somebody who is entitled to do it) the whole idea shows a lamentable lack of understanding of the architect's position.

*

There is a quick way to cure the disease. When an architect receives such a call he should spend hree-ha'pence in stamps in informing the manufacturer in question that his chances of consideration have been totally annihilated.

*

SHEFFIELD JOINS IN

Last week Mr. J. M. Jenkinson, in his presidential address to the Sheffield and South Yorkshire Society of Architects and Surveyors, delivered himself of some shrewd digs at what I gather is there, as elsewhere, a thorn in the architect's side—muddled thinking, or total lack of any at all.

*

He suggested that the Castlefolds Market did not lack possibility of improvement, not only architecturally but from many far more "hard-headed" points of view; he indicated (what London, too, might consider) that a market may well be provided with traffic circulation and amenities.

*

Possibly of greatest importance, he dug in that old one about architects letting the speculative builder "get away with it." I do not know Mr. Jenkinson personally, but I hope that the R.I.B.A. Public Relations Committee does—or very soon will.

THE FACE OF THE SEA

I am told that a well-known member of the C.P.R.E., who has just crossed the Atlantic, was able to exercise his powers of observation and censure even in mid-ocean. Staggering to the rail of the promenade deck one day (for the weather was, to put it mildly, inclement) his glazing eyes were startled by a spectacle so ghastly that he momentarily recovered his failing power of speech.

*

Into the hurrying grey-green waves, a shower of crumbs, crusts, old corks, bits of paper and other objects scavenged from the ship's kitchens fell from a port-hole.

*

He watched—horrified. Twice, thrice, four times was the offence repeated. He made a tremendous effort. "*Litter!*" he shouted, and fainted in the arms of the deck steward who hurried to his side.

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

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In January last year the number of houses that had been built to rehouse slum dwellers was only 6,900. The number not built, building, and to be started immediately was 53,000 593

Substitution in asphalte fifty years ago 593

A review of the designs submitted in the Wolverhampton Competition .. 594

WANDSWORTH BRIDGE TO BE REBUILT

Wandsworth Bridge is to be pulled down and rebuilt. The L.C.C. state that the new structure is estimated to cost £600,000; and the widening of the approaches of the Fulham and Wandsworth side of the river will account for another £400,000. We understand that work on the bridge will start as soon as the plans have been approved by the Minister of Transport and the Port of London Authority.

STONE FOR THE LONDON UNIVERSITY BUILDINGS

Mr. Charles Holden, F.R.I.B.A., the architect of the new London University buildings, and Dr. Deller, the Principal of the University, paid a visit to Portland last week to select some of the stone for the new buildings.

CONGRESS OF ARCHITECTS IN U.S.S.R.

An All-Union Congress of Soviet Architects is to be held in Moscow in January next. The Congress will consider all theoretical and practical aspects of architecture, from the planning of factories and apartment houses to the æsthetic principles of design.

Preparations for the Congress are already in full swing. A special newspaper on architectural problems is soon to be issued. Preliminary conferences are being arranged in Moscow, Kharkov and other cities. *Literaturnaya Gazetta* has thrown open its columns to architects for discussion of their problems and several interesting contributions have already been published. Mr. D. Arkin, the secretary of the Architects' Union, says that "the central problem today is to master the classical traditions, not in the sense of imitation of one or other architectural style." The architect, Yesnin, is of the opinion that "the majority of architects regard classical architecture as a kind of portmanteau out of which they can take whatever fits in with the design on hand."

THE ARCHITECTS' DIARY

Thursday, October 25

R.I.B.A. ARCHITECTS' UNEMPLOYMENT COMMITTEE. *At 7 Bedford Square, W.C.1. Exhibition of work done under the Architects' Emergency Scheme. Open until further notice.*

COUNCIL FOR THE PRESERVATION OF RURAL ENGLAND. *At the Civic Centre, Southampton. Annual Conference. Opening day. Until October 28.*

INSTITUTION OF STRUCTURAL ENGINEERS. *At 10 Upper Belgrave Street, S.W.1. "Building Regulations (London)." By C. Roland Woods, M.B.E., LL.D. (Assoc.).* 6.30 *p.m.*

CONTEMPORARY INDUSTRIAL DESIGN EXHIBITION. *At Dorland Hall, Regent Street, S.W.1. Until November 3.*

Friday, October 26

L.C.C. CENTRAL SCHOOL OF ARTS AND CRAFTS. *At Southampton Row, W.C.1. "The Art School—A Layman's View." By Frank Pick.* 7.30 *p.m.*

Monday, October 29

LONDON SOCIETY. *Visit to the Whitehall Theatre, S.W.1.* 2.30 *p.m.*

Tuesday, October 30

ANGLO-SWEDISH SOCIETY. *At the Swedish Hall, 6 Harcourt Street, Marylebone, W.1. "A British Engineer's Impressions of Sweden." By Professor C. L. Fortescue, O.B.E., M.A., M.Inst.C.E., M.I.E.E.* 5 *p.m.*

Wednesday, October 31

D.I.A. *At the London School of Hygiene and Tropical Medicine, Gower Street, W.C.1. "Is Mass Production Possible in Housing?" By E. Maxwell Fry, B.Arch., A.R.I.B.A.* 8.15 *p.m.*

L.C.C. CENTRAL SCHOOL OF ARTS AND CRAFTS. *At Southampton Row, W.C.1. "Italian Renaissance 3—Palaces and Villas of Rome." By Sir Banister Fletcher, M.Arch., F.S.A., PP.R.I.B.A.* 6 *p.m.*

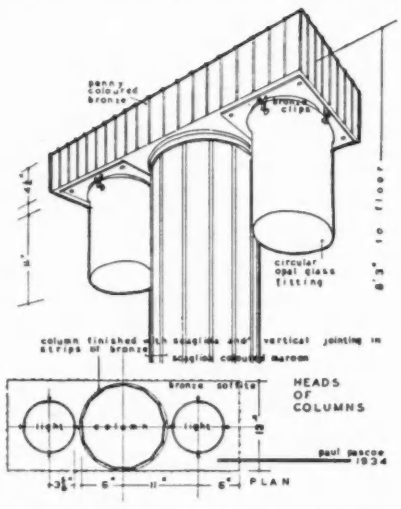
DEPARTMENT OF HEALTH FOR SCOTLAND: ARCHITECTURAL ADVISORY COMMITTEE

The Secretary of State for Scotland has appointed Miss Grace Drysdale, Warden of the University Settlement, Edinburgh, to be an additional member of the Architectural Advisory Committee which he recently set up to advise the Department of Health for Scotland on questions relating to the amenities of housing schemes in Scotland.

It will be remembered that the Committee, which is under the chairmanship of Mr. James R. Richmond, C.B.E., has been given the following terms of reference:—

"To consider how best architectural quality and amenity may be incorporated in the lay-out, planning and external treatment of houses for the working-classes in both town and country having due regard to economy and cost; to consider also whether higher tenements than have hitherto been accepted should be permitted and, if so, of what type, under what circumstances and subject to what conditions; and to advise the Department of Health for Scotland on the above matters and on any others of a like kind which may be remitted to the Committee from time to time by the Department."

The Secretary of the Committee is Mr. Malcolm Matheson, Department of Health for Scotland, 125, George Street, Edinburgh.



Glass light-fittings, open top and bottom, from Piccadilly Underground Station. Designers: Adams, Holden and Pearson.

MERSEY TUNNEL: TRAFFIC FIGURES

The first figures published in connection with the Mersey Tunnel, which connects the cities of Liverpool and Birkenhead, show that between July 18, when the tunnel was opened by the King, and August 31, no fewer than 527,347 vehicles and 819,585 paying passengers passed through, paying £42,021 in tolls.

BUILDING ENGLAND: THE VILLAGE

The Hon. Humphrey Pakington, F.R.I.B.A., in the second of a series of public lectures on "Building England," at the Architectural Association, 36 Bedford Square, on Saturday last, dealt with the village. He said that "the village of the future must be planned and considered as a whole, as were the best villages of the past. It must be designed in modern materials in the modern manner, as were the villages of the past. The tradition has always been to experiment in architecture, to make it a reflection of the life of the people. A new half-timbered house with ten tiled bathrooms and television laid on is an anachronism. Probably in old days the sticky-minded held up their hands in horror when the first half-timbered house succeeded wattle and daub, and when the first brick house succeeded half-timber. Don't let us be sticky-minded, and don't let us resolve just to preserve a few scraps of Beautiful England. We want to make a beautiful England, an England in which it will be recognized that there is not necessarily anything ugly in industry, or modern transport, or modern methods. And in that England of the future I can see the village continuing to flourish as it has in the past."

CARDIFF CIVIC SOCIETY

Professor Patrick Abercrombie, F.R.I.B.A., in an address at the annual meeting of the Cardiff Civic Society last week, pointed out that the work of a civic society was not in any way a duplicate of, or antagonistic

to, that of the corporation, but was complementary to it. It was concerned with the amenities of home life and public life.

There were many occasions when it was necessary to help the local authority financially. Corporations were often handicapped by the drastic economies imposed on them by the Government departments and a civic society could often make a public appeal to assist. They could help considerably in purchasing property that should be preserved for the public.

They could consider the setting up of some form of advisory art committee, which could help the city council in artistic matters. They had an opportunity now that the new bus centre was about to be built of ensuring that it should be something worthy of the architecture in the centre of the city. Bridges could be lifted out of their merely utilitarian purposes to become things of beauty by a little co-operation and advice from competent people.

All the officers were re-elected, and the executive committee were re-elected *en bloc*. Mr. James Griffiths, the Deputy Lord Mayor of Cardiff, presided.

SLUM

The Minister of Health (Sir Hilton Young), addressing Wolverhampton Borough Council on October 15 after a tour of clearance areas and corporation housing estates, said that all over the country he had been encouraged by what he had seen of the vigour and speed with which the great housing authorities were pressing forward the work of slum clearance.

The policy of building new houses and waiting for an indirect filtering from slum areas had been on the whole a failure. A direct policy was necessary of pulling down slum houses and making a direct attack on overcrowding.

They must concentrate on a large proportion of rehousing on central sites and do it on an economic basis by contemplating a much larger measure of building upwards in the way of flats.

Sir Hilton Young, on October 18, addressed members of the Manchester Corporation on slum clearance. He said that from the beginning of the campaign until the end of last month, slum clearance areas had been declared including 52,000 houses housing nearly a quarter of a million people, and new replacement houses had been approved to the number of over 45,000. In January last year the number of houses that had been built to rehouse slum dwellers was only 6,900. The number not built, building, and to be started immediately was 53,000.

R. I. B. A.

A.G.B.I. MAINTENANCE SCHOLARSHIP

On the recommendation of the Board of Architectural Education of the R.I.B.A., the Artists' General Benevolent Institution have awarded a Maintenance Scholarship of £100 per annum to Mr. Peter F. Shepheard, who is taking a course at the Liverpool School of Architecture, University of Liverpool.

LETTERS *FROM* READERS

MAJOR G. B. J. ATHOE,
Secretary, Incorporated Association of Architects and Surveyors

ANN SHELLEY

CECIL W. RHODES,
Secretary of Highways Construction Ltd.

The R.I.B.A. Club at the Building Exhibition

SIR,—I observe that your correspondent "Augias," of Southampton, while stating that he "spent an uncomfortable fifteen minutes watching adventurers recoil from the Club," mentions that "another professional body provided itself with a temporary home which was quite presentable, and well in the public eye." He might have added that the "temporary home" was the I.A.A.S. Lounge and Rest Room in the Gallery, which had the privilege of extending its amenities to nearly a thousand visitors, including many members of the R.I.B.A. Indeed, a Fellow of that body wrote in the Visitors' Book: "Why cannot my Institute have a place like this?"

I may add that the I.A.A.S. has provided similar accommodation at the three last-held Building Exhibitions, and on each occasion we have been the recipients of many messages of appreciation.

The object of this letter, however, is not to make invidious comparisons. Indeed, I think that some of your correspondents have not been quite fair to the R.I.B.A., especially as I understand its Club had the added "attraction" of a bar. My real object is to express a hope that, at future Exhibitions, the architectural and surveying bodies, as a whole—for "splendid isolation" has proved a failure—will join forces in providing a club or lounge worthy of the allied professions, for the use and convenience of their members and their members' friends and clients.

G. B. J. ATHOE
Secretary, the Incorporated Association of Architects and Surveyors
London

Statue in burnt clay. See letter on this page.

Statue in Burnt Clay

SIR,—I am sending you a photograph of a small statue carved out of burnt clay in the hopes that some of your readers may be able to throw some light on its origin.

It has been suggested to me that it originates possibly from Easter Island, but I am personally inclined to the belief that it is a far more sophisticated work of art, showing unmistakable signs of Western influence.

I have not received much satisfaction from my enquiries among students of world sculpture, and it is in the hopes that architects may have more specialised knowledge of this type of work, which is certainly architectural in flavour if not actually intended to embellish a building, that I come to your JOURNAL for assistance.

ANN SHELLEY
London

Substitution in Asphalte 50 Years' Ago

SIR,—Earlier in the year an interesting correspondence in your JOURNAL dealt with the question of "substitution" in building materials.

The following extract from the Company's files may interest your readers. It is a translation made at least 50 years ago from a French work on asphalte.

We cannot refrain from saying, in this place, a few words relative to the imitations of asphalte.

Like all productions for which there is considerable demand, and the sources of which are limited in number, asphaltic mastic has its imitations and its counterfeits.

We have only to establish the fact that between an imitation and a counterfeit there is a difference, the importance of which will be apparent to everybody.

The first is the attempt made by industrial ingenuity artificially to reproduce a natural substance. If the labour be done loyally,

in the eyes of day : if the thing obtained be announced as what it is, and not as the thing it would imitate ; nothing is more respectable, and, within certain bounds, the artificial substance may sometimes supply the deficiencies of the natural.

The other is disloyal imitation that, favoured by a physical likeness, easy enough to obtain with asphalte, endeavours to deceive the consumer.

Apparently the question of substitution, as far as asphalte is concerned, was just as live an issue 50 years ago as it is today.

HIGHWAYS CONSTRUCTION, LTD.
(incorporating the business of
The French Asphalte Company)
CECIL W. RHODES, *Secretary*
London

COMPETITION NEWS

CIVIC CENTRE, SALFORD

Councillor P. Ashcroft, Chairman of the Development Committee of the Salford Corporation, is promoting a competition among past and present students (aged under 30) of the Salford Royal Technical College, with prizes of £25, £15 and £10 for the three best designs for combined town hall and municipal buildings, accompanied by suggestions as to the most suitable site in relation to the general replanning of the city. Names must be submitted to the Principal of the College by tomorrow, October 26. Designs must be in by January 31.

Competitions Open

No date.—Proposed Public Offices, Bridge Road, Welwyn Garden City, for the Welwyn Garden City U.D.C. (open to architects of British nationality). Assessor : C. H. James, F.R.I.B.A. Premiums : £75, £35 and £25, for designs placed first, second and third, respectively. Conditions, etc., obtainable from B. H. Deamer, Clerk to the Council, Council Offices, Bridge Road, Welwyn Garden City (deposit £1 1s.).

July 31, 1935.—Competition for designs for open fireplaces and surrounds (to be constructed in any materials the competitor deems practical or desirable) for the Coal Utilization Council. Assessors : the Directors of the Building Centre. Premiums : 50 guineas, 20 guineas and 10 guineas for designs placed first, second and third, respectively. Conditions, etc., are obtainable from the Coal Utilization Council, Columbia House, Aldwych, W.C. (The closing date for this competition has been extended ; see note on page 580 in our issue for October 18.)

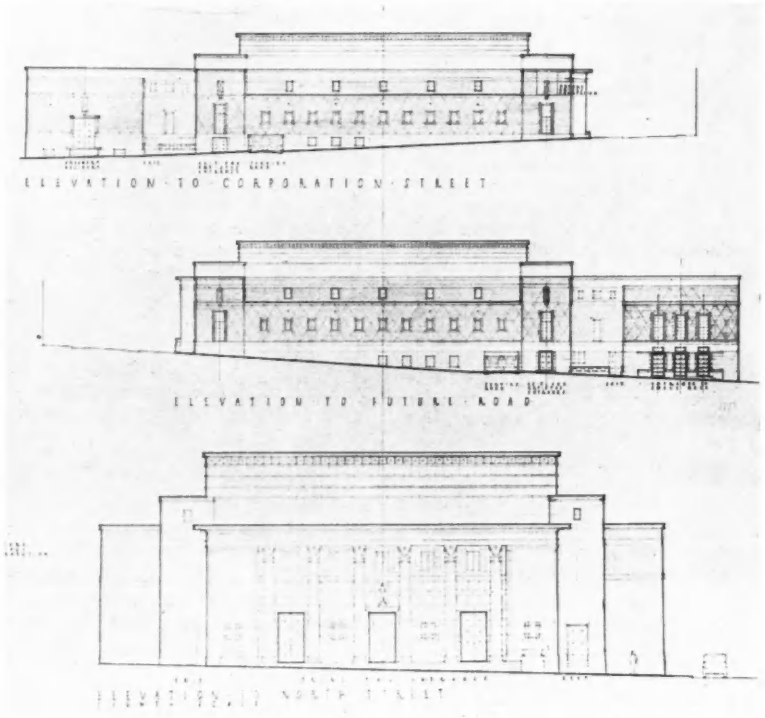
No date.—Proposed new public elementary school, Coventry, for the City of Coventry Local Education Authority (open to registered architects who, on August 1, were residing or practising in the City of Coventry). Assessor : A. C. Bunch, F.R.I.B.A. Premiums : £100, £50 and £30 for designs placed first, second and third respectively.

THIS ARSHETECTURE

". . . his flat in Paris is like a museum . . in his study a genuine mediæval Gothic tomb has been fitted up as an electric stove ! "—William Hickey in *The Daily Express.*

WOLVERHAMPTON COMPETITION

THE PREMIATED DESIGNS



Elevations of the winning design. By E. D. Lyons and L. Israel.

MR. C. COWLES VOYSEY, F.R.I.B.A., the assessor in the competition for proposed municipal assembly halls, Wolverhampton, has made his award as follows :—

Design Placed First (£350) : Messrs. E. D. Lyons and L. Israel, AA.R.I.B.A., of Ilford, Essex.

Design Placed Second (£250) : Messrs. D. H. McMorran and A. Bailey, AA.R.I.B.A., of London.

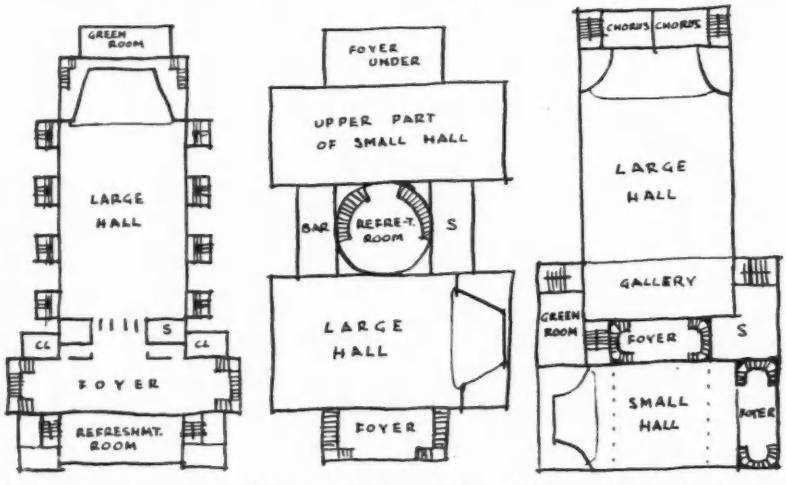
Design Placed Third (£150) : Mr. Verner O. Rees, F.R.I.B.A., of London.

THE DESIGNS REVIEWED

By Wilfrunian

GENERAL

The main problem for competitors was to place the two halls on the rather restricted and sloping site so that they should have



The Wolverhampton Competition. Sketches of the first floor plan of the designs submitted by the following competitors : left, by Meadley and Mallows ; centre, by Cusdin and Tibbits ; right, by Dixon and Herman.

good communication one with the other and with the refreshment room; it was also necessary to provide service from the kitchen to both halls and, of course, to the refreshment room.

The majority of schemes show the small hall placed at the lower end of the site, with its axis at right angles to that of the main hall. It is in the simple and direct working out of this solution that the superiority of the winning design lies. Of the other types of lay-out the most popular is that in which the small hall is placed above the main entrance foyer on the North Street front, somewhat illogically, as this is the high end of the site. There are several schemes with the halls placed side by side, an arrangement which has some advantages but gives a difficult front elevation, and there are one or two designs with one hall directly above the other.

The elevations, generally, are disappointing. Competitors seem to have been frightened by the rather menacing remarks in the conditions about "modern" elevations and have gone classic, or at least commercial classic, in large numbers. Those who have good front elevations have in most cases failed to keep it up round the corner. The winning design is a notable exception.

THE WINNING DESIGN

The winning plan is remarkable for its simplicity and direct circulations. It differs from the other schemes with similar lay-outs in the provision of a large ante-room between the refreshment room and the back of the large hall: there is thus a promenade which completely encircles the large hall. One feels that perhaps the hall has suffered slightly as the result of this, as the stage is on the small side and the entrance foyer is somewhat narrow. The gallery running round three sides of the hall, with the promenade behind, is an interesting feature but has the disadvantage of overhanging a larger portion of the hall than the usual type of gallery. The cloakroom accommodation is unusually generous, but when the side entrances to the hall are blocked by the rows of chains the position of the cloakrooms is not ideal. Another criticism is the absence of natural light to the kitchen and service rooms.

In spite of these drawbacks the plan stands out for its efficiency and simplicity and it is one of the few plans which give good elevations all round. Other good points are the service road running right through the building and the approach from the bridge.

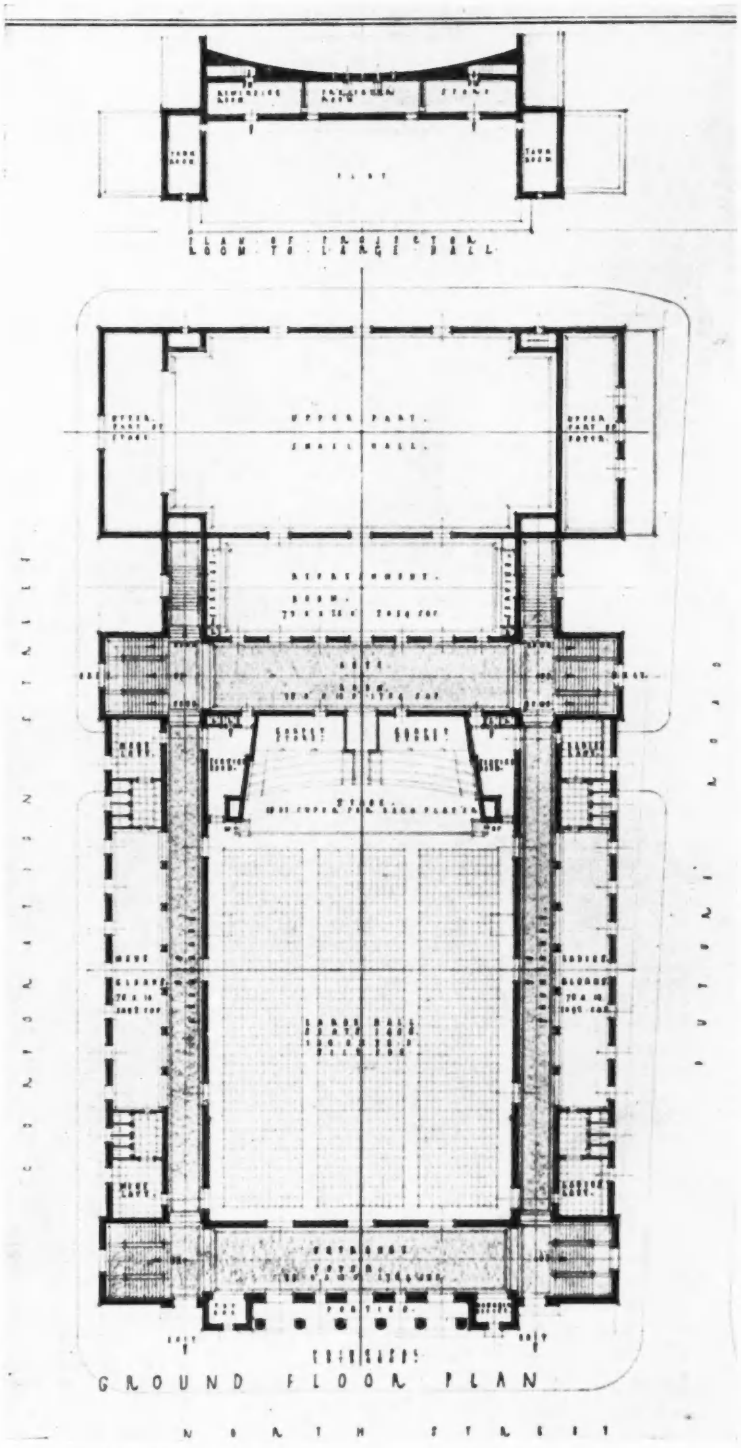
The front elevation is well designed, though, in perspective, when seen from near-to, the two towers on each side of the portico will stand up above the main block, giving rather a weak skyline. The colonnade seems somewhat of an extravagance in a building where the limit of cost is set so low.

DESIGN PLACED SECOND

The second premiated design is very similar to the winners' but has not got quite such a clean plan. The small hall is on the same level as the large one—a good point—but it is necessary to pass through the refreshment room when going from one hall to the other; otherwise the circulations are very good. The front elevation is simple and pleasant, but the side elevations are not quite so good.

DESIGN PLACED THIRD

The third premiated design has the same general lay-out as the winners', with the difference that the small hall foyer runs across the building and is entered from both the side streets. This works well and gives a good position for the cloakroom, but the small hall itself is not of a very good shape. Other criticisms of the design are the duplication of the kitchens and the descent from North Street to the large hall level. This scheme, however, is superior to the winner's in the generous stage to the large hall and in the positions of the cloakrooms to both halls.



Ground floor plan of the winning design. By E. D. Lyons and L. Israel.

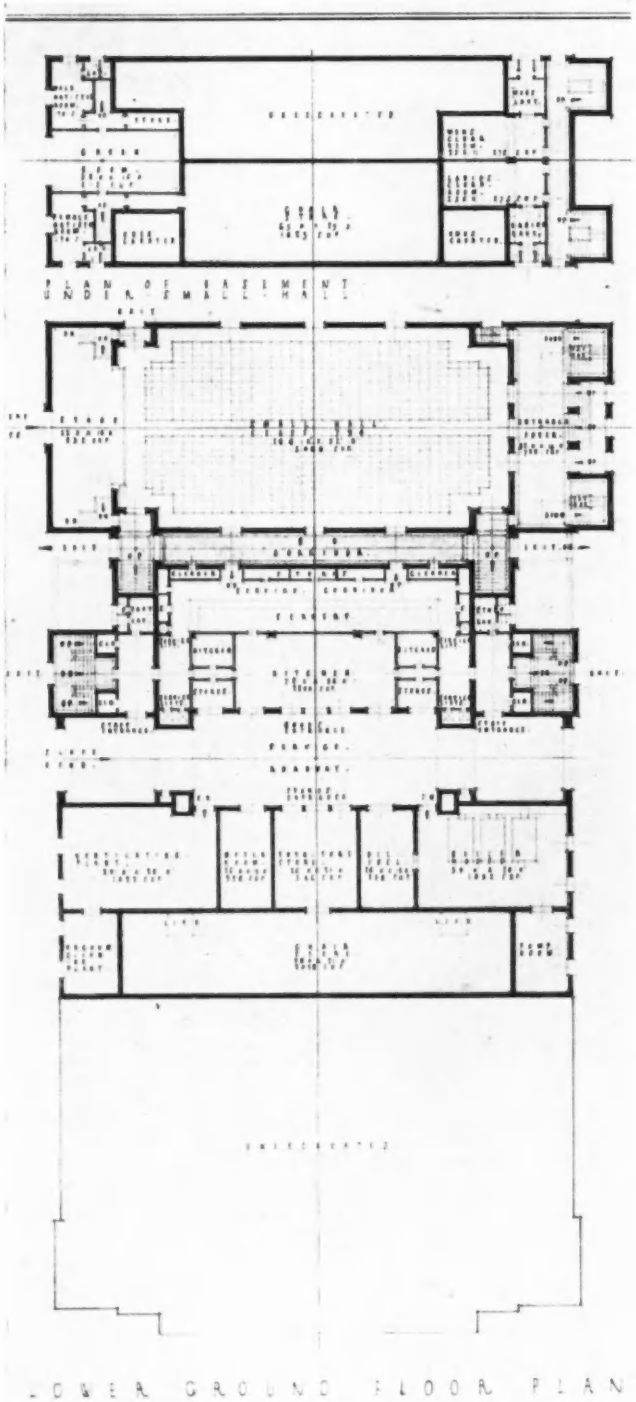
SOME OTHER SCHEMES

Space does not permit of a careful examination of all the 122 designs, but one or two are mentioned as being interesting designs of what may be called a non-standard lay-out.

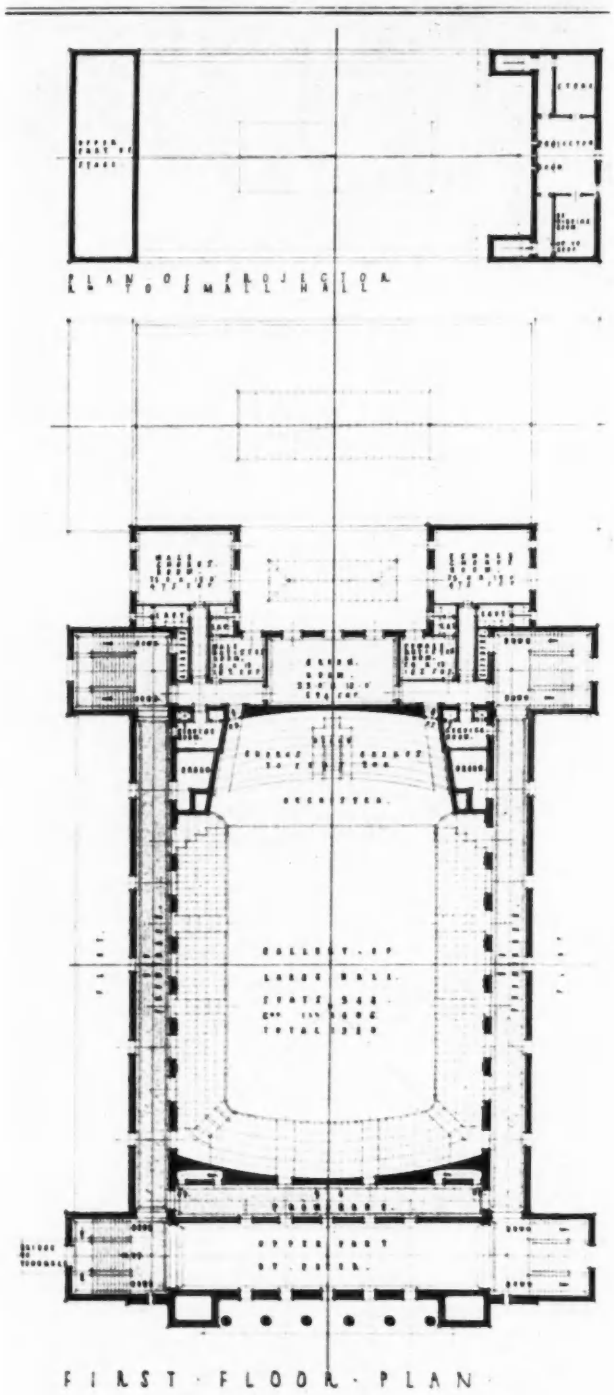
A very interesting scheme was that by Messrs. Meadley and Mallows; in this design the large hall is placed above the small hall, both being reached from the main entrance foyer on North Street. The halls are connected together by eight projecting escape staircases, four on each side, and the building is set well back from the boundary of the site, the space being laid out as a terrace. This is one of the few designs with "modern" elevations; the front is not quite happy but the side elevations are excellent.

Messrs. Cusdin and Tibbits have an unusual scheme in which the halls are placed parallel to each other across the site, with a circular foyer between and a circular refreshment room

COMPETITION FOR MUNICIPAL ASSEMBLY



LOWER GROUND FLOOR PLAN



FIRST FLOOR PLAN

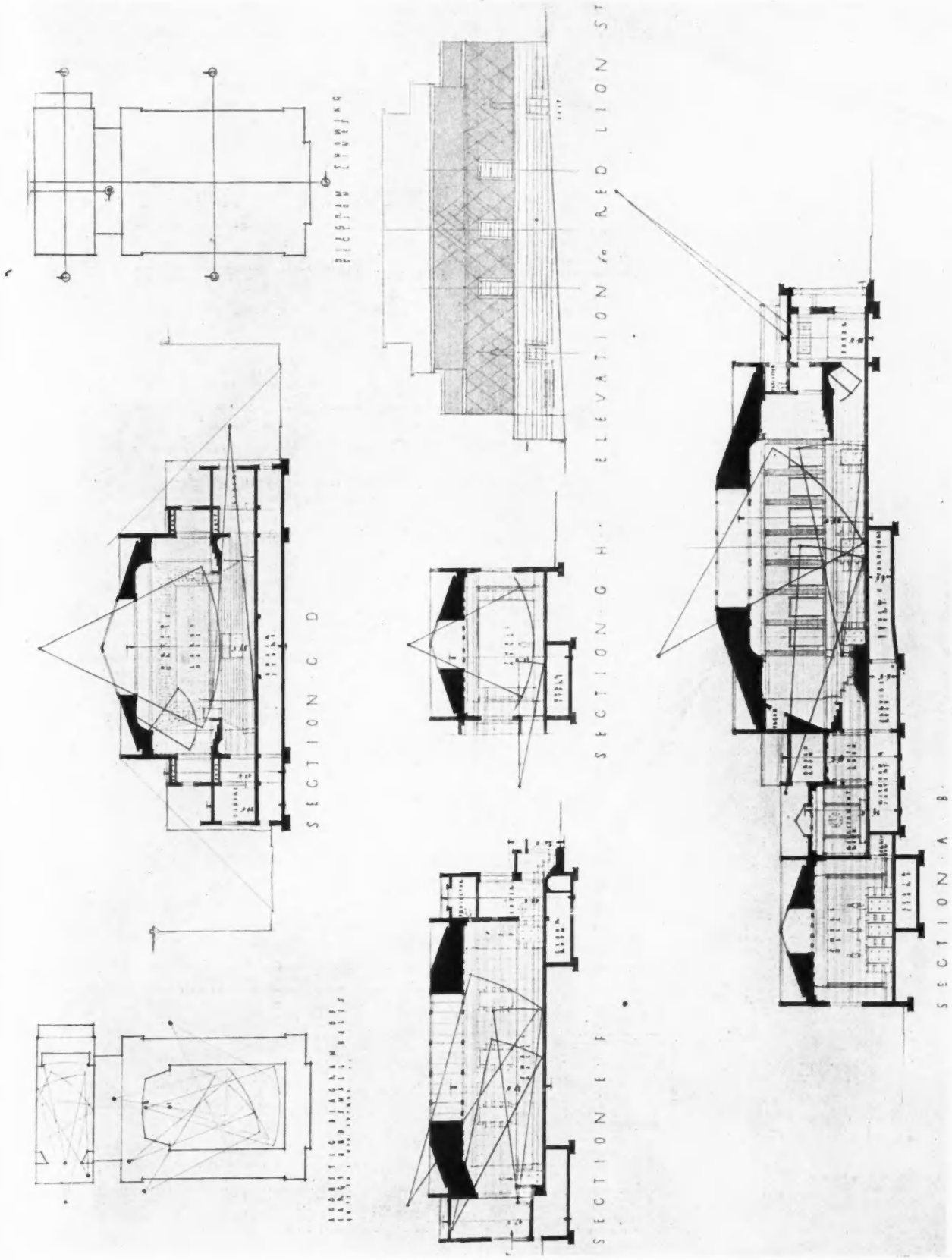
BY E. D. LYONS AND L. ISRAEL

over this. This design has a good front elevation.

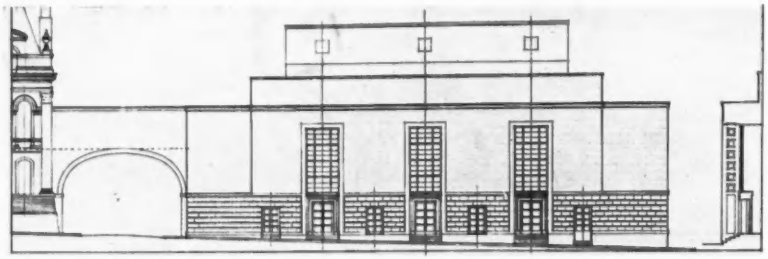
Perhaps the most interesting of the schemes with the small hall placed in front is that by Messrs. Dixon and Herman. The small hall is placed above the entrance foyer to the large hall and has its own foyer with entrance from the new street. The front elevation, of Swedish character, is very attractive but suggests a country house rather than a municipal building. The side elevations are not so good.

There are many other designs in the exhibition of considerable planning merit, but there are very few whose elevations make the visitor instinctively think, "I should like to see that built."

HALLS, WOLVERHAMPTON: WINNING DESIGN



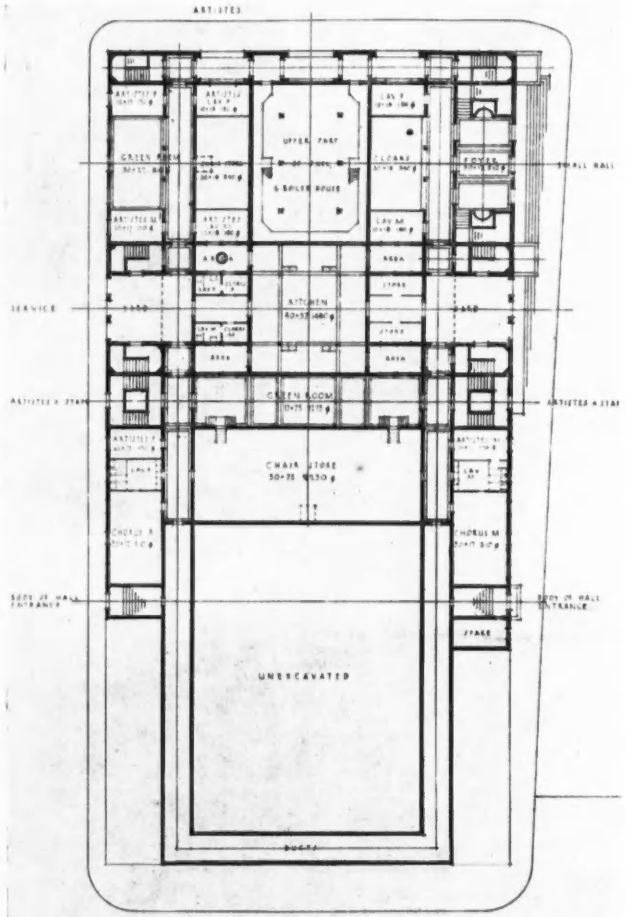
COMPETITION FOR MUNICIPAL ASSEMBLY HALLS, WOLVERHAMPTON



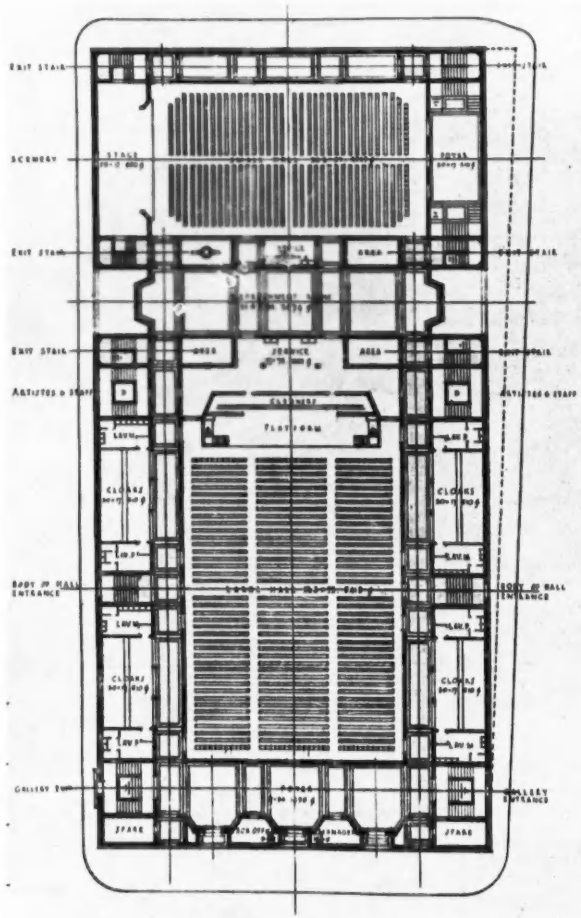
DESIGN PLACED SECOND

BY

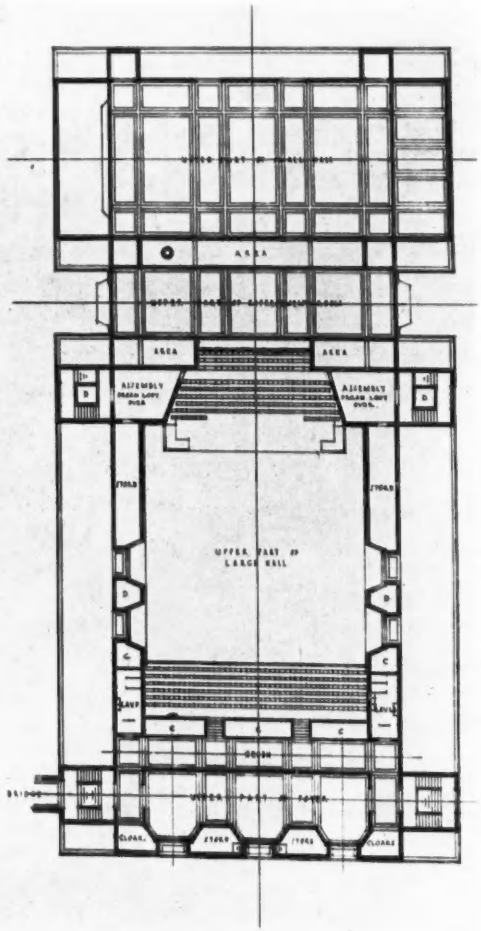
D. H. McMORRAN AND A. BAILEY



LOWER GROUND FLOOR

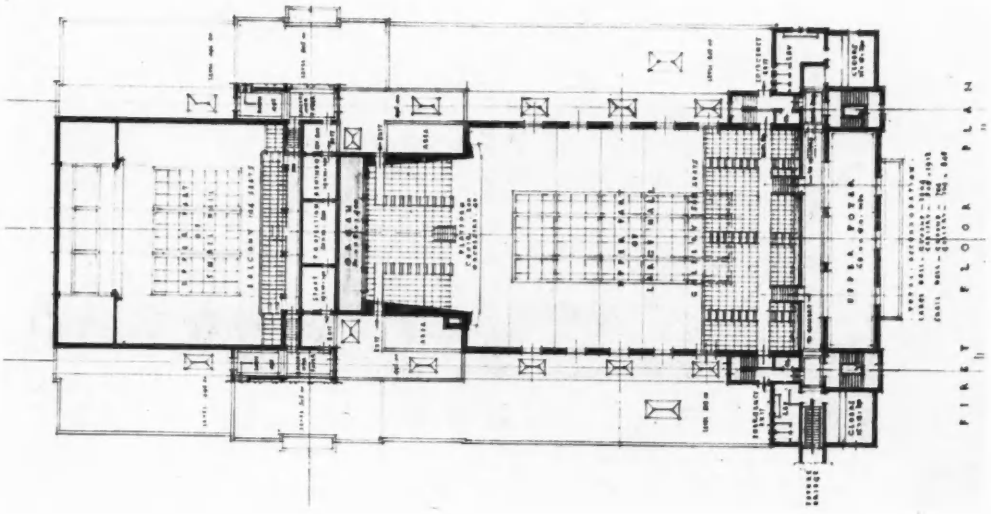


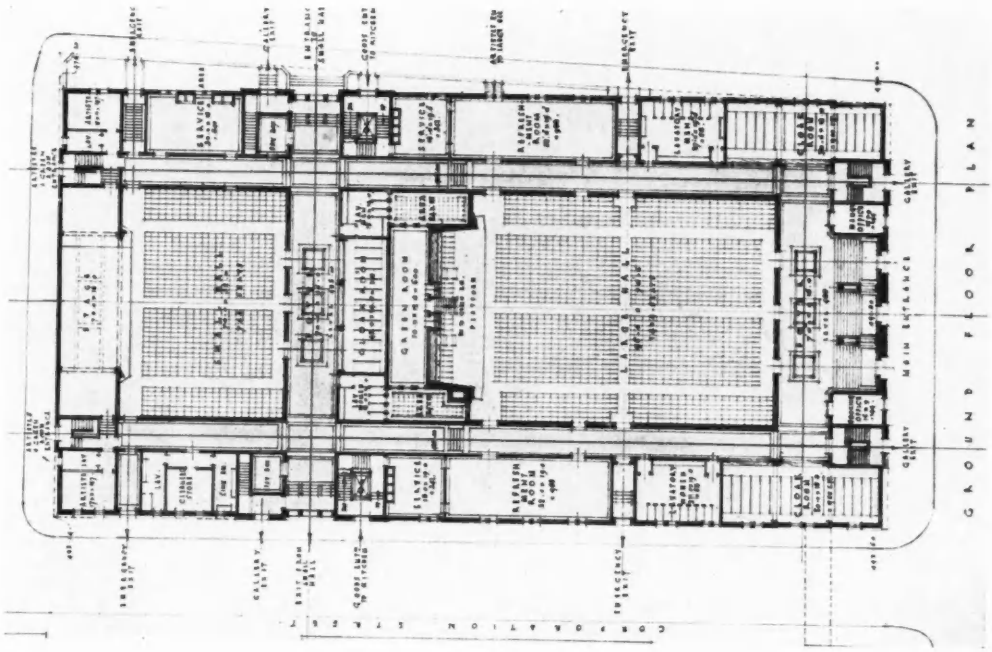
GROUND FLOOR

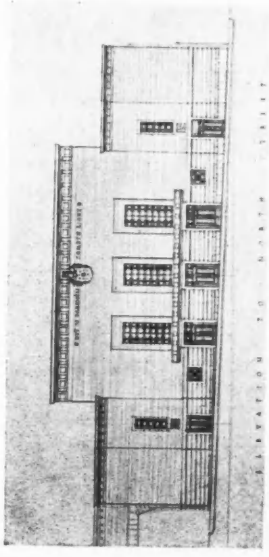


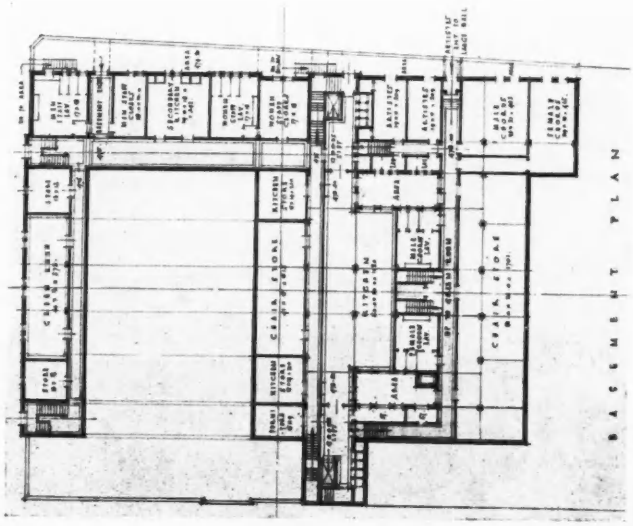
FIRST FLOOR

DESIGN PLACED THIRD : BY VERNER O. REES









SUGGESTED HOUSING FOR LIVERPOOL :

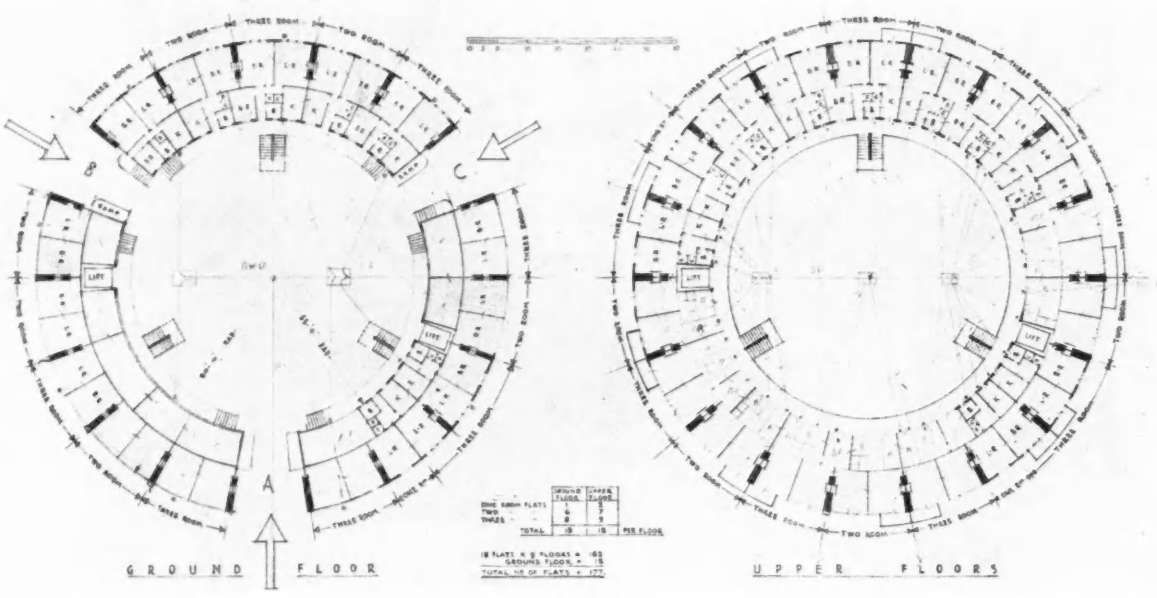


FIGURE 1

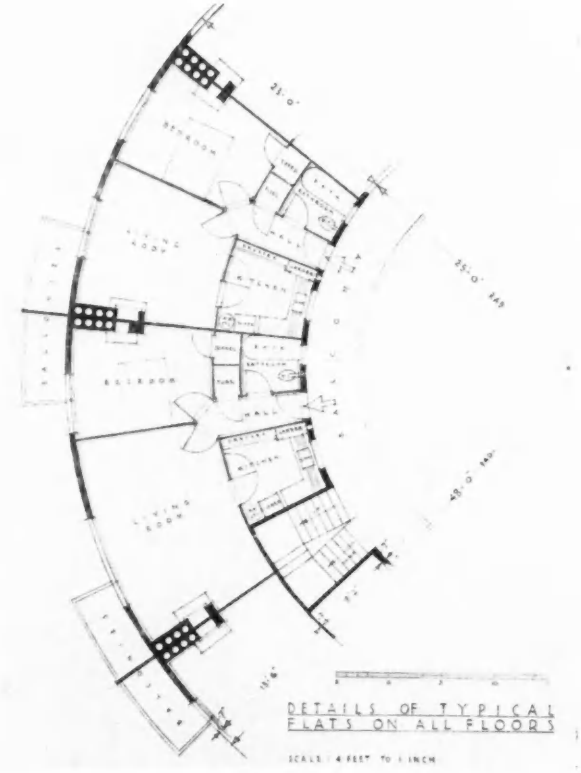


FIGURE 2

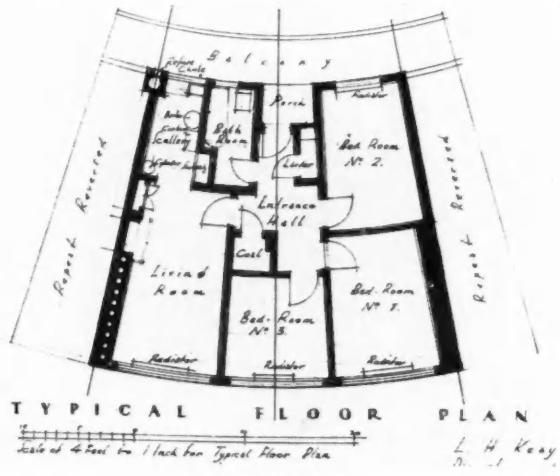


FIGURE 3

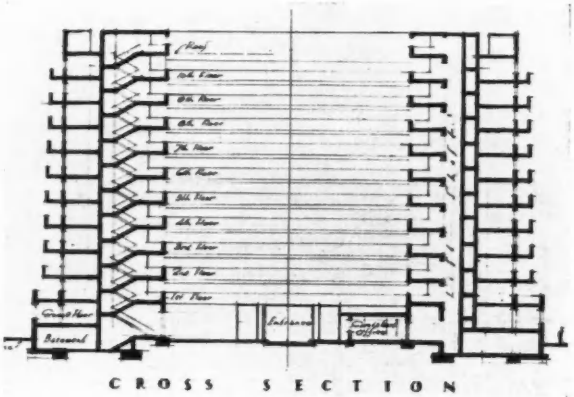


FIGURE 4

KEY TO THE ILLUSTRATIONS

Figures 1 and 2: Ground and upper floor plans and details of typical flats on all floors of the scheme suggested by Mr. Douglas H. Green. Figures 3, 4, 5 and 6 : typical floor plan, cross section, ground and typical upper floor plans of the scheme by Mr. L. H. Keay, which has been based on Mr. Green's proposal.

TEN-STOREY CIRCULAR FLATS

On this and the facing page are reproduced plans of the scheme for a ten-storey block of flats in reinforced concrete, submitted to Mr. L. H. Keay, Director of Housing, Liverpool, by Mr. Douglas H. Green, of the Trussed Concrete Steel Co., and plans and sections of Mr. Keay's own scheme. Perspectives of the schemes are given on page 587. The main advantages claimed for a circular building of this type are as follows;

In the plan of each flat the correct balance is obtained between the area allocated to the living rooms to that of the domestic offices. The principal rooms are widest at the window end, and narrower in the back portion. The access corridors are of minimum length. The greatest privacy is obtained in the principal rooms, as the windows cannot be directly overlooked. The reflection of sound is reduced to a minimum, and if several such blocks were built in one area the effects of street noises would be largely eliminated. In general site planning long narrow streets are obviated, giving large open spaces with free access for sun and air to each block. The site planning of Mr. Green's scheme (see page 587) has a greater density of flats per acre than would be allowed by most authorities. Structually the blocks are of great strength, the shape giving a natural resistance to wind pressure.

In more recent Liverpool schemes a number of blocks of either segmental or semi-circular plan have already been constructed. In seeking an alternative cheap form of construction it was realized that, in view of the great difficulties which are being experienced in finding sites of sufficient area on which to erect decanting blocks, any design should be capable of being built to five or more floors in height.

The external diameter of the block shown is 163 ft. 6 in. exclusive of the balconies, and the internal diameter 109 ft. 6 in. The main walls are vertical, but the projection of balconies decreases on the higher floors.

The whole of the external walls would be finished in concrete, painted a warm cream. Black and blue polished surfaces would be used for the face of the plinth and balconies.

Access to the building would be obtained via two entrances 36 ft. in width situated on the north and south axis; passenger lifts and two emergency staircases would also be provided.

In the basement plan provision is made for a coal store and depot, cycle and pram store, and central heating installation—all reached from the ground level by means of ramps.

On the ground floor level the plan provides for a clinic and disinfestation station, crèche, library, laundry and kitchen.

On each floor above are eight 2-bedroom and eight 3-bedroom flats, or a total of 160 flats in all.

When it is realized that the area occupied by the 160 flats shown in the scheme is only slightly more than one acre, it will be manifest that the building has great possibilities for use as a clearance station in connection with rehousing proposals.

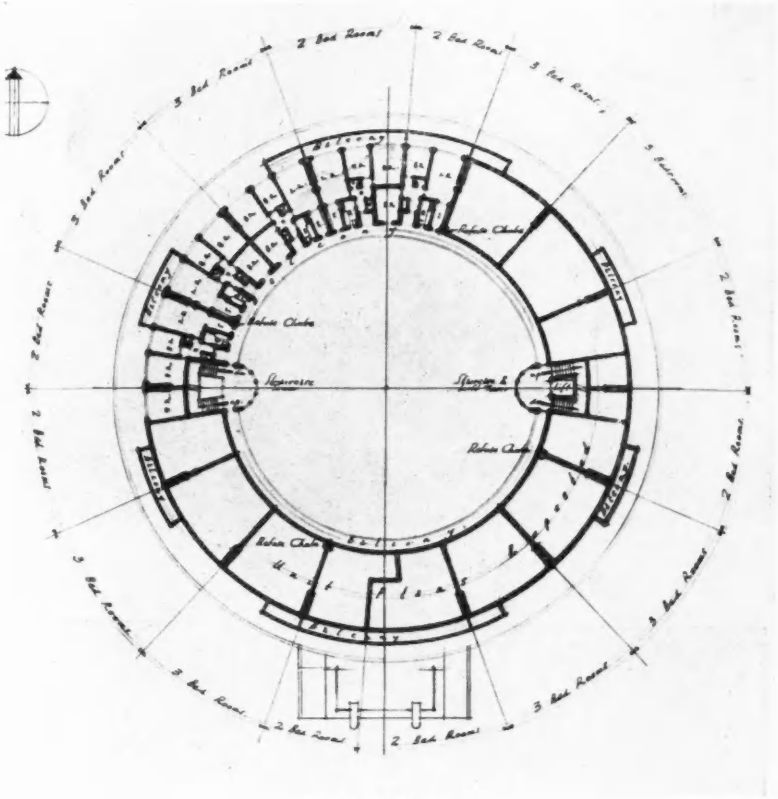


FIGURE 5

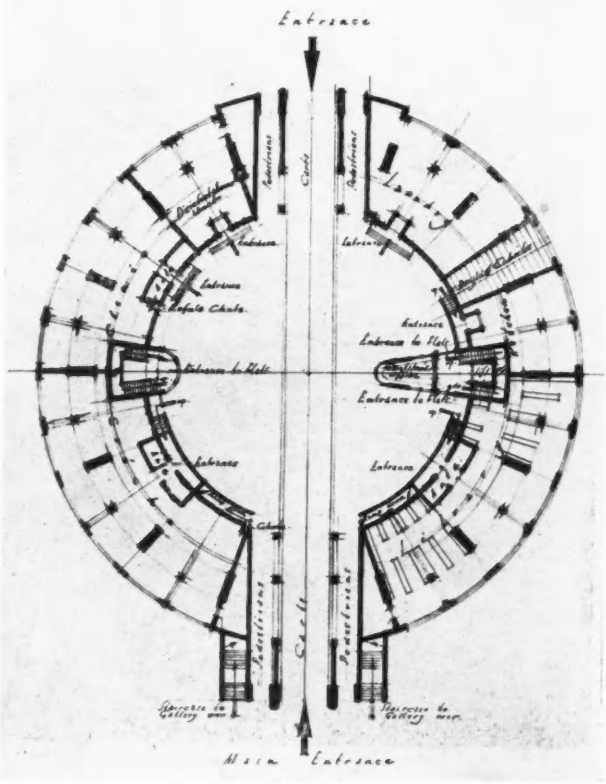
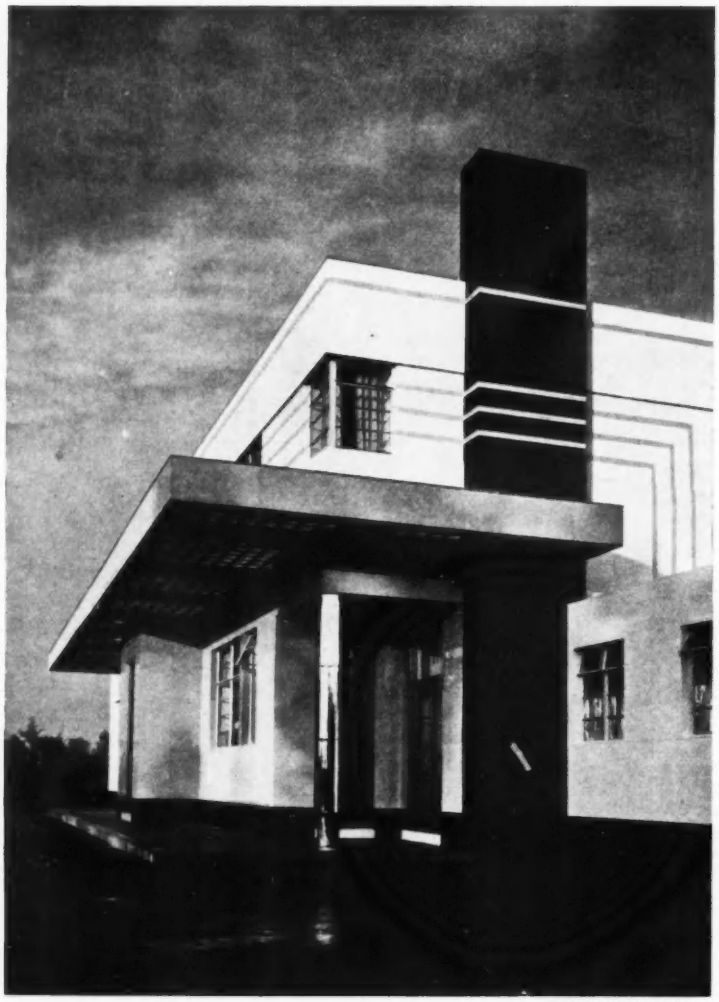


FIGURE 6

THE KIRK SANDALL HOTEL, DONCASTER:

INTERIOR DECORATIONS BY KENNETH CHEESMAN AND A. S. POLLITZER

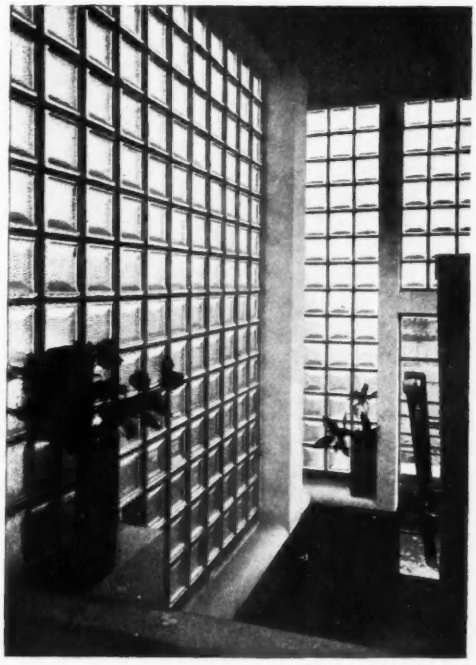


DELL AND WAINWRIGHT

This new hotel, which was formally opened last week, is wholly faced outside with glass. Above the black glass base the walls are faced with $\frac{5}{16}$ in. shell-pink glass, in panels approximately 3 ft. square. The upper floor windows are connected by narrow inlaid strips of $\frac{3}{16}$ in. pearl glass. These strips form an interesting feature at the ends of the building, where they intercept the black glass of the chimney stacks, and are returned vertically down to the lavatory wings. The whole of the exterior glass is fixed with mastic.

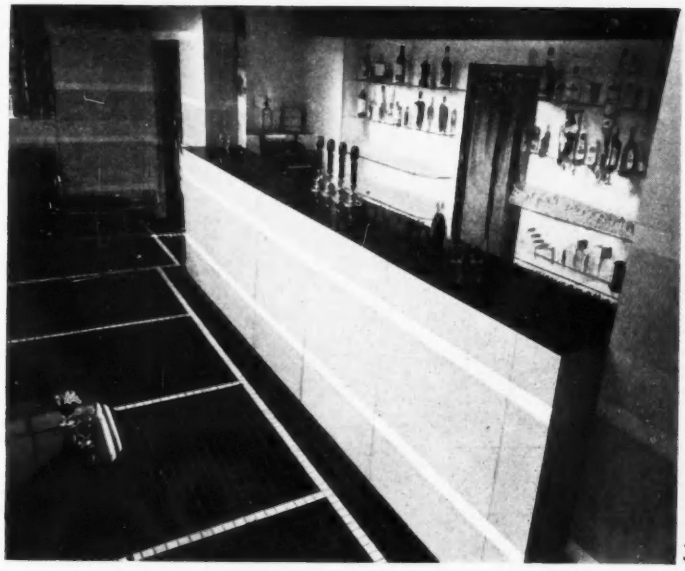
The marquise and entrance, shown in the photograph on the left, are faced with $\frac{5}{16}$ in. turquoise glass—the marquise being constructed of circular glass roofing lights, set in concrete. The corner pier is cased in silvered plate glass to form a cylinder.

DESIGNED BY T. H. JOHNSON AND SON



1 DELL AND WAINWRIGHT

2



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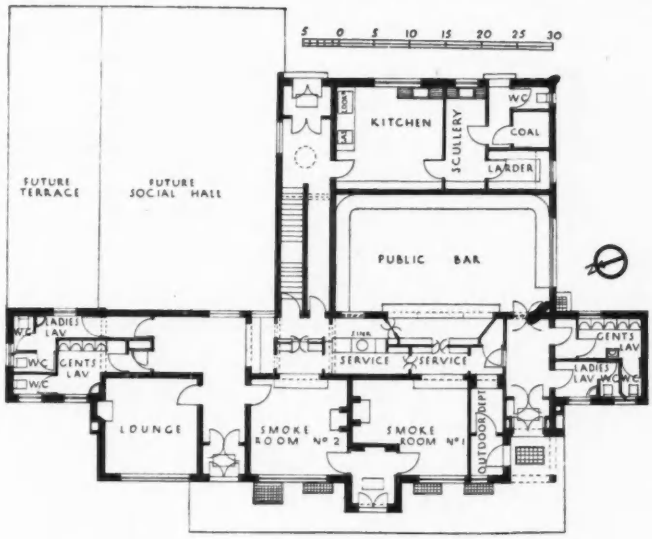


GROUND FLOOR PLAN

The photographs show :—

1 and 2. Interior and exterior views of the staircase tower. The tower is constructed entirely of pressed glass tiles, with small hammered finish (approximately 8 in. square), and was cast in concrete on the site and erected in position. Only about $\frac{5}{8}$ in. of cement is visible between each tile. The parapets, chimney stacks, and piers are faced with $\frac{3}{16}$ in. shell-pink glass.

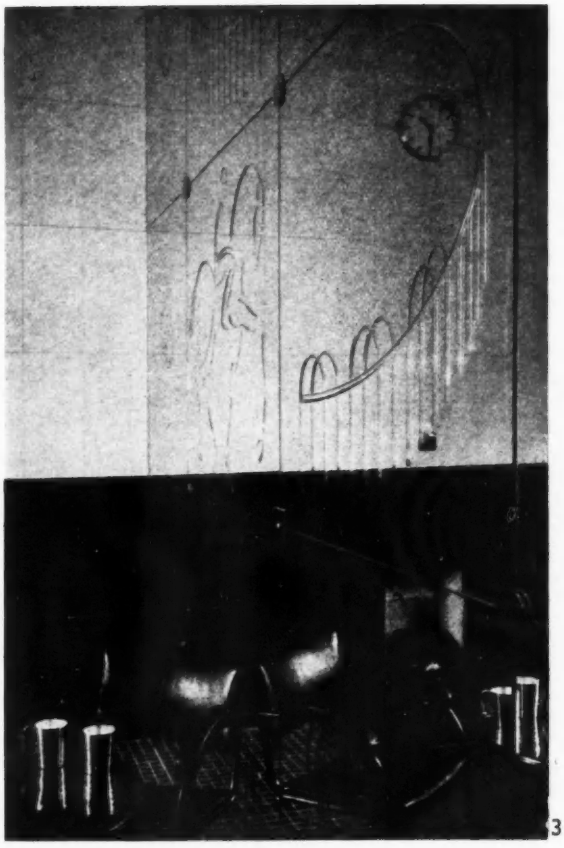
3. The public bar. The walls are lined with bands of varying widths of $\frac{5}{16}$ in. eggshell green, and eggshell glass ; and the bar surface is carried out in $\frac{5}{16}$ in. primrose glass—the shelves being of polished armourplate glass. The floor is constructed of $\frac{5}{16}$ in. pressed glass squares, $1\frac{7}{8}$ in. by $1\frac{7}{8}$ in., laid in cement to a gauge of 6 squares to the foot, and consists of green lines on a black background.

The first floor contains a sitting room, six bedrooms, bathroom, etc.

C

THE KIRK SANDALL HOTEL, DONCASTER

1



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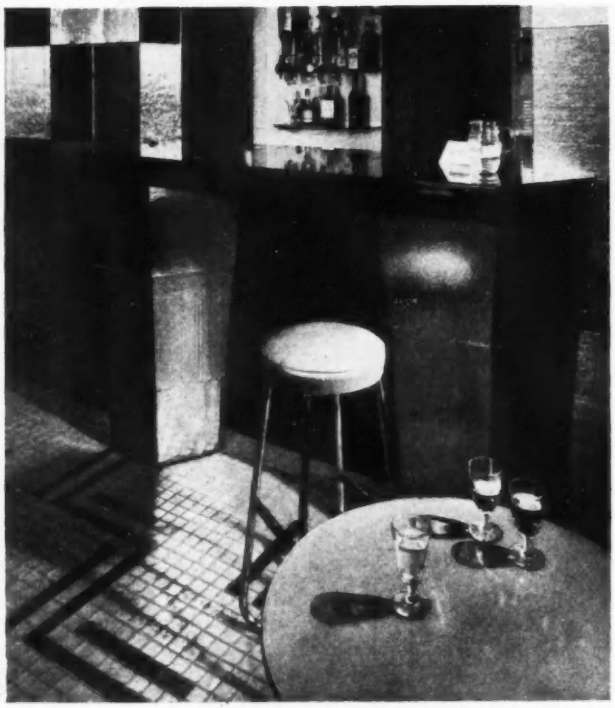


2

The photographs show: 1, Smoke room number one. The walls are lined on three sides with rough cast double-rolled glass, dull grey silvered. The brilliant cut frieze, shown on the left, depicts "the races"; the fourth wall is lined with polished black glass, relieved by sandblast motifs of the "harness room and stables." The bar counter is faced with alternate panels of polished black glass and silvered plate—the top being of clear silvered armourplate glass. The floor consists of small lined motifs in vermilion and black, on a ground of old ivory—the whole being of pressed glass squares. The table tops are of polished black glass.

2: Smoke room number two. The walls are lined with silvered rough cast pink glass; the direction of the ribbed texture being alternated to give a checkered effect. The supports of the bar counter are faced with silvered double rolled cathedral glass of a peacock blue tint. The counter top is of black, polished armourplate glass; and the floor is of blue-tinted clear cathedral glass.

3: The lounge. The dado is composed of narrow strips of silvered pink rough cast glass, inlaid in $\frac{5}{16}$ in. polished black glass. The upper walls are lined with large turquoise blue glass tiles. The wall on the right is faced with silvered polished plate glass relieved with large brilliant-cut motifs of horses, paddock railings and horseshoes. The floor, as in the other rooms, is of pressed squares, in pale pink clear cathedral glass.

The interior decorations were executed by Kenneth Cheesman and A. S. Pollitzer.

TROY COURT, HIGH STREET, KENSINGTON, W.

This seven-storey block of flats occupies an island site in Kensington High Street, bounded on the west by Holland Walk, and on the east by Phillimore Gardens. Shops occupy the ground floor on the fronts to the High Street and Phillimore Gardens. The flats are approached direct from the High Street through a central courtyard, while a subsidiary entrance connected to the central court is provided on the Phillimore Gardens side.

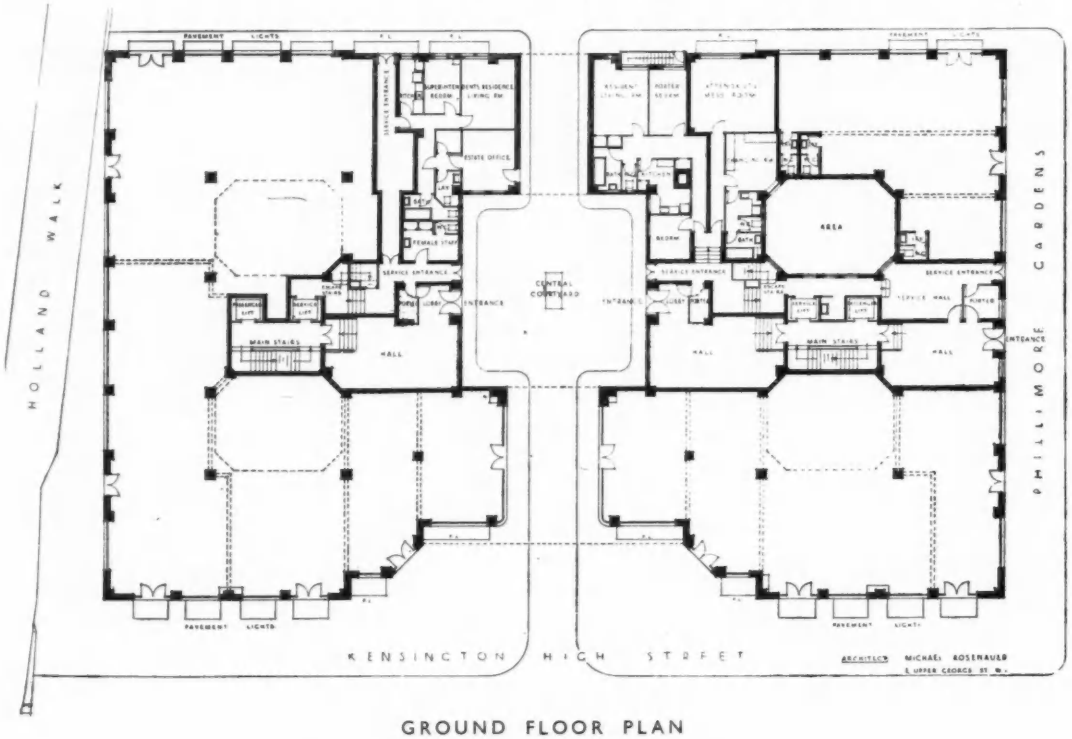
The building is steel framed, with hollow tile and concrete floors. The principal elevations are faced with sand-faced Hollbrook grey bricks, with reconstructed stone dressings. The metal windows, painted jade green with white frames, are built into stone frames and mullions set back ¼ in. from the brick face.

The photographs show : above, the main front ; right, the elevation to Phillimore Gardens.

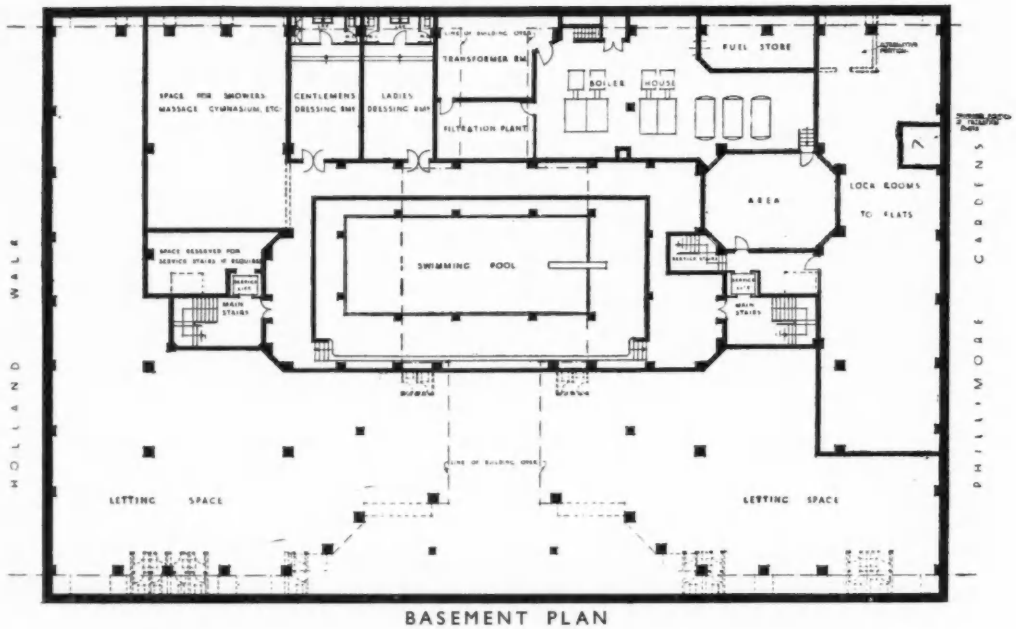
DESIGNED BY MICHAEL ROSENAUER

E. W. NEWBERY

TROY COURT, HIGH STREET,



GROUND FLOOR PLAN

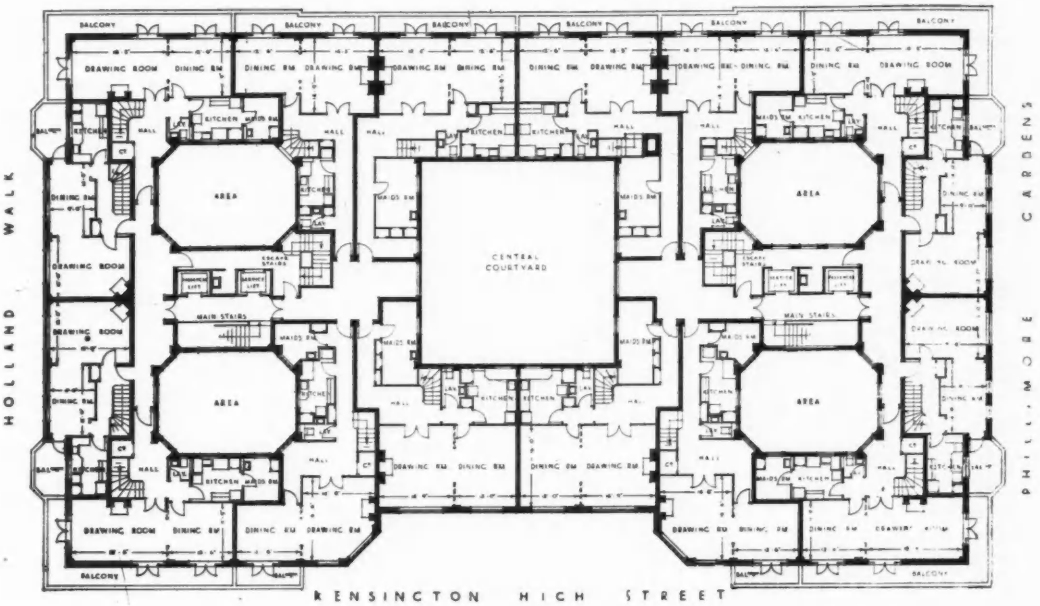


BASEMENT PLAN

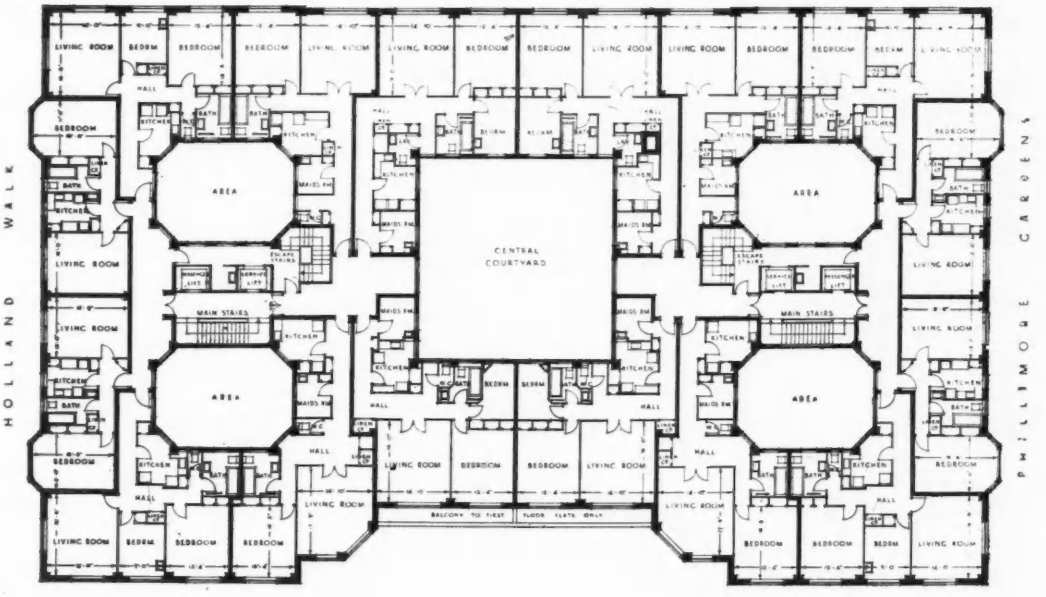
There are 16 flats on each floor—making a total of 80 flats. The planning of the main and service staircases is so arranged that they each give access to two halls, from which four flats are entered. By this method of planning, all services have been centralized, and the usual corridor system obviated. The flats range in size from living room, bedroom, kitchen and bath, to living room, 2 bedrooms, maid's room, kitchen and bath, the rents varying between £155 and £260 per annum, inclusive. On the sixth and seventh floors are maisonettes, each with its own private staircase and sun balcony. The accommodation consists of drawing room, dining room, 2 and 3 bedrooms, maid's room, kitchen and bath. All the principal rooms face the external streets, and only the maids' rooms, kitchens and offices look on to the courtyard and areas.

One passenger lift is provided for each of the main stair-

KENSINGTON: BY MICHAEL ROSENAUER



SIXTH FLOOR PLAN



FIRST TO FIFTH FLOOR PLANS

cases. The service lifts are arranged with doors to both the main and service staircases.

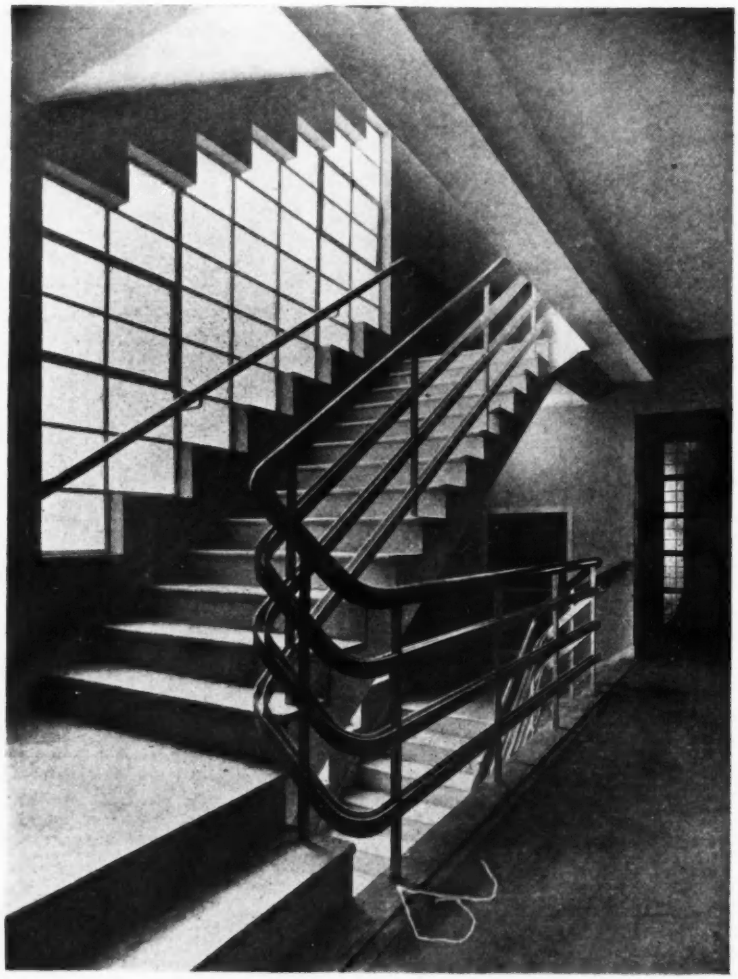
A swimming pool, 50 ft. by 20 ft., lined with pink Girlingstone tiles, is provided in the basement, complete with dressing rooms, showers, filtration plant, etc. Access to the bath is obtained direct from the two main staircases.

The partitions are of 2 in. blocks. Linoleum and rubber flooring is laid in each flat. The main staircases are laid with terrazzo, and these, together with the halls, have walls of matt cement glaze of a light green. The entrance halls are panelled in sycamore, with a blue and brown rubber floor, the vestibules being in marble.

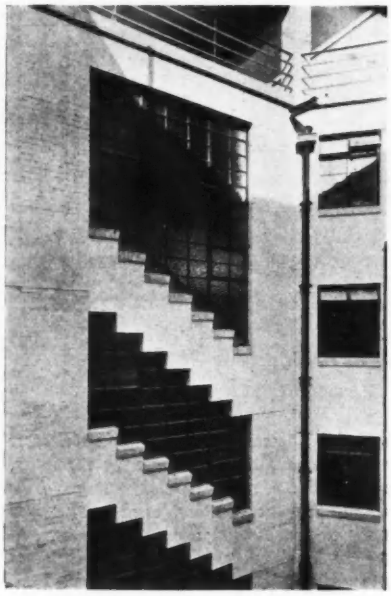
The total cost of the building was £135,000, which gives a cube figure of approximately 1s. 8½d.,

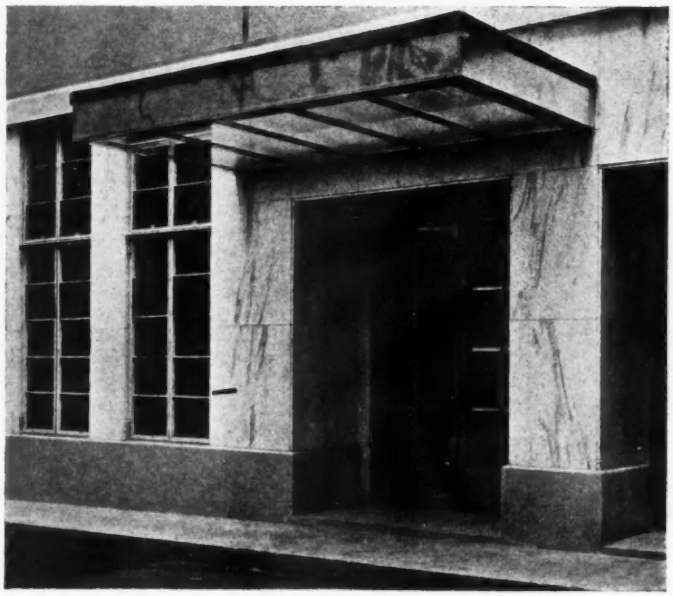
Mr. H. T. Buckland acted as consulting architect.

TROY COURT, HIGH STREET,



On the left is a view of the staircase landing on the fourth floor, overlooking one of the subsidiary areas. The windows are of 9 in. by 9 in. glass and concrete, cast in situ. *The other photographs show: below, left, external detail of the staircase windows; below, right, one of the main entrances in the central courtyard. The courtyard is faced with white marble, up to the first floor, and, above, with shrimp-pink glass, with stainless metal bands. The metal windows and cills are painted jade green.*





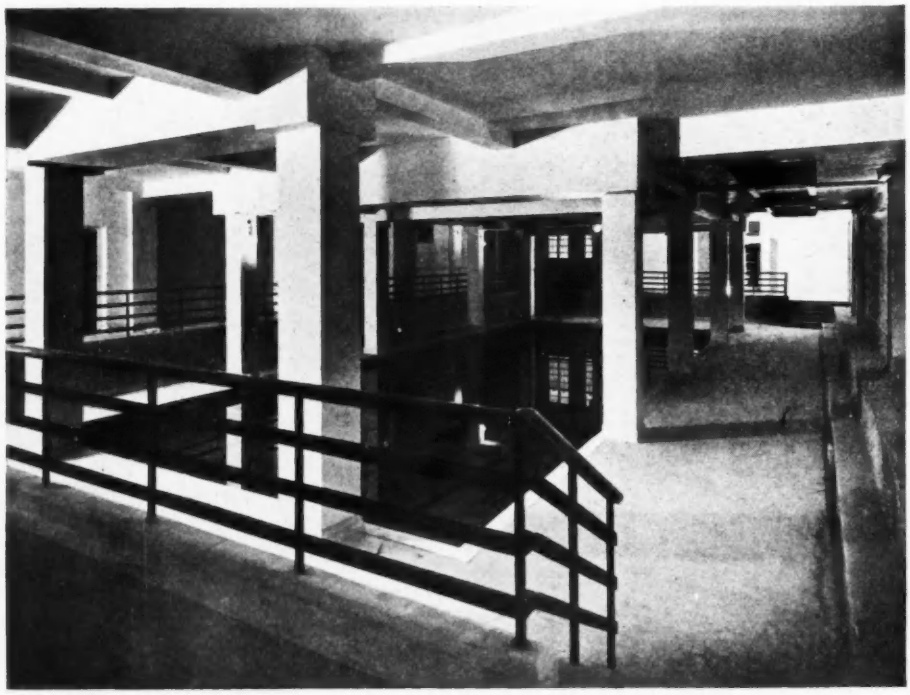
S. W. NEWBERY

KENSINGTON, W.: BY MICHAEL ROSENAUER

S. W. NEWBERY

A view in the central courtyard.

TROY COURT, HIGH STREET, KENSINGTON, W.



S. W. NEWBERY

The photographs show : above : left, the main staircase landing ; above, right, the service staircase landing.

On the left is a general view of the swimming bath in the basement.

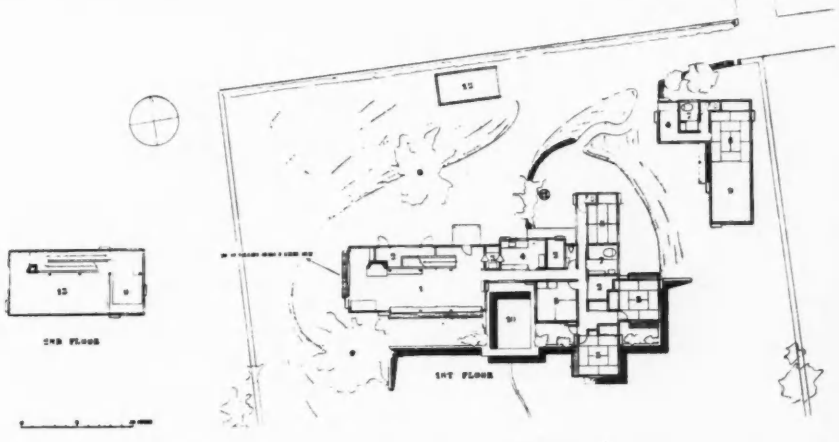
DESIGNED BY MICHAEL ROSENAUER

WORKING DETAILS : 141

DETAILS OF LIVING ROOM • ARCHITECT'S SUMMER QUARTERS IN JAPAN • ANTONIAN RAYMOND

KEY TO THE PLANS

1. Living room
2. Storage
3. Pantry
4. Kitchen
5. Bedroom
6. Draughtsmen's Dormitory
7. Bathroom
8. Servants' room
9. Studio
10. Swimming pool
11. Well
12. Garage
13. Upper part of living room

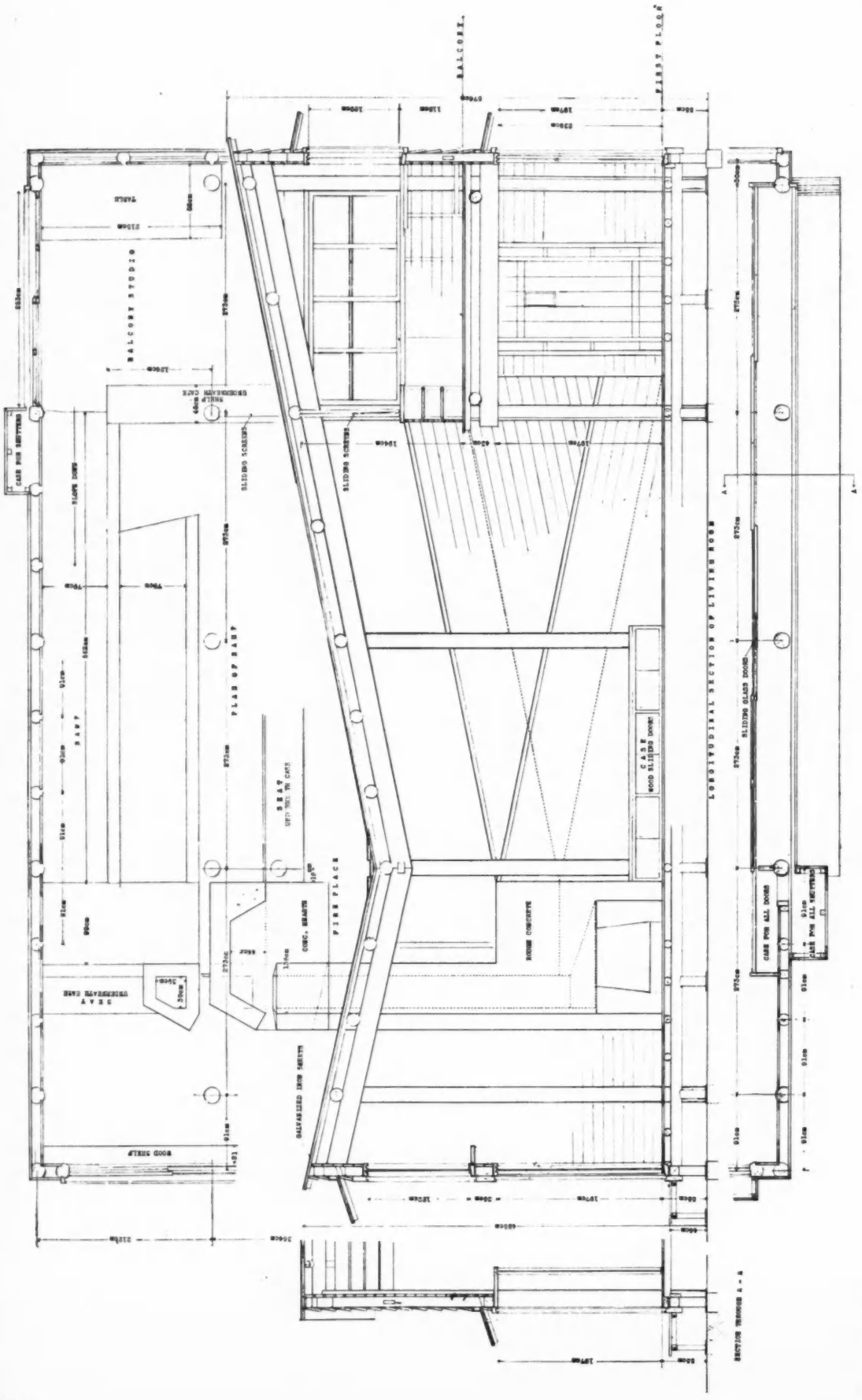


This house, of which a photograph of the living room and plans are reproduced here, is situated at Karuizawa, on a high plateau, surrounded by mountain ridges. Detail drawings of the living room are given overleaf.

The walls of the living room are of pink cedar planks and the columns of grey chestnut. The furniture was constructed on the job by the carpenters and is of Hinoki (Japanese cypress). The chairs have straw seats, molled by hand into rope. The ramp leads up to the studio above the dining recess; and the fireplace is of rough lava concrete.

WORKING DETAILS : 142

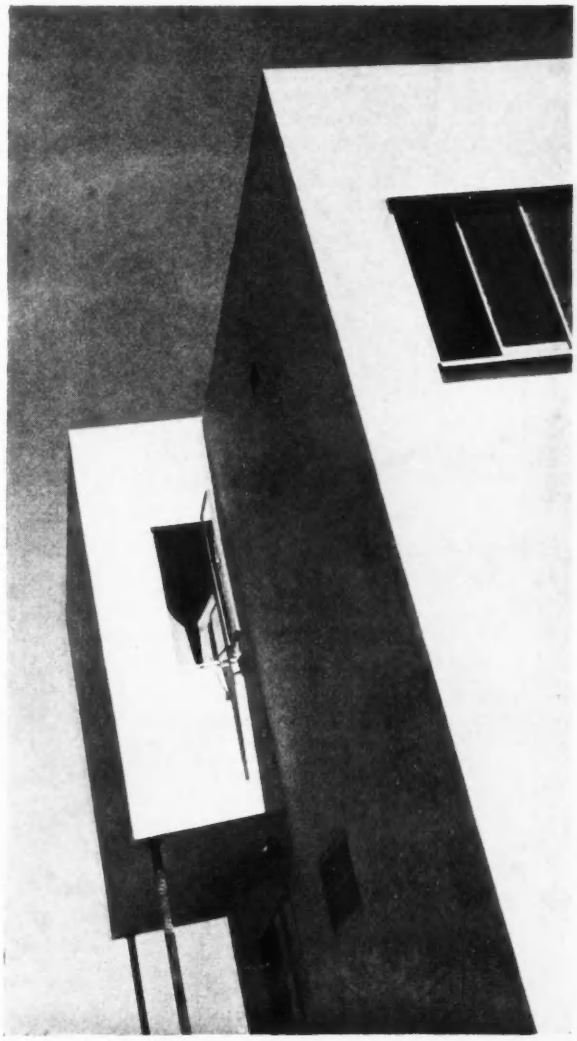
DETAILS OF LIVING ROOM • ARCHITECT'S SUMMER QUARTERS IN JAPAN • ANTONIAN RAYMOND



Details of living room, looking east towards dining end and studio.

WORKING DETAILS : 143

MISCELLANEOUS • HOUSE AT GIDEA PARK • HOLFORD, STEPHENSON AND YORKE

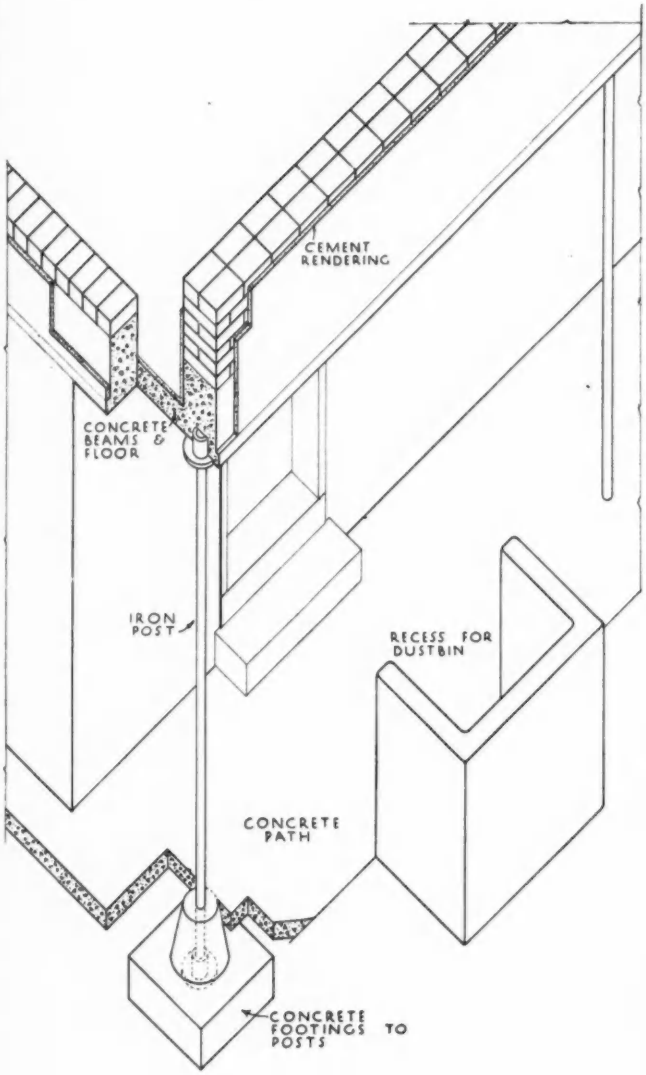


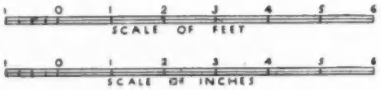
Overleaf are reproduced three details from this house: 1: approach to back entrance door, protected by projecting bedroom at the first floor, carried on 2½ in. diameter solid steel columns. The concrete yard is continued towards the boundary and is enclosed by dwarf concrete walls forming recess for dustbin. 2: standard sections for internal door frames, of 2 in. by 4 in. oak, are adapted to take entrance door in 9 in. wall. 3: the householder will purchase coal in one or two hundredweights at a time, therefore there is no necessity for the fuel store to extend to the full height of the ground floor, so a concrete slab is cast at a height of 3 ft. 6 in. and the space above utilized for a ventilated cupboard.

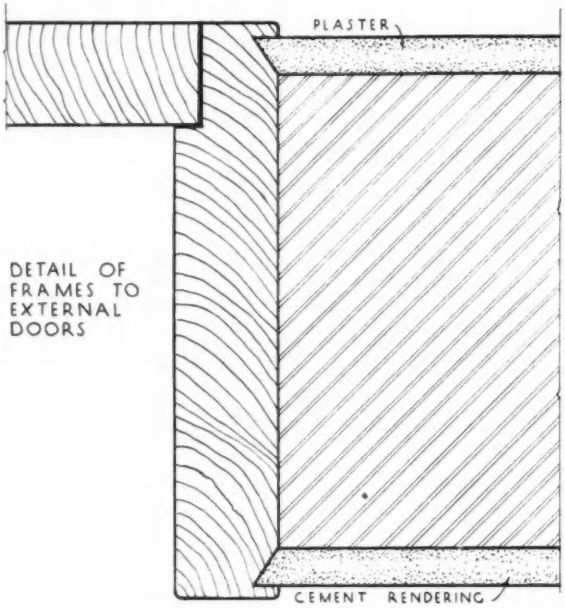
The photograph shows a detail of the projecting bedroom at first floor level. The house was illustrated in our issue for August 9 last.

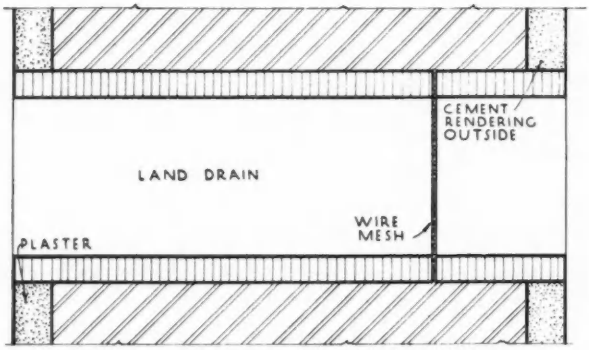
WORKING DETAILS : 144

MISCELLANEOUS • HOUSE AT GIDEA PARK • HOLFORD, STEPHENSON AND YORKE

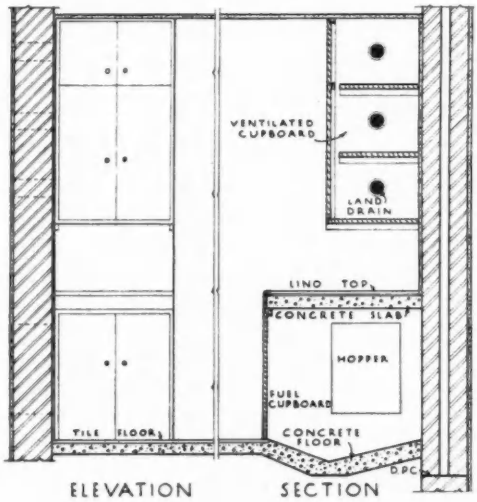








SECTION THROUGH EXTERNAL WALL SHOWING VENTILATION OF CUPBOARD



A description of these details is given overleaf.

IN THAT CONTINGENCY

The following abstract of enquiries represents a number of those recently submitted to the Building Research Station. The information given in the reply quoted is based on available knowledge. It has to be borne in mind that further scientific investigations may, in the course of time, indicate directions in which the reply might be supplemented or modified. Moreover, the reply relates to the specific subject of the inquiries, and is not necessarily suitable for application to all similar problems. Crown Copyright Reserved.

Gauging Lime Plaster for Ceiling Work

¶ THE collapse of lime plaster ceilings is one of the commonest of the troubles reported to the Building Research Station. As a result of investigating many such failures, and for reasons which have been discussed in previous replies to enquiries published in this series, it is now concluded that under modern conditions of building a straight lime-sand-hair mix can no longer be considered suitable for overhead work on lathing, and a material capable of developing a higher strength at a very early age is recommended.

For this purpose, calcium sulphate plasters are suitable, but there is a considerable prejudice against a finish as hard as that given by such a plaster used in conjunction with sand alone.

The chief objection is that the ceilings become more resonant than the traditional lime and hair work and, as a result, sound transmission through floors is more troublesome. There is, as yet, no direct experimental evidence for this view, but it is not unreasonable to assume that a thin, hard plaster may act to a certain extent as a resonant membrane ; it seems, therefore, that there is a legitimate reason for the use of a plaster of the softer type for ceilings on lathing.

Where an essentially lime plaster is required, the following recommendations are made :—

To ensure the development of adequate key strength in lime plaster for use on ceilings, it is considered necessary to gauge the mix with a cementitious material having a chemical set, such as calcium sulphate plaster. The effect of this addition is to produce a plaster having a definite strength at very early ages. This is of importance since not only are buildings often occupied as soon as the construction is finished, but the plasterwork is subjected to vibration by the work of other craftsmen, such as electricians, gasfitters, plumbers, etc., which sometimes (in hasty work) is in hand whilst the plastering is being done.

The gauging of finishing coats with plaster of Paris (calcium sulphate hemi-hydrate) is an operation with which the plasterer is already familiar. If this technique could be extended in such a manner as to enable an undercoat to be similarly gauged, then the resulting plaster should possess the necessary characteristics ; but, owing to the rapid set of normal gauging plaster, it would be impracticable to use it in batches of the size required for undercoats. However, plasters of this type, but with their set suitably retarded by the addition of organic colloids, have been introduced of recent years for use as wall plasters ; these constitute a class of materials of which many, if suitably handled, can conveniently be used for gauging lime undercoats. They are not, however, marketed with any special view to their use in this way, and, since a mix of lime and such plaster is likely to be unfamiliar to the plasterer, it is advisable, in issuing a specification, to draw his attention to the properties of such a mix.

The points which particularly require attention may be summarized as follows :—

1 : Mixing lime with "retarded hemi-hydrate" plaster counteracts to some extent the effect of the retarder and the initial set is consequently hastened, but, if a suitable plaster is used, the resulting set is still sufficiently slow to allow the mix to be applied as an undercoat.

In the table below are given the initial setting times of some retarded plasters with and without the addition of a commercial dry hydrated lime. In one case, the setting time with lime is given at three temperatures, in order to indicate the effect of temperature. The plasters suitable for use in the manner here discussed are indicated by an asterisk.

Initial setting times of mixes with and without the addition of lime (commercial dry hydrate). Tested with the Vicat Needle, at a stiff plastic consistence.

	Without lime.	1 part retarded plaster with 3 volumes of lime.
Retarded hemi-hydrate plaster A :—		
"Undercoat"	4 hr. 20 min.	32 min.*
"Finishing"	2 hr. 48 min.	26 min.
Retarded hemi-hydrate plaster B :—		
"Backing"	Over 4 hr.	33 min.*
"Finishing"	2 hr. 20 min.	20 min.
Another retarded hemi-hydrate plaster at different temperatures :—		
0° C. (32° F.)	—	55 min.*
23° C. (73·5° F.)	—	36 min.*
37° C. (98·6° F.)	—	29 min.

* *Suitable for use in undercoats*

The setting time is usually rather longer when lime putty is used in place of dry hydrate.

2 : The interval between initial and final set of these plasters is very short, so that any knocking up after the mix has started to harden will "kill" a large proportion of the set. It is essential, therefore, that *all* hardened or partially hardened material be discarded.

3 : The presence of particles of set plaster also hastens the set ; the mixing boards and tools must, therefore, be kept thoroughly clean.

It should be emphasized that the "retarded hemi-hydrate" plasters in question (plaster of Paris, with organic colloid retarder) are sold under proprietary names. Each brand is retarded to an extent which its manufacturer considers appropriate, both for the particular type of work for which it is sold, and also for the customary plastering technique in the particular part of the industry where the plaster finds its best market. They are not made with any view to the admixture of lime.

Some manufacturers market two brands of different setting times under the same name qualified by such terms as "for undercoats" and "finishing" respectively. The slower setting "undercoat" brand should always be used for the purpose under discussion.

It should also be noted that under present circumstances the degree of retardation may be varied by the manufacturer from one consignment to the next.

Owing to the probable unfamiliarity of the plasterer with this use of retarded plaster for gauging lime it is highly desirable that he should, as an initial step, mix up some of the materials as suggested in the specification given below, and so obtain first-hand knowledge of the nature of the mix. If he does this he should then be able to organize the whole work along lines suitable for the men he employs. This procedure should be repeated with every new batch of plaster delivered to ascertain whether any important variation has occurred.

Specification.—The following notes are suggested for inclusion in specifications. Two-coat work has been carried out to this specification in a large housing scheme and has proved very successful. Under the drastic conditions of a very hot summer there was only a very moderate amount of shrinkage cracking, the keys were strong and the work sound.

The specification is intended for work on lathing only, and the proportions given are not necessarily rigid ; they may be varied to some extent according to the type of work

and the nature of the raw materials, as, for example, the sand employed.

Lime.—A British Standard Specification for building limes is in preparation and will probably be issued shortly. When this is published lime should be specified to comply with the appropriate section of the specification. Pending its issue hydrated lime should be ordered under a guarantee of soundness according to the Building Research Station methods of test.

Owing to the rapidity of hardening, soundness is of the greatest importance, and if lime putty is used a high degree of soundness in the putty is essential.

Plaster for undercoats.—The plaster employed in undercoats must be of the "retarded hemi-hydrate" (retarded plaster of Paris) type of calcium sulphate plaster, of the quality manufactured for use in undercoats, and retarded with organic colloid so as to set not earlier than 2 hours when used alone and not earlier than about half an hour when mixed with dry hydrated lime, in the proportions of 1 : 3 by volume, and made up to a stiff paste with cold water. In general, the "finishing" quality should not be employed. The plaster may be ready haired.

Care must be taken to insist on a retarded hemi-hydrate plaster, as in some cases a hard-burnt or anhydrous plaster may be marketed under the same or a similar name; the latter (anhydrous) type may possibly be suitable for use with lime, but under different conditions.

Test for suitability of retarded hemi-hydrate plaster.—In order to determine whether the plaster is of the correct type and is retarded sufficiently the following test can be made.

Two pats should be made up, with water, one with plaster to which about ¼th of its volume of ordinary quick-setting plaster of Paris has been added, the other with the plain retarded plaster as purchased. Both pats are then allowed to set.

If the plaster is suitable both pats will set at about the same time, which must not be earlier than two hours. If, however, the plaster is not a retarded hemi-hydrate the pat containing the added plaster of Paris will set very quickly.

NOTE.—This test is purely to distinguish the type of plaster and bears no relation to the actual mix recommended below. This should be clear from the fact that no lime or sand must be added in this test.

First undercoat.

1 part plaster (as specified above).
2 parts hydrated lime or lime putty.
6 parts sand.

All proportions by volume of dry materials except that lime putty is measured at a stiff plastic consistence. The lime-sand coarse stuff to be prepared in advance, and well soaked (24 hours at least). The gauging plaster to be added to small batches immediately before use. Use up all gaugings within half an hour (or less in hot weather), and do not retemper. Any material which has started to set must be discarded. It is essential to keep mortar board and tools clean or the set will become too quick.

Hair to be added to the coarse stuff, in the usual proportions and in the usual manner. An extra quantity can also be added by using ready-haired plaster.

In practice it will often be more convenient to measure the proportion of plaster in relation to the ready-mixed lime-sand coarse stuff. The proportions should then be

1 part by volume of plaster,
6 parts by volume of coarse stuff.

NOTE.—In mixing lime and sand most of the lime goes to fill the interstices between the sand particles, and the volume of lime-sand mix is roughly the same as that of the dry sand alone. The proportion of plaster to coarse stuff must therefore be 1 : 6 and not 1 : 8.

Second undercoat, in three-coat work.

1 part plaster (as specified above),
3 parts hydrated lime or lime putty,
8 parts sand;
or
1 part plaster,
8 parts lime coarse stuff.

Procedure as above. The hair can be omitted.

This gives a rather weaker coat than the first.

The precise proportion of sand depends on its quality; more of a slightly loamy sand can be used than of a harsh sand.

Finishing or skimming coat.

Lime putty, lightly gauged with ordinary quick-setting gauging plaster,
A small proportion of fine sand, if desired.

The actual proportion of gauging plaster added must usually be left to the judgment of the foreman plasterer. If a figure is demanded, between ⅓rd and ½th of the volume of the putty will be suitable. Not more than two buckets full should be gauged at a time. If hydrated lime is employed for preparing the lime putty it should be well soaked alone before use.

Where large areas have to be covered, and the suction of the backing is not too high, a lightly retarded gauging plaster can be employed in place of the unretarded or quick-setting variety, if the work be suitably organized. With a high suction backing a quick set is imperative to avoid fire-cracks, so that in this case ordinary gauging plaster of Paris is preferable to a retarded plaster.

LAW REPORT

POWERS OF MINISTER OF HEALTH: CLEARANCE ORDER.

In Re Housing Acts 1925-1930. Errington v. Minister of Health—Court of Appeal. Before Lords Justices Greer, Maugham and Roche.

THIS was an appeal under the Housing Acts 1925-1930, from an order of Mr. Justice Swift.

The case arose out of the Jarrow North Ward Clearance Order No. 1, and the appeal was by the legal representatives of the late Mr. Robert Smith, from an order of Mr. Justice Swift dismissing the appellants' application that an order of the Minister of Health should be quashed.

Owing to the importance of the question raised, viz., as to the extent of the Minister's authority, the hearing of the appeal had been expedited.

The material facts were as follows. The dispute concerned an area in Jarrow which had been declared to be an unhealthy one, the late Mr. Robert Smith being the owner of some property within that area. In 1933 the medical officer of health for Jarrow represented to his Council that a number of houses within the area, by reason of disrepair and sanitary defects, were unfit for human habitation, while others were dangerous and injurious to the health of the occupants and the inhabitants generally. He suggested that the best way of dealing with the matter was by demolition. In February, 1933, the Council made an order, and notice was served on the owners in April, 1933. They at once put in an objection, and a public enquiry was subsequently held, the question being whether the order should, or should not, be confirmed. Two witnesses were called for the Council, one of whom was a Dr. Dormer who in effect said that although he would like the area demolished, it would be possible, except as to certain houses which were congested, to make the others sound by repair and improvements.

In the end the Minister confirmed the clearance order covering the buildings contained in the schedule, and being in Shakespeare, Spenser, Chaucer, and Milton Streets.

The applicants asked that the order should be quashed upon the ground that the Minister did not act in a proper manner by permitting a deputation to come before him from the Council, and had held other communications with the Council behind the backs of the applicants, to which they had had no opportunity of replying. They further contended that the requirements of the Housing Act 1930, had not been complied with, with the result that the applicants had been substantially prejudiced. After further enquiry there was a meeting in September, 1933, and the Inspector appointed by the Minister suggested that the property owners should agree about the repair and improvements required in some of the houses.

Finally, certain improvements were approved by the Medical Officer, except as to certain cross blocks, which were condemned on the ground of congestion. The applicants alleged that in November, 1933, the mind of the Minister was that the order would not be confirmed with the exception of those houses the owners of which would not do the necessary repairs called for. The applicants said that after that communications took place between the Council and the Minister which changed the Minister's mind to confirm the order. They asserted that somebody representing the Minister wrote informally to the Council and that that letter was replied to informally through the Town Clerk arranging a meeting, with the result that officers of the Minister went to Jarrow and some houses were inspected without any notice being given to the owners and without giving them the opportunity of cross-examination. On March 27, 1934, the order was confirmed which, it was contended, ought to be quashed, inasmuch as the Minister had not in accordance with the provisions of the Act fairly and properly considered the matter in a judicial manner.

Mr. Justice Swift in the Court below, in dismissing the application to quash the order of the Minister, said it was the duty of the Minister as an administrator to inform his mind in any way he liked provided he did so honestly, and his lordship did not think it could possibly be said

here that he had not acted honestly. Having regard to the importance of the question raised by the case, which went to the root of the Minister's authority, he would do all he could to assist in taking the case to the Court of Appeal. The applicants, therefore, in his view failed in this case.

It was from this decision that the appli cants now appealed.

Mr. G. Blanco White and Mr. J. Charlesworth appeared for the appellants, and the Solicitor-General, Sir Donald Somervell, K.C., and Mr. Boustead, represented the Minister of Health.

Lord Justice Greer, in giving judgment, said that the Minister of Health, dealing with the matter in an administrative capacity, would be entitled to make such enquiries as he thought fit, but where there were objections made by property owners, who would be affected by the clearance order, the position was different, and it seemed reasonable that the Minister should then be regarded as exercising quasi-judicial authority.

After the public local enquiry into the matter, which took place before an Inspector of the Ministry of Health, there were numerous communications between the Council and the officials of the Minister, which afforded additional information on which the Minister was asked by the Council to confirm the clearance order. The objectors had no opportunity of dealing with the additional information thus given to the Minister. If the Minister were acting in a semi-judicial capacity he was doing—through the officials of the department—something which a semi-judicial officer could not properly do, viz., hearing evidence from one side, and viewing the premises in company with representatives of one side, in the absence of the other. It was clear to the authorities that, if this were not a case within Section 11 of the Housing Act, 1930, a *certiorari* would issue to quash the order. In this case, having regard to the circumstances in which the clearance order was confirmed, the order confirming the clearance order was not within the powers of the Act, and the Court could, on the application of any person aggrieved, quash such order.

Evidence that had not been given, but could have been given, at the public enquiry, had been heard *ex-parte* by the representatives of the Minister. An order made by a quasi-judicial officer, based on materials which were not materials referred to in the Act of 1930, was not within the powers given to the Minister, having regard to the well-established common law principle that a quasi-judicial officer, exercising his powers, must do so in accordance with the rules of natural justice. He must hear both sides and not hear one side in the absence of the other.

Therefore the appeal must be allowed, and the order must be quashed.

Lords Justices Maugham and Roche concurred.

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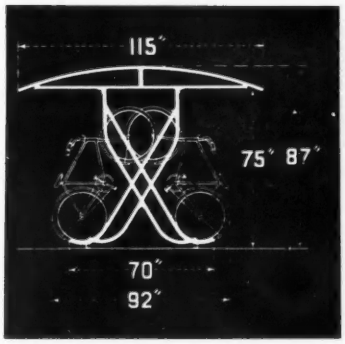
Messrs. Sulzer Bros. (London) Ltd., ask us to state that the heating system at the Guildhall, Swansea, illustrated in our issue for October 11, includes an electric thermal storage plant which was designed and installed by them.



TRADE NOTES

[*BY F. R. S. YORKE, A.R.I.B.A.*]

Steel Furniture

I WENT this week to Cambridge to see the new University Library, and was particularly impressed by the steel equipment used throughout the building for catalogue stacks, index shelves, map files and bookstacks.

•

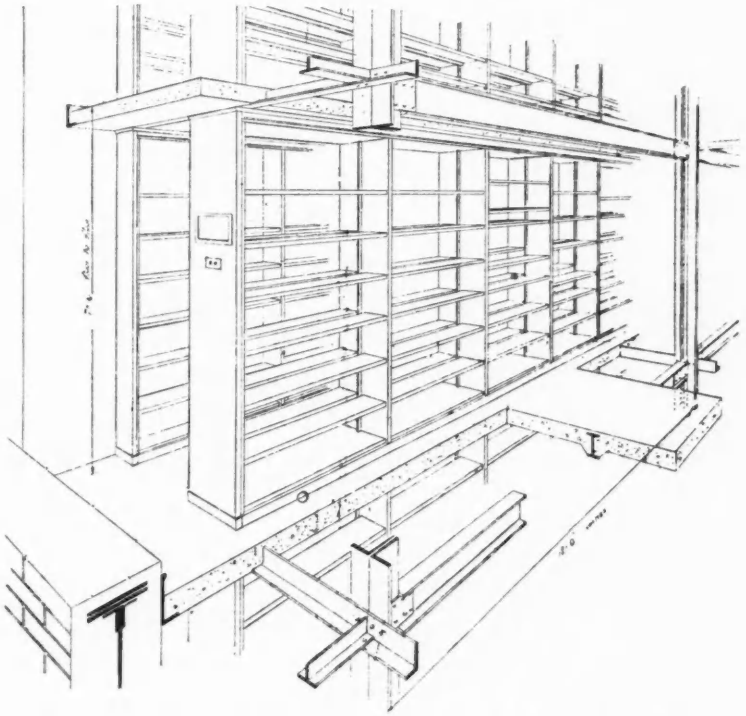
All these fittings were made from pressed steel, by Roneo, and were largely, I believe, of standard type.

•

The catalogue room, approached directly from the main entrance, has specially designed cases for the catalogues, which are placed on a sloping padded ledge, above a recess that takes withdrawal slips. These cases, and the shelves in the main reading room, are fitted with light ornamental castings, to suit the general treatment of the rooms, and are enamelled in bright colours, giving the metal a quality that is destroyed by the more familiar olive green.

•

The compact storage arrangement, made possible by systematic filing in steel cases, has enabled a mezzanine above the map room to be omitted, so that all maps are stored on one floor, within easy reach of



Roneo steel shelving at the University Library, Cambridge. See note above.

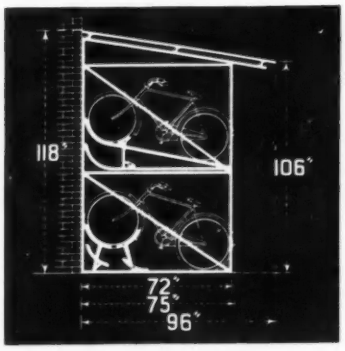


Figure 1

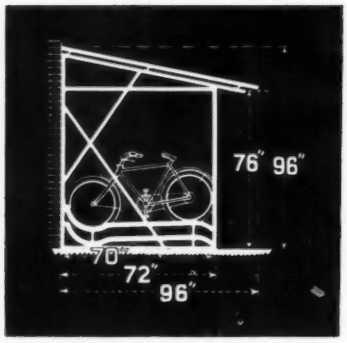


Figure 2

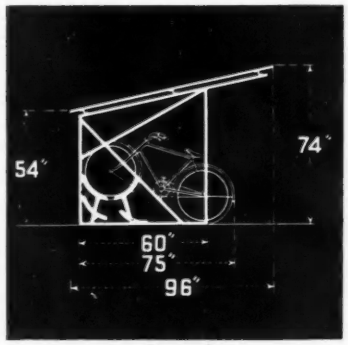


Figure 3

the ground, in a room twice as high as it might have been had organization not been so thorough.

•

The maps, generally, are stored in vertical filing drawers, on ball-bearing suspension slides. Special cases are provided for the accommodation of exceptionally large maps, including rolled maps 10 ft. long, which are filed horizontally on sliding shelves in cases that would make admirable plan chests for architects. They would, I am told, be cheaper than normal drawers, since each double-elephant sliding tray in a twelve-tray case costs about 35s.

•

The six-storey bookstacks give a total of nearly fifty miles of shelving. They have been specially designed to give maximum capacity in the space available, with a high degree of flexibility. The feature of the Cambridge bookstacks is the method of supporting the floors on structural steel columns at 12 ft. and 9 ft. centres. By this method it is possible to remove the uprights and shelving between the structural members, so that space may be cleared on any floor for reading tables or any other purpose. This flexibility has been commented upon particularly by librarians whose own rigid stacks prevent rapid and economical reorganization of floor space.

•

At Cambridge the advantage was soon appreciated, because it was decided to move certain card index catalogues to a different floor level from that originally selected, and had uprights at the normal 3 ft. intervals been adopted, the re-arrangement would have been possible only at considerable expense.

•

The individual shelf heights can be adjusted by sliding the shelves in slots, cut out at 1 in. intervals in the vertical members.

Bicycle Parks

If space and time are to be saved in parking cycles at factories, schools, sports grounds, baths, and so on, and the cycle itself is to be guarded from accidental damage, it is necessary that some standardized form of cycle park be installed.

•

Constructors, Ltd., produce all-steel cycle parks in several standard types. For parks where space is very limited cycles can be arranged to occupy only six inches.

•

The accompanying diagrams show typical arrangements. The headpiece to these notes is the type adopted at Dagenham for the Ford Motor Co. The others diagrams are: 1: the installation at the Hoover factory. 2: for Bakelite, Ltd. 3: for a school at Bulstrode. 4, 5 and 6 indicate dimensions for accommodation of 100, 200 and 400 cycles respectively.

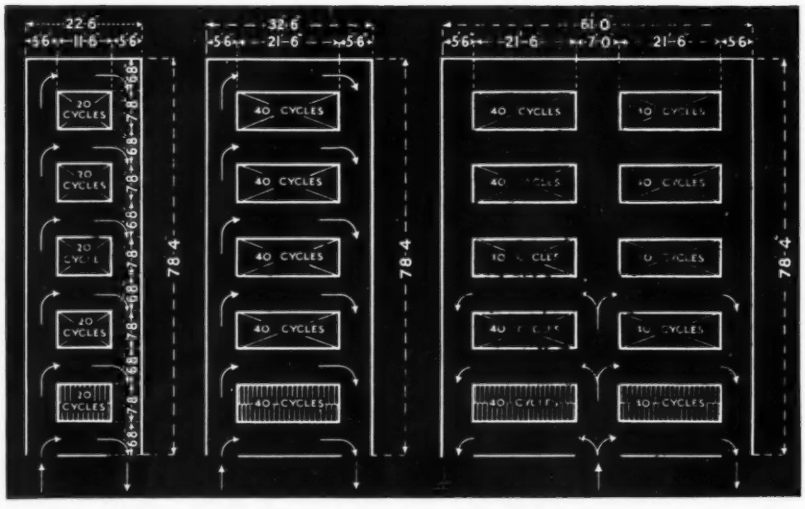


Figure 4

Figure 5

Figure 6

THE BUILDINGS ILLUSTRATED

Following are the names of the general contractors and some of the sub-contractors or the buildings illustrated in this issue :—

Kirk Sandall Hotel, Doncaster (pages 602-604) General contractors, Walter Firth, Ltd. Sub-contractors: G. Ness, Harrogate, steel reinforcement; J. Hadfield and Sons, Ltd., asphalt roofing and tarmacadam paving; Hollis Bros. & Co., Ltd., wood block flooring; H. Braithwaite & Co., Ltd., central heating; George Wright, Ltd., stoves, etc.; Mellowes & Co., Ltd., metal casements; Helliwell & Co., Ltd., patent glazing; Luxfer, Ltd., pavement lights; Dixon Powner and Sons, Ltd., collapsible gates and balustrades; Baxendale & Co., Ltd., sanitary fittings and ironmongery; Pel, Ltd., furniture; Gaskell and Chambers, Ltd., beer engines; B. James, curtain fabrics, etc.; Venesta, Ltd., flush doors; Troughton and Young, Ltd., lighting fittings; Frank Baker and Sons, Ltd., metal letters; J. and R. Pearson, Ltd., stainless steel strips; Pilkington Brothers, Ltd., all glass including Vitrolite and decorative glass.

Troy Court (pages 605-610). General contractors, Trollope and Colls, Ltd., who were also responsible for the floors and joinery. Franklin and Andrews, quantity surveyors, in conjunction with Hugh Watkins and John Decker. H. T. Buckland, consulting architect. Sub-contractors: Redpath Brown & Co., Ltd., steelwork; Stitson White & Co., Ltd., hot water supply, plumbing and sanitary fittings, filtration plant and water softening; J. Jeffreys & Co., heating installation; Waygood-Otis, Ltd., lifts; Henry Hope and Sons, Ltd., metal windows, metal work to glass facing, canopies, and metal doors; Ragusa Asphalte Paving Co., Ltd., asphalte; Stuart's Granolithic Co., Ltd., reconstructed Portland stone; Fenning & Co., Ltd., marble, terrazzo; James Clark and Son, Ltd., glass facing to Main Entrance Courtyard; Henry Green, Ltd., wrought ironwork; Strand Electric and Engineering Co., electrical installation; Peerless Kitchen Cabinets, Ltd., kitchen cabinets and kitchen furniture; Dunlop Rubber Co., rubber floors; The Pressed Steel Co., Prestcold refrigerators; Hoyle, Robson, Barnett & Co., cement glaze; Girlings Ferro-Concrete Co., Ltd., Girlingstone tiles; Lenscrete, Ltd., Navada glass brick windows and pavement lights; Gas Light and Coke Co., gas installations; Modern Surfaces, Ltd., condensation proof plaster; Catesbys, Ltd., carpets; P. W. Rutherford & Co., linoleum, ruboleum.

Messrs. James Gibbons, Ltd., inform us that they were the manufacturers of the metal windows—executed in their special Alloy Anodium—at the University Library, Cambridge, and not Arens Control Ltd., as stated in our last issue. Messrs. Gibbons Ltd., also supplied all the locks and special door furniture, floor springs, etc., and a proportion of the architectural metalwork.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

ACTON. *Flats, Factories, Shops, etc.* Plans passed by the Corporation: Two flats, Fielding Road, for Messrs. Davis & Co.; factory extensions, Gorst Road, for Mr. F. E. Simpkins, on behalf of Messrs. Fenriss, Ltd.; shop, Western Avenue, for Mr. G. E. Speidel, on behalf of Messrs. Hooper & Co., Ltd.; factory extensions, Wales Farm Road, for Messrs. W. H. Gaze and Sons, Ltd., on behalf of Telegraph Condenser Co.; factory, Warple Way, for Messrs. Hobden and Porri, on behalf of Messrs. C. A. V. Bosch, Ltd.; 16 flats, Rosebank Way, for Mr. F. W. Tempest, on behalf of Mr. J. P. Hamilton; seven shops and maisonettes, Western Avenue, for Messrs. Marshall and Tweedy; 45 houses, Park View, for Mr. W. Atkinson. Plans submitted: Factory, Park Royal Road, for Mr. F. E. Simpkins, on behalf of Messrs. Allnatts, Ltd.; 60 flats, Ravenscroft Road, Fairlawn Park, and Fairlawn Avenue, for Mr. H. S. Scott; factory, Gorst Road, for Mr. F. E. Simpkins, on behalf of Messrs. A. Douglas and Sons; flats, Avenue Crescent, for Messrs. R. Hewett, Ltd.; 10 shops and flats, Horn Lane, for Sir J. Brown and A. E. Henson, on behalf of City Housing Trust, Ltd.; bacon factory, Atlas Road, for J. L. Simpson, on behalf of Messrs. T. Wall and Sons.

BETHNAL GREEN. *Tenements.* The B.C. is to erect tenements in Butler Street at a cost of £18,433.

CHELSEA. *Underground Station.* The B.C. reports that the London Passenger Transport Board is to proceed with the proposed improvements at Sloane Square Station.

DARTFORD. *Swimming Bath.* The Corporation is considering plans prepared by the Borough Engineer for the construction of a swimming bath in the central park.

EALING. *Flats.* Vale Estates (Chesham), Ltd., propose to erect 84 flats at Mansell Road and Ruislip Road.

EALING. *Schools.* The Education Committee has instructed the Borough Engineer to prepare working drawings and obtain tenders for the erection of the proposed Selborne schools as soon as possible.

GRAYS THURROCK. *Treatment Centres.* The Essex C.C. is to erect a combined treatment centre and relief office at Grays Thurrock at a cost of £8,834, and has purchased a site at Thundersley for the erection of a combined treatment centre.

LAMBETH. *Slum Clearance and Rehousing.* The L.C.C. is to clear the Princes Buildings area and provide rehousing on the Vassall Road estate, Brixton, at a cost of £26,000. The L.C.C. is acquiring further property in the Tyers Street area for the provision of rehousing accommodation in connection with clearances.

NORTHOLT. *Shops.* Messrs. F. Taylor, Junr. & Co., Ltd., proposes to erect shops at Wood End Gardens.

POPLAR. *Municipal Offices.* The B.C. has approved the plans for the new municipal offices, the estimated cost being £150,000.

SOUTHWARK. *Rehousing.* The L.C.C. is to effect a clearance in the Rockingham Street area, and provide rehousing at a cost of £80,000.

WESTMINSTER. *Additions to County Hall.* The L.C.C. is to acquire compulsorily property in Belvedere Road, for the purpose of extending the accommodation at the County Hall, Westminster Bridge.

SOUTHERN COUNTIES

FAVERSHAM. *Premises.* The R.D.C. has passed plans submitted by Messrs. Shepherd, Neame & Co., Ltd., for the erection of licensed premises at the junction of Staple Street and Coastal Road.

GUILDFORD. *Houses, Shops, etc.* Plans passed by the Corporation: 27 flats, Portsmouth Road, etc., for Messrs. J. B. Robertson & Co.; 10 houses, Winterhill estate, Burpham, for Messrs. Armstrong & Co.; four houses, Merrow, for the Onyx County Estates, Ltd.; 100 houses, Onslow Village (Bannister Farm), for Mr. H. Ashenden; three houses, Harvey Road, for Mrs. K. Parsons and Mrs. H. Appleby; two houses, Pewley Way, for Mr. R. G. Bowers; two houses, Scillonian Road, for Mr. J. Purser; six houses and two shops, Irwin Road, and Old Palace Road, for Messrs. Tribe and Robinson, Ltd.; four houses, Worplesdon Road, for Mr. J. P. Clements; two bungalows, Winterhill estate, for Messrs. Armstrong & Co.; meeting hall, Addison Road, for Mr. A. Gates; houses, Woking Road estate, for Mr. R. C. Whitemore; shop front, etc., High Street, for Messrs. Timothy Whites, Ltd. Plans submitted: 18 bungalows, Manor Way, Onslow Village, for Mr. R. H. Sweet.

HASTINGS. *Aerodrome.* The Corporation has obtained the consent of the Air Ministry to the establishment and maintenance of an aerodrome at Pebsham.

SOUTH-WESTERN COUNTIES

PAIGNTON. *Houses and Flats.* Plans passed by the U.D.C.: Two houses, Shorton Valley Road, for Messrs. Lewis and Black; lay-out of 324 building sites, Marldon Road, for Mr. J. P. Furse; three flats, Roundham Road, for Mr. E. Crouch; two bungalows, Pines Road, for Mr. E. Isaacs; four houses, Redburn Road, for Mr. A. Chippendale; two houses, Maidenway Road, for Mr. S. P. Madge.

EASTERN COUNTIES

NORWICH. *Houses.* The General Purposes Committee of the Corporation recommends the erection of 50 houses for rehousing purposes at an estimated cost of £18,250.

MIDLAND COUNTIES

LEICESTER. *Institution.* The Corporation proposes the acquisition of the Humberstone Lodge and grounds for the purposes of the mental institution.

MANSFIELD. *Houses, etc.* Plans passed by the Corporation: Seven houses, Abbott Road, for Mr. J. Godber; two houses, Cranmere Grove, for Mr. T. F. Jeffery; 80 houses, Mayfair Avenue, etc., for Heathcote Estate (Whitton), Ltd.; two houses, Rutland Street, for Mr. R. M. Walker; three houses, Skegby Lane, for Mr. T. E. Carlyle; four houses, Chesterfield Road, for Messrs. Read and Layton; two houses, Sherwood Street, for Mr. J. Wilson; two houses, Chesterfield Road, for Dr. J. A. Wilson; eight houses, Prospect Street, for Mr. R. Allen; 12 bungalows, Woodland Drive, for Mr. F. Fowler; two houses, Lyndhurst Lane, for Messrs. H. Waterson and Son; six houses, Big Barn Lane, for Messrs. Rose, Curtis & Co.; three houses, Big Barn Lane, for Mr. T. H. Tack; four bungalows, Bradforth Avenue, for Mr. J. Bradbury; 10 houses, Western Avenue, for Mr. A. Mason; two houses, Sandhurst Avenue, for Messrs. H. Baggaley, Ltd.; 17 houses, Eaking Road, for Mr. G. E. Taylor.

SEDGLEY. *Factory Extensions, Houses, Streets.* Plans passed by the U.D.C.: Factory extensions, Bilston Street, for Mr. H. D. Millard; two houses, Rosemary Crescent, for Messrs. Walters and Weaver; two houses, Patricia Avenue, for Mr. L. C. Sutton; two houses, Queen's Road, for Mr. A. Ratcliffe; new streets, Goldthorn estate, for Himley Estates, Ltd.

WOLVERHAMPTON. *Houses, Shops, Offices, etc.* Plans passed by the Corporation: 60 houses, Marston Road estate, for Messrs. Marston, Fellows, Ltd.; six houses, Aldersley Road, for Messrs. Beniston and Jones; four houses, Woodland Road, for Messrs. E. Leach & Co.; two houses, Newbold Farm estate, for Mr. F. Turner; four houses, Marsh Lane, for B. and E. Estates, Ltd.; two houses, Lord Street, for Messrs. T. Preston and Sons; 12 flats, Tettenhall Road, for Mr. L. F. Butler; 24 houses and two shops, Marsh Lane, for Bushbury Estate and Building Co., Ltd.; butcher's shop, Newhampton Road, for Wolverhampton Co-operative Society, Ltd.; three houses, Larches Lane, for Messrs. A. Jenks and Son; offices, Parkfield Road, for Messrs. Washbourne & Co.; new premises, Dudley Street, for Great Universal Stores, Ltd.; two bungalows, Phœnix Street, for Mr. G. Seward; two houses, Penn Road, for Messrs. Shutt Bros.; two houses, off Prosser Road, for Mr. G. Williams; two houses, Warstones Road, for Messrs. A. M. Griffiths and Son, Ltd.; two houses, Woodland Road, for Mr. H. D. Fanti; six houses, Woodland Road, for Mr. J. R. Woodisse; four classrooms, Bugsbury Lane; three shops, Low Hill; mortuary, Art Street; stores, School Street; weights and measures offices, Salop Street; and extensions, Garrick Street Library, for Corporation.

NORTHERN COUNTIES

DEWSBURY. *Houses, Factories, etc.* Plans passed by the Corporation: Eight houses, Ravensthorpe Road, and two houses off Valley Road, for Mr. J. Tierney; new street, Windermere Road, for Savile Estate; factory extensions, Brewery Lane, for Yorkshire Electric Transformer Co., Ltd.; works additions, Forge Lane, for Standard Patent Glazing Co., Ltd.; 27 houses and four bungalows, Spen Valley Road, Ravensthorpe, for Messrs. Mitchell Bros.; four houses, Grasmere Road, for Messrs. E. and R. Foggo; two houses, Anroyd Street, Westborough, for Mr. S. H. Greenwood; six houses, Torridon Road, for Messrs. Haywood and Peirson; four houses, Bennett Lane, for Mr. A. W. Glover.

HYDE. *Alterations.* The Corporation has approved a scheme by the Borough Engineer for proposed alterations and extensions at the sewage disposal works, at an estimated cost of £25,000.

HYDE. *Houses.* The Corporation is to proceed with the erection of 30 houses at the Garden Street site.

KEIGHLEY. *Rehousing Scheme.* The Corporation has instructed the Housing Committee to prepare a rehousing scheme.

WALLSEND. *Libraries.* The Corporation is to proceed with the scheme for the erection of a branch library at East End. The Borough Engineer has prepared plans for extensions at the central library.

SCOTLAND

GLASGOW. *Shops and Flats.* The Housing Committee of the Corporation has approved plans by the Housing Director for the erection of shops and flats at the East Keppoch housing scheme, and instructed a sub-committee to confer with the Cowlairs Co-operative Society as to the proposed letting of the shops to the Society.

GLASGOW. *Slum Clearance.* The Housing Committee of the Corporation recommends the clearance of the Warp Lane, Eastvale Place, Keith Street, Gullane Street and Castlebank Street areas.

WALES

SWANSEA. *Houses.* Plans passed by the Corporation: Two houses, Trallwyn Road, for Messrs. Williams and Clements; two houses, Neath Road, for Mr. H. Rosser; 11 houses, Glan-y-afon Road, for Messrs. T. and G. Spragg; 22 houses, New Road, Cwmgwyn, for Mr. A. E. Wright; two houses, Boarspit Lane, for Mr. B. F. Hoppe; two houses, Brookvale Road, for Mr. D. Griffiths; house and shop, Cockett Road, for Mr. D. Schrieber; 12 houses, new road, off Caswell Road, for Mr. E. H. Davies.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A	Aberdeen ..	Scotland	1 6	1 1½
A_1	Abergavenny ..	S. Wales & M.	1 5	1 0½
A_3	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
C	Airdrie ..	Scotland	*1 5½	1 1½
A	Aldeburgh ..	E. Counties	1 1½	10½
B	Altrincham ..	N.W. Counties	1 5½	1 1½
A	Appleby ..	N.W. Counties	1 2	10½
	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_2	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham ..	Mid Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton	N.W. Counties	1 5½	1 1½
A_2	Boston	Mid. Counties	1 4	1 0
A	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A	Brighton ..	S. Counties	1 4	1 0
A	Bristol	S.W. Counties	1 5½	1 1½
B_2	Brixham ..	S.W. Counties	1 2½	11
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
A	Burslem ..	Mid. Counties	1 5½	1 1½
	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury	N.W. Counties	1 5½	1 1½
A	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE ..	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A	Chelmsford ..	E. Counties	1 4	1 0
A	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A	Colchester ..	E. Counties	1 4	1 0
A	Colne	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_3	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorches ..	S.W. Counties	1 2½	11
A	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley	Mid. Counties	1 5½	1 1½
A_2	Dumfries ..	Scotland	1 5	1 0½
A	Dundee	Scotland	1 5½	1 1½
A	Durham	N E. Coast	1 5½	1 1½
A_2	EASTBOURNE ..	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter	S.W. Counties	*1 4½	1 0½
B	Exmouth	S.W. Counties	1 3½	11½
A_3	FELIXSTOWE	E. Counties	1 4	1 0
A	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S. W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A	Glasgow ..	Scotland	1 6	1 1½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	Gosport ..	S. Counties	1 4½	1 0½
A_3	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal	N.W. Counties	1 3½	11½
B	Keswick	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln ..	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12–15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_2	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middlesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid Counties	1 5½	1 1½
A_2	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth	Scotland	*1 5½	1 1½
A_2	Peterborough	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	Slough ..	S. Counties	1 4½	1 0½
A_1	Solihull ..	Mid. Counties	1 5	1 0½
A_2	Southampton	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stirling ..	Scotland	1 6	1 1½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist. ..	N.E. Counties	1 5½	1 1½
A_1	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall ..	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick ..	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid Counties	1 4½	1 0½
A	West Bromwich	Mid Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby	Yorkshire	1 4½	1 0½
A	Widnes	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A	Wycombe ..	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 8
Mason (Banker) . . . . . ,,	1 7
,, (Fixer) . . . . . ,,	1 8
Plumber . . . . . ,,	1 7
Painter . . . . . ,,	1 6
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 7
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 3
Timberman	1 3
Navvy . . . . . ,,	1 2½
General Labourer . . . . . ,,	1 2½
Lorryman . . . . . ,,	1 5
Crane Driver . . . . . ,,	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . . per ton	2 2 0
Blue Lias Lime . . . . . ,,	1 16 6
Hydrated Lime . . . . . ,,	3 0 9
Portland Cement, in 4-ton lots (d/d site, including Paper Bags) . ,,	1 18 0
Rapid Hardening Cement, in 4-ton lots (d/d site, including Paper Bags) . ,,	2 5 6
White Portland Cement, in 1-ton lots ,,	8 15 0
Thames Ballast . . . . . per Y.C.	6 3
¾" Crushed Ballast . . . . ,,	6 9
Building Sand . . . . . ,,	7 3
Washed Sand . . . . . ,,	8 3
2" Broken Brick . . . . . ,,	8 0
¾" ,, ,, ... ,,	10 3
Pan Breeze . . . . . ,,	6 6
Coke Breeze . . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

		4" s. d.	6" s. d.
Straight Pipes . .	per F.R.	0 9	1 1
Bends . . .	each	1 9	2 6
Taper Bends . .	,,	3 6	5 3
Rest Bends . .	,,	4 3	6 3
Single junctions . .	,,	3 6	5 3
Double . . .	,,	4 9	6 6
Straight channels . .	per F.R.	1 6	2 6
¾" Channel bends . .	each	2 9	4 0
Channel junctions . .	,,	4 6	6 6
Channel tapers . .	,,	2 9	4 0
Yard gullies . .	,,	6 9	8 9
Interceptors . .	,,	16 0	19 6
IRON DRAINS:			
Iron drain pipe . .	per F.R.	1 6	2 6
Bends . . .	each	5 0	10 6
Inspection bends . .	,,	9 0	15 0
Single junctions . .	,,	8 9	18 0
Double junctions . .	,,	13 6	30 0
Lead wool . . .	lb.	6	—
Gaskin . . .	,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . . Per M.	2 18 0
Grooved do. . . . . ,,	3 0 0
Phorpres bricks . . . . ,,	2 17 3
,, Cellular bricks . . ,,	2 17 3
Stocks, 1st quality . . . ,,	4 11 0
,, 2nd ,, . . . ,,	4 2 6
Blue Bricks, Pressed . . ,,	8 17 6
,, Wirecuts . . ,,	7 17 6
,, Brindles . . ,,	7 0 0
,, Bullnose . . ,,	9 0 0
Red Sand-faced Facings . ,,	6 18 6
Red Rubbers for Arches . ,,	12 0 0
Multicoloured Facings . ,,	7 10 0
Luton Facings . . . ,,	7 10 0
Phorpres White Facings . ,,	3 17 3
,, Rustic Facings . ,,	3 12 3
Midburst White Facings . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . . ,,	21 0 0
Headers . . . . . ,,	20 10 0
Bullnose . . . . . ,,	27 10 0
Double Stretchers . . . ,,	29 10 0
Double Headers . . . . ,,	26 10 0
Glazed Second Quality, *Less* . ,,	1 0 0
,, Buffs and Creams, *Add* . ,,	2 0 0
,, Other Colours . . ,,	5 10 0
2" Breeze Partition Blocks . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 10
3" ,, ,, ,, . . ,,	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

The following d/d F.O.R. at Nine Elms:	s. d.
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 7½
Bath stone . . . . . ,,	2 10
York stone . . . . . ,,	6 6
,, ,, Sawn templates . . ,,	7 6
,, ,, Paving, 2" . . . F.S.	1 8
,, ,, ,, 3" . . . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . per M.	28 17 6
22" × 12" Marchionesses . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . ,,	15 10 0
18" × 9" Ladies . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, ,, green ,, ,,	24 7 4
Best machine roofing tiles . ,,	4 10 0
Best hand-made do. . . ,,	5 0 0
Hips and valleys . . . each	9½
,, hand-made . . . ,,	10
Nails, compo . . . . lb.	1 4
,, copper . . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . . as 1" F.S.	9
Deal, Joiner's . . . . ,, ,,	3
,, ,, 2nds . . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . . ,, ,,	1 1
,, Cuban . . . ,, ,,	2 6
O k, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . ,, ,,	4
Teak, Moulmein . . ,, ,,	1 3
,, Burma . . . ,, ,,	1 2
Walnut, American . . ,, ,,	2 3
,, French . . . ,, ,,	2 3
Whitewood, American . ,, ,,	1 1
Deal floorings, ⅞" . . Sq.	18 6
,, 1" . . ,,	1 1 6
,, 1¼" . . ,,	1 2 0
,, 1½" . . ,,	1 5 0
,, 1¾" . . ,,	1 10 0
Deal matchings ⅞" . . ,,	14 0
,, 1" . . ,,	15 6
,, 1¼" . . ,,	1 4 0
Rough boarding ⅞" . . ,,	16 0
,, 1" . . ,,	18 0
,, 1¼" . . ,,	1 6 0
Plywood, per ft. sup.	d.
Scotch glue . . . . . lb.	8

Thickness

Qualities	⅜" A. A. B.	½" A. A. B.	⅝" A. A. B.	¾" A. A. B.
	d. d. d.	d. d. d.	d. d. d.	d. d. d.
Birch .	4 3 2	5 4 3	7½ 6 4½	8½ 7 6
Alder .	3½ 3 2	5 4 3	6½ 5½ 4½	8 7 6
Gaboon Mahogany	4 3 3	6½ 5½ 4½	9½ 7½ –	1/0½ 10 –
Figured Oak 1 side	8½ 7 –	10 8 –	11½ – –	1/6 – –
Plain Oak . 1 side	6½ 6 –	7½ 7 –	9½ – –	1/- – –
Oregon P.ne	5 4 –	5½ 5 –	6 – –	– – –

SMITH AND FOUNDER

Tubes and Fittings:
(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	⅛"	¼"	⅜"	½"	¾"	1"	1¼"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10			
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9			
,, 3"-11½" long ,,	7	9	1/3	1/8	3/-			
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3			
,, ,, 3"M-½" long ,,	8	10	1/5	1/11	3/6			
Bends . . . ,,	8	11	1/7½	2/7½	5/2			
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11			
Socket unions . . ,,	2/-	3/-	5/6	6/9	10/-			
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3			
Tees . . . . ,,	1/-	1/3	1/10	2/6	5/1			
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6			
Plain Sockets and nipples ,,	3	4	6	8	1/3			
Diminished sockets . ,,	4	6	9	1/-	2/-			
Flanges . . . ,,	9	1/-	1/4	1/9	2/9			
Caps . . . . ,,	3½	5	8	1/-	2/-			
Backnuts . . . ,,	2	3	5	6	1/1			
Iron main cocks . . ,,	1/6	2/3	4/2	5/4	11/6			
,, ,, with brass plugs ,,	—	4/-	7/6	10/-	21/-			

Discounts:

TUBES.	Per cent.		Per cent.
Gas . . .	65	Galvanized gas .	52½
Water . . .	61½	,, water	47½
Steam . . .	57½	,, steam	42½
FITTINGS.			
Gas . . .	57½	Galvanized gas	47½
Water . . .	52½	,, water	42½
Steam . . .	47½	,, steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ⅜" . . ,,	8 6
,, ,, ½" . . ,,	8 3
,, ,, ⅝" . . ,,	8 0
,, ,, ¾" . . ,,	7 6
,, ,, ⅞" . . ,,	7 6
,, ,, 1" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1½" . . ,,	7 6

Cast-iron rain-water pipes of ordinary thickness metal	3" s. d.	4" s. d.
	. F.R. 8	10
Shoes . . .	. each 2 0	3 0
Anti-splash shoes . .	,, 4 6	8 0
Boots	,, 3 0	4 0
Bends	,, 2 7	3 9
,, with access door . .	,, —	6 3
Heads	,, 4 0	5 0
Swan-necks up to 9" offsets .	,, 3 9	6 0
Plinth bends, 4½" to 6" .	,, 3 9	5 3
Half-round rain-water gutters of ordinary thickness metal	. F.R. 5	6
Stop ends	. each 6	6
Angles	,, 1 7	1 11
Obtuse angles . . .	,, 2 0	2 6
Outlets	,, 1 9	2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	18 6
,, drawn pipes . . . ,,	17 0
,, soil pipe . . . ,,	18 6
,, scrap . . . ,,	10 6
Solder, plumbers' . . . lb.	9½
,, fine do. . . . ,,	1 0
Copper, sheet . . . ,,	8½
,, tubes . . . ,,	11

L.C.C. soil and waste pipes:	3"	4"	6"
Plain cast .	. F.R. 1 0	1 2	2 6
Coated .	,, 1 1	1 3	2 8
Galvanized .	,, 2 0	2 6	4 6
Holderbats .	. each 3 10	4 0	4 9
Bends . .	,, 3 9	5 3	10 3
Shoes . .	,, 2 10	4 4	9 6
Heads . .	,, 4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . per ton	2 5 0
Plaster, coarse . . . ,,	2 10 0
,, fine . . . ,,	4 15 0
Hydrated lime . . . ,,	3 0 9
Sirapite . . . ,,	3 6 0
Keene's cement . . . ,,	5 0 0
Gothite Plaster . . . ,,	3 6 0
Thistle Plaster . . . ,,	3 6 0
Sand, washed . . . Y.C.	11 6
Hair . . . . lb.	6
Laths, sawn . . . bundle	2 4
,, rent . . . ,,	3 9
Lath nails . . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft.	s. F.S.	2½
,, ,, 26 oz. ,, ,, ,,	,,	3
Flemish, Arctic, Figured (white)*	,,	7
Blazoned glasses . . .	,,	2 6
Reeded; Cross Reeded	,,	11
Cathedral glass, white, double-rolled, plain, hammered, rimpled, waterwite		6½
Crown sheet glass (n/e 12 in. x 10 in.)	,,	2 0
Flashed opals (white and coloured)	,, 1 0 and	2 0
⅛" rough cast; rolled plate .	,,	5½
⅛" wired cast; wired rolled .	,,	9½
⅛" Georgian wired cast. . .	,,	11
¼" Polished plate, n/e 1 ft. .	,, † 10 to ‡	1 1
,, ,, 2 . .	,, †1 2 ,, ‡	1 4
,, ,, 4 . .	,, †2 3 ,, ‡	2 6
,, ,, 8 . .	,, †2 9 ,, ‡	3 2
,, ,, 20 . .	,, †3 7 ,, ‡	4 2
,, ,, 45 . .	,, †3 11 ,, ‡	4 7
,, ,, 100 . .	,, †5 0 ,, ‡	5 7
Vita glass, sheet, n/e 2 ft. .	,,	1 3
,, ,, ,, over 2 .	,,	1 9
,, ,, plate, n/e 2 ft. .	,,	3 0
,, ,, ,, – .	,,	5 0
,, ,, ,, 15 .	,,	6 0
,, ,, ,, over 15 .	,,	7 6
"Calorex" sheet 21 oz., and 32 oz.	,, 2 6 and	3 6
,, rough cast ⅛" and ¼"	,, 8½ ,,	1 0
Putty, linseed oil . . .	lb.	3

* *Colours, 1d. F.S. extra.*
†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s. d.
White lead in 1 cwt. casks . . cwt.	2 6 0
Linseed oil . . . . gall.	2 2½
Boiled oil . . . . ,,	2 4½
Turpentine . . . . ,,	4 1½
Patent knotting . . . ,,	14 0
Distemper, washable . . cwt.	2 6 0
,, ordinary . . . ,,	2 0 0
Whitening . . . . ,,	4 0
Size, double . . . firkin	3 0
Copal varnish . . . gall.	13 0
Flat varnish . . . ,,	14 0
Outside varnish . . . ,,	16 0
White enamel . . . ,,	1 15 0
Ready mixed paint . . ,,	13 6
Brunswick black . . . ,,	7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR

		£ s. d.
Digging over surface n/e 12" deep and cart away	Y.S.	2 9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.	8 6
" to form basement n/e 5' 0" deep and cart away	"	9 0
" " 10' 0" deep and cart away	"	9 6
" " 15' 0" deep and cart away	"	10 0
If in stiff clay	add "	6
If in underpinning	"	4 0
Planking and strutting to sides of excavation	F.S.	1 0
" " to pier holes	"	5
" " to trenches	"	5
" " extra, only if left in	"	3
Hardcore, filled in and rammed	Y.C.	10 0
Portland cement concrete in foundations (6-1)	"	1 6 0
" " (4-2-1)	"	1 12 6
" " underpinning	"	1 16 0
Finishing surface of concrete, spade face	Y.S.	7

DRAINLAYER

		4" s. d.	6" s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
" junctions	"	3 9	4 6
Gullies and gratings	"	16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER

		£ s. d.
Brickwork, Flettonsi n lime mortar	Per Rod	27 10 0
" " in cement	"	28 15 0
" Stocks in cement	"	35 0 0
" Blues in cement	"	52 0 0
Extra only for circular on plan	"	2 0 0
" backing to masonry	"	1 10 0
" raising on old walls	"	2 0 0
" underpinning	"	5 10 0½
Fair Face and pointing internally	F.S.	1½
Extra over fletton brickwork for picked stock facings and pointing	"	8
" " " red brick facings and pointing	"	11
" " " blue brick facing and pointing	"	1 4
" " " glazed brick facings and pointing	"	3 6
Tuck pointing	"	7½
Weather pointing in cement	"	3
Slate dampcourse	"	10
Vertical dampcourse	"	1 1

ASPHALTER

		s. d.
½" Horizontal dampcourse	Y.S.	4 6
½" Vertical dampcourse	"	6 9
½" paving or flat	"	4 0
1" paving or flat	"	5 6
1" × 6" skirting	F.R.	1 6
Angle fillet	"	2
Rounded angle	"	2
Cesspools	Each	5 0

MASON

		s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17 9
Bath stone and do., all as last	"	13 6
Artificial stone and do.	"	13 0
York stone templates, fixed complete	"	10 6
" thresholds	"	13 6
" sills	"	1 0 6

SLATER AND TILER

		£ s. d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr.	3 10 0
Do., 18" × 9"	"	3 7 0
Do., 24" × 12"	"	3 17 0
Westmorland slating, laid with diminished courses	"	6 0 0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3 0 0
Do., all as last, but of machine-made tiles	"	2 16 0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	"	4 6 0
" " " " " " (green)	"	4 15 0

CARPENTER AND JOINER

		£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2 5 0
Shuttering to sides and soffits of beams	F.S.	8
" to stanchions	"	8
" to staircases	"	1 8
Fir and fixing in wall plates, lintols, etc.	F.C.	3 9
Fir framed in floors	"	4 6
" " roofs	"	6 6
" " trusses	"	7 6
" " partitions	"	8 6
½" deal sawn boarding and fixing to joists	Sqr.	1 14 6
1" " " " "	"	1 17 6
1½" " " " "	"	2 3 0
½" × 2" fir battening for Countess slating	"	9 6
Do. for 4" gauge tiling	"	12 0
Stout feather-edged tilting fillet	F.R.	4½
Patent inodorous felt, 1 ply	Y.S.	2 3
" " " 2 "	"	2 9
" " " 3 "	"	3 3
Stout herringbone strutting to 9" joists	F.R.	10½
1" deal gutter boards and bearers	F.S.	1 2
1½" " " " "	"	1 6
2" deal wrought rounded roll	F.R.	8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2 1 0
1¼" do.	"	2 10 0
1½" do.	"	2 17 0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S.	1 6
1¼" do.	"	1 9

CARPENTER AND JOINER—*continued*

		s. d.
1½" deal moulded sashes of average size	F.S.	1 9½
2" " " "	"	1 11½
1½" deal cased frames double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ⅜" parting beads, and with brass faced axie pulleys, etc., fixed complete	"	3 7
2" " " "	"	3 10
Extra only for moulded horns	Each	6
1½" deal four-panel square, both sides, door	F.S.	2 0
2" " " " "	"	2 8
1½" " but moulded both sides	"	2 4
2" " " " "	"	3 0
4" × 3" deal, rebated and moulded frames	F.R.	1 0
4½" × 3½" " " "	"	1 4
1½" deal tongued and moulded window board, on and including deal bearers	F.S.	1 9
1½" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2 6
1½" deal moulded wall strings	"	2 1
1½" " outer strings	"	2 4
Ends of treads and risers housed to string	Each	1 9
3" × 2" deal moulded handrail	F.R.	1 3
1" × 1" deal balusters and housing each end	Each	2 0
1½" × 1½" " " "	"	2 9
3" × 3" deal wrought framed newels	F.R.	1 3
Extra only for newel caps	Each	6 0
Do., pendants	"	6 0

SMITH AND FOUNDER

		£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.	15 6
Riveted plate or compound girders, and hoisting and fixing in position	"	19 6
Do. stanchions with riveted caps and bases and do.	"	19 0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	"	17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.	11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1 10 0

PLUMBER

		£ s. d.
Milled lead and labour in flats	cwt.	1 12 0
Do. in flashings	"	1 15 6
Do. in covering to turrets	"	2 3 0
Do. in soakers	"	1 7 6
Labour to welted edge	F.R.	3½
Open copper nailing	"	3
Close " "	"	4

		½" s. d.	¾" s. d.	1" s. d.	1¼" s. d.	2" s. d.	4" s. d.
Lead service pipe and fixing with pipe hooks	F.R.	10	1 0	1 3	2 0	2 10	—
Do. soil pipe and fixing with cast lead tacks	"	—	—	—	—	—	5 6
Extra, only to bends	Each	—	—	—	—	2 0	6 9
Do. to stop ends	"	6½	8	9	11	1 0	—
Boiler screws and unions	"	3 3	3 9	5 0	8 0	—	—
Lead traps	"	—	—	—	6 3	8 9	—
Screw down bib valves	"	6 9	9 6	11 0	—	—	—
Do. stop cocks	"	7 0	9 6	12 6	—	—	—

		s. d.
4" cast-iron ½-rd. gutter and fixing	F.R.	1 0
Extra, only stop ends	Each	1 0
Do. angles	"	1 6
Do. outlets	"	2 9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.	1 2
Extra, only for shoes	Each	1 3
Do. for plain heads	"	5 6

PLASTERER AND TILING

		s. d.
Expanded metal lathing, small mesh	Y.S.	2 0
Do. in n/w to beams, stanchions, etc.	"	2 9
Lathing with sawn laths to ceilings	"	1 3
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	"	1 5
Do. vertical	"	1 7
Rough render on walls	"	1 2½
Render, float and set in lime and hair	"	1 9
Render and set in Sirapite	"	1 11
Render, backing in cement and sand, and set in Keene's cement	"	2 9
Extra, only if on lathing	"	4
Keene's cement, angle and arris	F.R.	6
Arris	"	1½
Rounded angle, small	"	3
Plain cornices in plaster, including dubbing out, per 1" girth	"	1½
1" granolithic pavings	Y.S.	3 6
1½" " "	"	4 6
6" × 6" white glazed wall tiling and fixing on prepared screed	"	17 6
9" × 3" " " " "	"	1 2 6
Extra, only for small quadrant angle	F.R.	8

GLAZIER

		s. d.
21 oz. sheet glass and glazing with putty	F.S.	7½
26 oz. do and do.	"	8½
Flemish, Arctic Figured (white) and glazing with putty	"	1 1
Cathedral glass and do.	"	1 2
Glazing only, British polished plate	"	7
Extra, only if in beads	"	2
Washleather	F.R.	4

PAINTER

		s. d.
Clearcolle and whiten ceilings	Y.S.	6
Do. and distemper walls	"	9
Do. with washable distemper	"	1 1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	"	3 3
Do. on woodwork	"	3 6
Do. on steelwork	"	3 0
Do. and brush grain and twice varnish	"	5 6
Stain and twice varnish woodwork	"	1 11
Stain and wax-polish woodwork	"	4 6
French polishing	F.S.	1 2
Stripping off old paper	Piece	2 0
Hanging ordinary paper	from "	2 9

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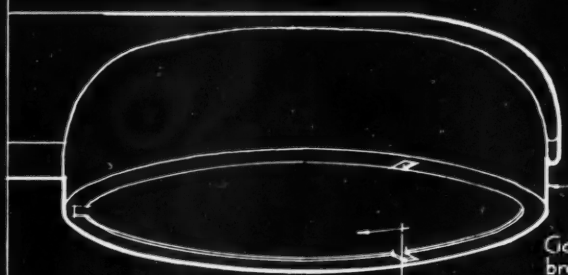
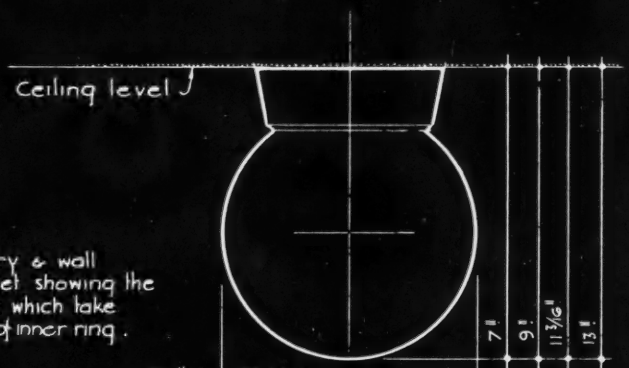


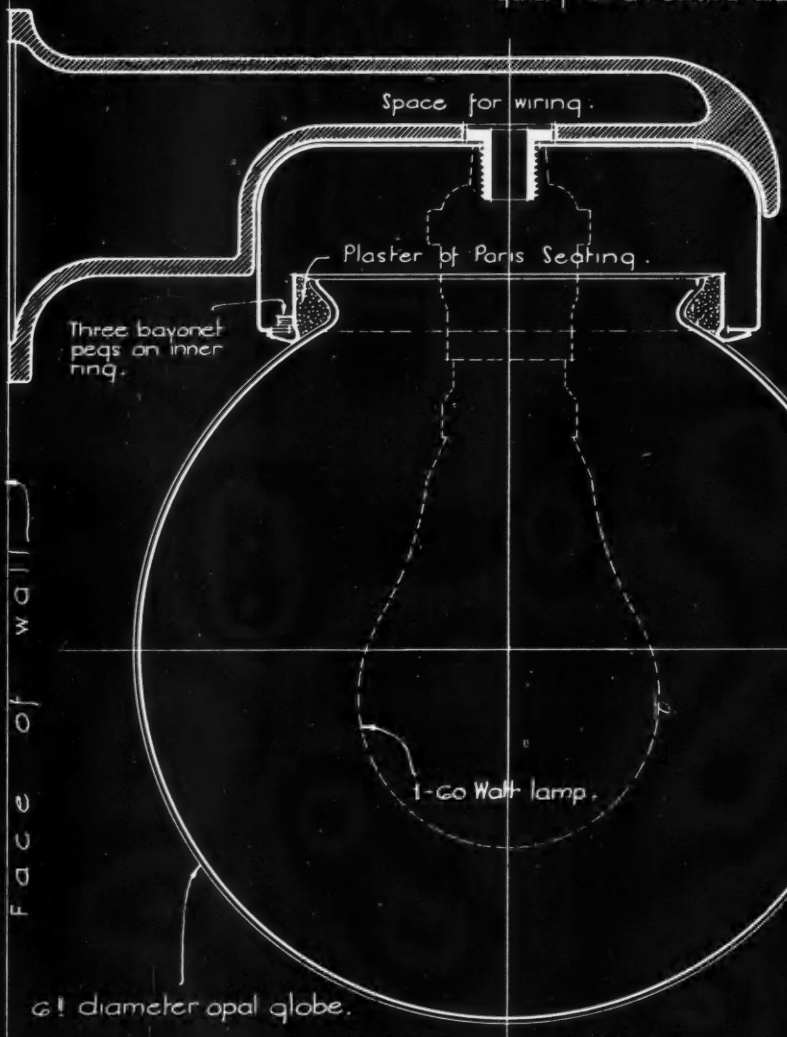
SKETCH OF GLOBE AND GALLERY DISENGAGED SHOWING STANDARD METHOD OF ATTACHMENT.



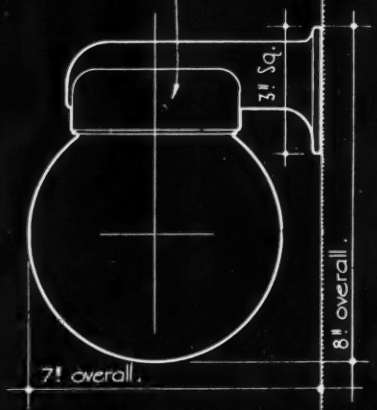
60 Watt	N° 32119	6" dia.
100 Watt	N° 32310	8" dia.
100 Watt	N° 32311	10" dia.
200 Watt	N° 32312	12" dia.

ELEVATION OF CEILING FITTINGS

The section below shows chromium-plated cast wall bracket to which the 20 gauge chromium-plated gallery is screwed. The gallery has an outside diameter of four inches.



SECTION THROUGH WALL FITTING N° 32204, THREE-QUARTERS FULL SIZE.



ELEVATION OF WALL-FITTING N° 32204.

Information from Best & Lloyd Ltd.

INFORMATION SHEET : ELECTRIC LIGHT FITTINGS·1·

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 155 •

ELECTRIC LIGHT FITTINGS

Name of Product: Bayonet Screwless Gallery Fittings

The Bayonet screwless gallery fittings, illustrated overleaf, are made with a standard type globe with lip, to which is fixed a metal ring incorporating three pins. The gallery to hold the glass is constructed with keyholes to receive the pins, so that by turning the globes 1-6th of a circle, efficient dustproof fitting of globe to gallery is obtained.

The glassware is of opal, and is selected to give maximum illumination intensity, while securing freedom from unpleasant glare.

Fittings are arranged to fit B.E.S.A. conduit boxes.

Schedule of Fittings	Prices	
	Basis Finish	Chrome Finish
Ceiling Type		
32119—1 Lt. Ceiling Fitting, 1 by 60 Watt Lamp, 6 in. Opal Globe, Brass Basis finish. Chrome Plated with Bayonet Screwless Gallery ..	12/9	14/-
32310—Ditto with 8 in. Opal Globe ..	16/6	18/9
32311—Ditto with 10 in. Opal Globe ..	17/6	20/-
32312—Ditto with 12 in. Opal Globe ..	21/-	25/-
Wall Type		
32204—1 Lt. Bracket, 1 by 60 Watt Lamp, Wallplate, 3 in. by 3 in. with 6 in. Opal Glass. Brass Basis finish. Chrome Plate	21/6	25/3
32205—Ditto. Iron Arm, Brass Gallery, White Enamelled, with Bayonet Screwless Gallery	17/-	—
32206—1 Lt. Bracket, 1 by 60 Watt Lamp, Wallplate 3 in. by 3 in., with Opal Glass. Brass Basis finish. Chrome Plate	28/3	32/6
32207—Ditto. Iron Arm, Brass Gallery, White Enamelled, with Bayonet Screwless Gallery	20/-	—

Name of Manufacturers: Best and Lloyd, Limited
Head Office and Works: Handsworth, Birmingham (Phone: Smethwick 1191-2)
London Showroom: 40, Gt. Marlborough Street, W.1 (Phone: Gerrard 3833)

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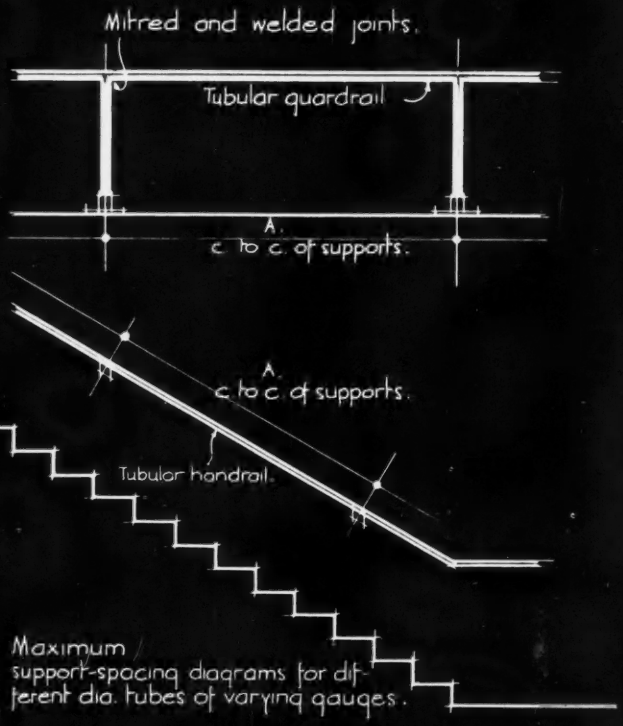
. ELECTRICALLY WELDED STEEL TUBING

HANDRAILS, GUARDRAILS, ETC.

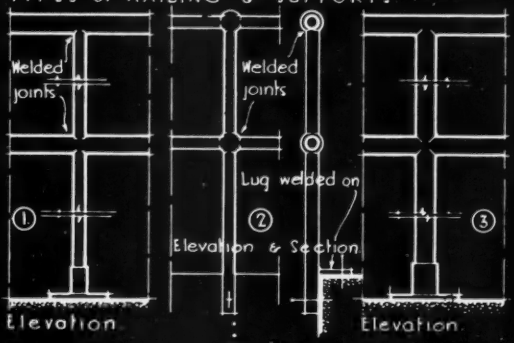
Table of maximum spans :

Out. Diameter	Gauge .	A' max. See diags.
7/8 !	18	2 ! 6 !
	16	3 ! 0 !
1 !	18	3 ! 6 !
	16	4 ! 6 !
1 1/8 !	18	4 ! 6 !
	16	5 ! 0 !
1 1/4 !	18	5 ! 0 !
	16	6 ! 0 !
1 1/2 !	18	6 ! 0 !
	16	7 ! 0 !
1 3/4 !	18	6 ! 0 !
	16	7 ! 0 !

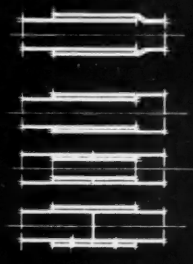


Maximum support-spacing diagrams for different dia. tubes of varying gauges.

TYPES OF RAILING & SUPPORTS



METHODS OF JOINTING



Various Jointing Details.

① AUTOMATIC ELECTRIC WELDING : Joints can be made between any different diameter tubes meeting at any angle without affecting working stresses.

② EXPANSION JOINTS : For flushpipes, wastepipes, etc: a 2! socket is expanded from the same size tube to receive other plain end, set in red lead and linseed oil putty.

③ TELESCOPIC JOINTS (Flushpipes) : Outlet is 1/8! larger than bore for all sizes. Set in red lead and linseed oil putty.

④ BUTT JOINTING : For handrails, guardrails, etc: a tight liner driven in one tube, good fit in other.

⑤ EXTERNAL SLEEVE (Pinned) : A sleeve fitting O.D. of tube, pinned by one pin in each tube.

⑥ ACETYLENE WELDING : Tubes can be cupped, mitred, etc, and acetylene welded.

⑦ JOINTING TO OTHER MATERIALS : Are made in any of the standard socket or union methods.

TABLE OF RELATIVE COSTS FOR VARIOUS FINISHES. governed by length :

TYPE OF FINISH.	RELATIVE COST.	REMARKS.
Smooth bright.	1.	Suitable for any final decorative treatment.
Chromium plated.	4·8.	Furniture. handrails, decoration.
Copper oxidised.	2·4.	Cubicle rails, handrails.
Galvanised.	1·4.	Waste pipes, flush pipes.
Cellulose sprayed.	2·0.	Furniture, decoration.
Vitreous enamelled.	3·6.	Furniture, decoration.

Information from Tube Products Ltd.

INFORMATION SHEET : STEEL TUBING 1 : GENERAL DATA.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1

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INFORMATION SHEET

• 156 •

STEEL TUBING

Product : Electrically Welded Steel Tubing

Span of Handrails, etc.

In the table given in this Sheet are the maximum spans between supports recommended for the various diameters and gauges of Tube.

Jointing.

Intersections and such joints are usually electrically or acetylene welded, the tubing being unsuitable for screwed couplings.

Plain joints may be welded, or any of the various methods shown may be used.

Steel Tubing.

The tubing is made from strip steel automatically electrically welded along the seam, ensuring great accuracy of shape and size.

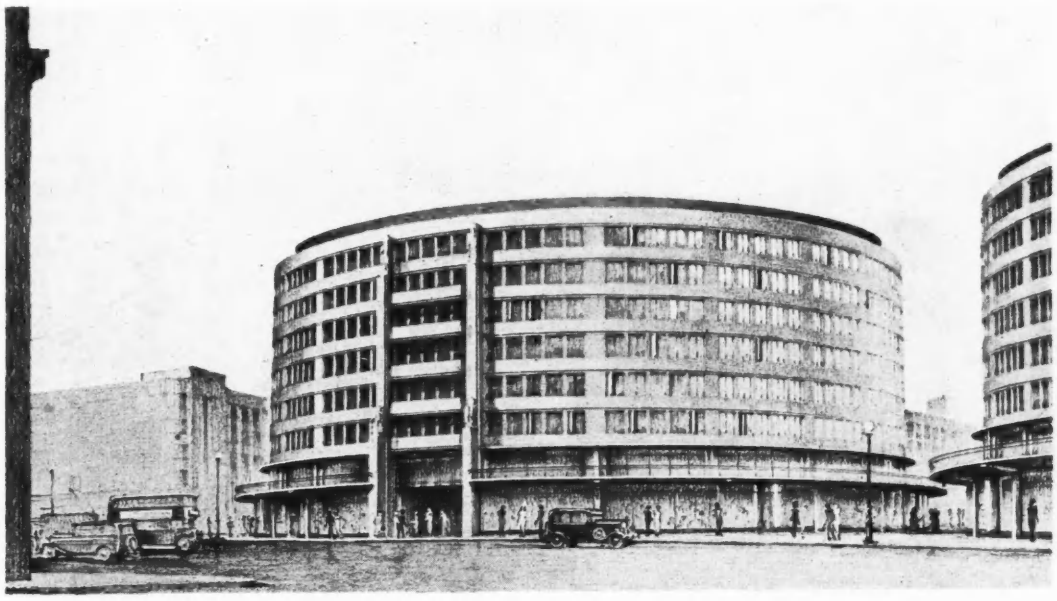
The tube is a " precision " product, suitable for decorative and other work, where accuracy of shape and good finish are required.

For standard sections, special sections, the bending of tube, gauges, etc., further Information Sheets are to follow.

Name of Manufacturers : Tube Products, Ltd.
Address : Oldbury, Birmingham
Telephone : Broadwell 1651-6
London Office : 66 Victoria Street
Telephone : Victoria 5359

PLANNING FOR STANDARDIZATION

CIRCULAR BUILDINGS IN REINFORCED CONCRETE



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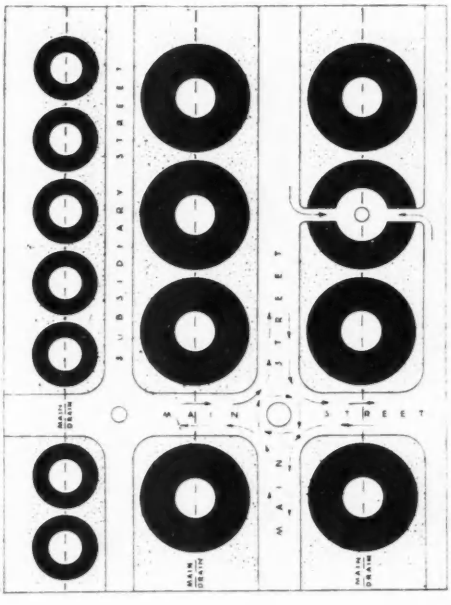


2

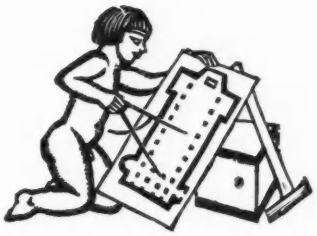
3

IN last week's issue we illustrated a scheme for a proposed block of ten-storey tenement buildings, circular in plan, designed by Mr. L. H. Keay, F.R.I.B.A., Director of Housing, Liverpool. This week, on pages 651-652, Mr. Douglas H. Green suggests the possibilities of the circular plan for other types of buildings, such as office blocks, with shops on the ground floor, public buildings, residential flats, etc.

The drawings on this page, executed by Mr. James Wallace, show: 1, a block of shops, with offices over; 2, lay-out plan of street, utilizing the circular plan throughout; 3, a detail of one of the buildings, showing the gradually widening pavement that this method of planning would produce.

PLANNING IN CIRCLES

A drawing, by Mr. James Wallace, of a suggested scheme for circular buildings in reinforced concrete. Mr. Douglas H. Green, in an article on pages 651-652, states that "although the circular conception sacrifices a certain amount of site area, this is more than compensated for by the better utilization of the floor space provided, and by the fact that taller buildings can be erected without the usual objections. Cross roads, again, have a new aspect; many of the problems with which our Minister of Transport is now faced would obviously disappear. The rounded corners of the buildings flanking a cross road greatly increase the distance of visibility of one line of traffic to the other, at the same time providing the space for a 'roundabout' in the centre of the road."



CENTENARY—AND AFTER

THIS month the R.I.B.A. celebrates its hundredth birthday. The event has been appropriately made to coincide with the Institute's move into its new building, and is being marked by conferences, banquets and other festivities. The past hundred years have been a period of remarkable change. The building industry has developed from a matter of haphazard private arrangement to a complicated machine in whose variations of running millions of workers are directly or indirectly involved. The Institute has seen the outward forms of architectural expression follow through every imaginable phase the social changes by which architectural growth is always conditioned. A hundred years ago English architecture was tempted by the opportunities of economic expansion to forsake the dignity of aristocratic assurance for the rootless extravagance of commercial success; now there is every sign of a return to the old sanity, attributable to economic stringency, the increasing socialization of services and our deplorable experience of architecture without social responsibility. The wheel has come full circle, but we are coming back to the State-conscious rationalism of the Regency with one important difference: though we may have cast off the irresponsible dictatorship of wealth, we have linked ourselves for good with other and less ephemeral economic issues. Architecture and the development of architecture are no longer academic but economic questions: the fulfilment of the demand for buildings is a social service—one of the many essential services on the adequate or inadequate planning of which depends the stability of the social and economic structure.

That being so, although the satisfactory completeness of this architectural cycle—an inevitable departure and an accurate return—makes the centenary a peculiarly apt one, we must remember that it is only a landmark, not a halting place. We have reached the end of one era, but we are already involved in another, and we must temper our celebrations of the achievements of the past hundred years with a resolution to plan adequately for the next. The interdependence of architecture and the building industry with the whole social and economic structure is, as we have suggested, the most important lesson we are taught by our past hundred years' experience.

Economic success, it is a truism to state, is dependent on planning and forethought: so now will architecture be. The degree of complication which is now involved in the process of supplying the demand for buildings is also the degree of organization that is needed if the demand is to be successfully met.

Unhappily, if we examine the present state of architectural organization, we have to admit that we are doing no more than trying our best to survive under conditions of absolute chaos. We are making almost no attempt to establish the building industry, and therefore the architectural profession, on a planned basis: to organize it, as it needs to be organized, for the future, rather than face difficulties unprepared as they arise. A most suitable moment for attempting to organize for the future seems to be the moment when we are congratulating ourselves on our achievements in the past.

We have no wish to throw a wet blanket over the excitements of the approaching celebrations by accusing the Institute of complacency or lack of initiative. We have much respect for the Institute's position and boundless admiration for its achievements; but the measure of our admiration is also the measure of our confidence in the Institute's ability to undertake even greater responsibility in the future. The completely chaotic condition in which the organization of building finds itself at the present moment needs to be resolved into a more intelligible future. The work of organizing that future, which with the yearly growth of the building industry into a more and more elaborate machine becomes a more difficult as well as a more necessary task, could not be more suitably undertaken than by the R.I.B.A. By accepting its responsibilities as thoroughly as it has done in the past the Institute has acquired this additional one. It is responsible now as the administrator of a national service, not merely as the arbiter of academic taste. The all too evident need of an efficient administrator provides the greatest encouragement the Institute could have in entering, equipped with a grand new building and the confidence of the profession, on this new century of trials and responsibilities.

The Architects' Journal
Westminster, S.W.1
Telephones: Victoria
9212-7
Telegrams:
Buildable
Parl
London

NOTES & TOPICS

ANOTHER STREET MEDAL

I HAVE been told (unofficially, but I hope that it is true) that we are shortly to have a gold medal for the best brick and tile building erected in London.

*

The benefactor is the Worshipful Company of Tylers and Bricklayers, whose charter dates back to the reign of Queen Elizabeth, and the medal is to be presented annually. Apparently it is the idea to adopt, broadly, the rules which govern the award of the R.I.B.A.'s "street medal," both as to limitation of the area concerned and in the method of adjudication.

*

It is an excellent idea, and I hope that the Institute, if approached by the Company for advice, will do everything it can to be of help. The R.I.B.A. has already an organization which copes with just this sort of thing, and can obviously be of very great value. In fact, the Worshipful Company might even rely, in part at least, upon the services of the Institute's jury.

*

Besides the gold medal (which would go to the architect), there is also talk of one or more silver ones for the bricklayers themselves, the workmen to be nominated by the builder. Such an idea is not only very intelligent but very charming. In this age of "working hours" and "wages rates" I feel refreshed at the idea that a few, at least, of the men employed on a job may thus be weaned from regarding themselves as "workmen" and transformed into craftsmen, in the broader sense of the word, each with a personal interest in the work.

*

Talking of medals—I was in Portland Place the other day and I was struck by a quaint thought.

Will the London Street Architecture Medal be awarded to the new R.I.B.A. building?

*

It is, of course, for the jury to decide; but I hope that No. 66 will not be considered as *ultra vires* merely because it is "home."

ANECDOTE—LESS AMUSING THAN STIMULATING

The letter on "Substitution in Asphalte 50 years' ago," published in last week's issue of the JOURNAL, reminds me of what was a minor (but might well have become a major) scandal of substitution. (No names, for this is a true story.)

*

It was a biggish job, and the local architect had for years specified, for one material, a single firm of manufacturers, and had never been "let down." Then one day he was—badly. He complained. Deeply hurt at such a slur, the manufacturer sent a man to see what it was all about. He reported (probably not without satisfaction) that 90 per cent. of the material had never been near his factory.

*

"Aha!" said the architect, "that one is too old!" And off he went to the contractor (whom he knew well) and asked to see the invoice; and there it was in black and white—the maker's invoice, right quantity and all. So the architect went back to the manufacturer and asked him all about it.

*

And then the manufacturer scratched his head and showed the architect the carbon copy of the invoice, which was just 90 per cent. short of the top copy which the contractor had, so that something must be wrong somewhere.

*

And it was, too, because the contractor had ordered *three* boxes from the right manufacturer, and when they were empty he filled them up with stuff from the wrong manufacturer and took them on to the job, and went on doing that till it was all finished; and the architect never knew till the end, because whenever he went on the job, he always saw the right manufacturer's boxes.

E. GUY DAWBER

Last week I told a story about litter in mid-ocean. The subject of litter reminds me of something I heard the other day—another of those architectural adaptations of Bentley's *Biography for Beginners*, this time to the address of the Chairman of the Executive Committee of the C.P.R.E.

*

The lines ran thus:

Dawber (E. Guy),
Utters a cry,
Loud, piercing and bitter,
Whenever he discovers litter.

*

I remember hearing Clough Williams-Ellis propose the health of the late Sir Lawrence Weaver some years ago, with that rococo felicity of phrase which enriches not only his writing but his public utterances. He told a story about a nursemaid indignantly replying to an artless stranger's

The Duke of Kent at the Stewartby Works of the London Brick Company. See note on this page.

question as to whether her charge was a little boy or girl by saying : " Certainly not, he's a little viscount ! "

*

Clough Williams-Ellis said that if Sir Lawrence had been the subject under review, the nurse should have said : " Certainly not, he's a little chairman ! "

*

If anybody was a born chairman, it was Weaver ; but Guy Dawber comes into the rare category too. I wonder how many people realize, not only the immense amount of personal work he puts into the C.P.R.E., but what a continuous achievement it is to preside over the deliberations of that body. He has the most persuasive stock of patience ; he has firmness, and he knows when to be firm ; and his gift for keeping people to the point is always employed without the slightest abrasions to anybody's self esteem.

*

A chairman of a large committee has the most difficult and trying job. I have never heard anything but the most sincere praise for Mr. Dawber's exceptional capacities.

SHOWING THE ARCHITECT

H.R.H. the Duke of Kent recently went round the Stewartby works of the London Brick Company. He obviously did not see every corner of the works, but enough to give him as comprehensive as possible an insight, in a very short time, into the management and production of a very complicated plant.

*

The Royal Family may well be said to be " industrially minded," and more than one member of it has had constructive remarks to make in the course of tours in manufacturing centres.

*

This idea of inviting people from outside to look round factories cannot be too highly praised. Admittedly the majority of visitors are so enthralled and bewildered at the time that they often appear to be dumb ; but afterwards comes the daylight.

*

Several times, in these columns, I have praised the vision of manufacturers who take architects (singly or in parties) to see their works. I am surprised that more of them do not start the habit, because the architect is, after all, a practical man without being or desiring to be a technician. He will learn from a producer's works something of how to design in his material ; at worst he can see the complication of difficulties which retard all deliveries to the job !

*

But, let not manufacturers perform this public act in a spirit of " business-getting." It is a mistake in the long run. Let it be done quietly and decently so that architects have not to be ashamed to participate.

DORLAND HALL

Another visit to the Dorland Hall Exhibition rather confirms the remark made by my friend which I quoted last week. It seems to me that nearly everything has been specially made for the occasion, which is not what I gathered was the original intention of the exhibition.

*

One of the few exceptions is the exhibit of Bath Artcraft, which shows nothing but standard goods, transplanted from the showroom direct to Dorland Hall. Personally, I do not think it suffers at all from a visual point of view ; certainly it deserves to, and I imagine will, prosper from taking the rules more seriously than many others.

*

I have no doubt that one good reason for Bath Artcraft's success lies in having had R. A. Duncan to do the " assembling "—that is what it very ably is—of the exhibit.

*

Duncan is a curious mixture of economist, anarchist, scientist, artist, sociologist, logician, romanticist and historian, all rolled into one. Nearly every time he utters anything in public he horrifies most of his audience, which he enjoys because it is one way of making people think.

*

He cannot set out to do anything as other people would do it, i.e., by the shortest possible cut. I know of a firm for whom he was asked to design fittings for manufacture ; he, of course, visited their works to see processes, found them out of date, lectured the board of directors, went far to reconstruct their whole outlook on manufacture—and then went home to design the fittings, which still remain the best which I have seen. And all made from perfectly ordinary standard sections !

*

If only more of us could acquire this knack of making good use of what is *given* to us, instead of eternally wanting to start and design *ab initio* ourselves. This is an age of " assemblage," and no matter for that so long as it be well done.

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

We are shortly to have a gold medal for the best brick and tile building erected in London 626

The L.C.C. has approved conditions for the use of welding in steel frame buildings 628

Mass-produced housing is not the fantastic idea of ambitious technocrats; but represents the next stage in the gradual industrialization of building 630

"*A member of the public visiting the C.I.D. Exhibition at Dorland Hall will find, with few exceptions, a display of goods almost entirely beyond his reach and too extreme for his sympathy*" 641

THE ARCHITECTS' DIARY

Thursday, November 1

R.I.B.A. *Architects' Unemployment Committee. At 7 Bedford Square, W.C.1. Exhibition of work done under the Architects' Emergency Scheme. Open until further notice.*

L.C.C. *Geffrye Museum, Kingsland Road, Shoreditch, E.2. "The Collection of Rarities in Antique Furniture." By Fred Skull.* 7.30 *p.m.*

SIR JOHN SOANE'S MUSEUM. *13 Lincoln's Inn Fields, W.C.2. Open free on Thursdays and Fridays in November from* 10.30 *a.m. to* 4 *p.m.*

Saturday, November 3

THE ARCHITECTURAL ASSOCIATION. *At 36 Bedford Square, W.C.1. "Building England—The Small Town." By E. R. Jarrett, A.R.I.B.A.* 3 *p.m.*

1934 CONTEMPORARY INDUSTRIAL DESIGN EXHIBITION. *At Dorland Hall, Regent Street, S.W.1. Last day.*

Wednesday, November 7

ROYAL SOCIETY OF ARTS. *At John Street, Adelphi, W.C.2. "Arts and Commerce Promoted." By John A. Milne, C.B.E., and Presentation of the Medals awarded during the Session 1933-34.* 8.30 *p.m.*

L.C.C. CENTRAL SCHOOL OF ARTS AND CRAFTS, *Southampton Road, W.C.1. "Italian Renaissance 4—St. Peter's Cathedral and the Vatican, Rome." By Sir Banister Fletcher, M.Arch., F.S.A., PP.R.I.B.A.* 6 *p.m.*

ECCLESIASTICAL COMMISSIONERS AND HOUSING

The Ecclesiastical Commissioners propose to spend not less than £1,000,000 on rebuilding and rehousing in poor areas.

The announcement was made last week by Mr. George Middleton, First Estate Commissioner, at the opening, by Sir Hilton Young, of a block of cottage flats erected in Lilford Road, Lambeth, by Church Army Housing, Ltd.

Mr. Middleton said the £1,000,000 would be spent by the Commissioners from their own resources. The scheme would be carried out with the co-operation of the L.C.C.

WELDING IN STEEL FRAME BUILDINGS

At a meeting of the London County Council on October 23 a report of the Building Acts Committee was adopted that "after prolonged investigation" they were of the opinion "that there is now a sufficiently definite basis upon which consents under Section 58 of the Act to the erection of steel skeleton buildings may be framed in such a manner as to sanction the use of welding in favourable circumstances."

The conditions of consent for the use of welding are as follow :—

1 : That the method of welding shall be subject to the approval of the Council.

2 : That the applicant shall accept full responsibility for all welding work being executed only by competent welders and shall produce to the District Surveyor such evidence of competency as the Council may require before any welding is commenced either at the works or on the site.

3 : That applications for permission to adopt welding shall be accompanied by the following particulars :—

a : A description of the method proposed to be adopted.

b : A statement clearly indicating the extent to which it is proposed to employ welding as a substitute for rivets and bolts in the fabrication or erection of the steel framework.

c : Detailed drawings in duplicate showing the arrangement and dimensions of all welds, and calculations showing the nature and amount of stress provided for in each case. Description and symbols for welds to be in accordance with the British Standard Specification No. 499, 1933.

4 : That the applicant shall provide for expert supervision of the whole of the work and shall give every facility during the execution of the work to enable the District Surveyor to ascertain—(1) that each operator is competent; (2) that the materials and workmanship are satisfactory; and (3) that test specimens prepared under the same conditions as those obtaining during the execution of the work comply with the requirements adopted as the basis upon which the permission working stresses were approved.

5 : That in the event of any portions of the work being welded outside the County of London the applicant may be required to arrange for inspection and testing to be carried out by an approved authority and for certificates to be furnished by such authority to the District Surveyor.

6 : That except as modified by the conditions of the Council's consent the whole of the welding work shall be carried out in accordance with the appropriate British Standard Specification.

Particular care has been taken in framing the conditions of consent to avoid any expression which might be taken as indicating that the Council is favourably disposed to any particular form of construction.

I.A.A.S. ANNUAL DINNER

The annual dinner of the Incorporated Association of Architects and Surveyors was held in Lincoln's Inn Hall on October 26. Sir Edwin L. Lutyens, R.A. (President), occupied the chair.

The President, in replying to the toast of "The Association," proposed by Lord Onslow, discussed the Royal Academy Exhibition of Art in Industry to be held at Burlington House early next year. He said that after watching eighteen months of other people's hard work he saw some light, and had good hopes of a propitious result. "In some instances there may be failure; in other instances there will be success; and wherever that success is attained, it will be through the intelligent agency of the British artist. A failure will be, and can only be, attributed to the fact that the artist's advice was negatived by those who thought that they knew better. The world is too well educated to allow the illiterate artist real command; but I am absolutely convinced that the more illiterate the artist the greater and more sincere his work. Illiteracy is our only hope, and I would do everything to promote and further the cause of a tutored illiteracy."

Other speakers included : Dean Inge, the Duke of Sutherland, Sir Hilton Young, Sir Robert Tasker and Sir Henry Curtis-Bennett, K.C.

LIVERPOOL ARCHITECTURAL SOCIETY

The 1934 winner of the competition for the H. W. Williams prize for the promotion of architectural design in concrete, open to members of the Liverpool Architectural Society and its allied societies, is Mr. P. E. D. Hirst.

EXHIBITION CENTRE FOR LIVERPOOL

An exhibition centre to serve the needs not only of Liverpool and Merseyside, but also of the North of England generally, was recommended to be built by the Finance Committee of Liverpool Corporation at a recent meeting. With the approval of the City Council, the City Land Steward and Surveyor is to be instructed to submit a lay-out scheme for such a building on Corporation land.

An estimate of the cost is not yet available, but it will run into several hundreds of thousands of pounds.

The City Council has also approved in principle Mr. L. H. Keay's plans for the redevelopment of the largest area tackled under rehousing plans. An area of 56½ acres in the centre of the city is to be remodelled and 2,288 flats are to be erected, as well as a garage for 800 cars, close to the mouth of the Mersey Tunnel.

WEST YORKSHIRE SOCIETY OF ARCHITECTS

The preservation of the countryside was discussed by Mr. Victor Bain, F.R.I.B.A., in his presidential address to the above Society on October 25. "It was largely due," he said, "to the intervention of the C.P.R.E. that the provisions for the protection of amenity in towns and country were included in the Town and Country Planning Act of 1932. This protection can only be secured, however, by the decision of individual local authorities to avail themselves of the power given them under the Act, and it is regretted that there are still many authorities who have not yet exercised their privilege in this respect.

The Minister of Health, in his circular letter on the Act to local authorities has again called attention to the valuable advice made available for local authorities through the medium of the joint C.P.R.E. and R.I.B.A. Advisory Panels. It would appear that the Minister of Health will have to amplify his previous instructions to local authorities and put the matter more forcibly before them if the objects of the Act are to be attained. The sub-committee reporting upon the matter of elevation and siting of buildings, both urban and rural, have made recommendations which, it is anticipated, will be forwarded to the Minister of Health this year, and it is hoped the Minister will urge all planning authorities to exercise their powers of control under the Act and arrange to receive architectural advice."

R.I.B.A.

At the R.I.B.A. Statuory Examination for the Office of District Surveyor in London, held on October 10, 11 and 12, twelve candidates presented themselves, and the following were successful in the, examination: Messrs. George S. Bowers, Joseph Fogden, Hubert A. Hesketh, Cyril Mitchell and John I. Padget.

At the R I.B.A. Examination for the office of Building Surveyor under Local Authorities, held on October 10, 11 and 12. two candidates presented themselves, and Mr. Harry E. Pollard was successful.

COMPETITION NEWS

TOWN HALL, BENONI

Mr. J. Lockwood Hall, of Pretoria, has been awarded the first prize of £250 in the competition for a proposed new town hall for Benoni, in the Transvaal.

Mr. Hall received his architectural training at the York School of Art.

Competitions Open

Dec. 22.—Proposed Public Offices, Bridge Road, Welwyn Garden City, for the Welwyn Garden City U.D.C. (open to architects of British nationality). Assessor: C. H. James, F.R.I.B.A. Premiums: £75, £35 and £25, for designs placed first, second and third, respectively. Conditions, etc., obtainable from B. H. Deamer, Clerk to the Council, Council Offices, Bridge Road, Welwyn Garden City (deposit £1 1s.).

July 31, 1935.—Competition for designs for open fireplaces and surrounds (to be constructed in any materials the competitor deems practical or desirable) for the Coal Utilization Council. Assessors: the Directors of the Building Centre. Premiums: 50 guineas, 20 guineas and 10 guineas for designs placed first, second and third, respectively. Conditions, etc., are obtainable from the Coal Utilization Council, Columbia House, Aldwych, W.C. (The closing date for this competition has been extended; see note on page 580 in our issue for October 18.)

No date.—Proposed new public elementary school, Coventry, for the City of Coventry Local Education Authority (open to registered architects who, on August 1, were residing or practising in the City of Coventry). Assessor: A. C. Bunch, F.R.I.B.A. Premiums: £100, £50 and £30 for designs placed first, second and third respectively.

MASS-PRODUCTION IN HOUSING

Following are some extracts from a paper entitled "Is Mass-Production Possible in Housing?" read by Mr. E. Maxwell Fry, B.Arch., A.R.I.B.A., at a meeting of the Design and Industries Association held at the London School of Hygiene and Tropical Medicine, Gower Street, W.C., on October 31.

THE problem of mass-produced housing is at least twofold. The designing, the making and the erection of standard mass-produced dwellings: that is one field for exploration. The control of the distribution of these dwelling units: that is the other and the less important field.

Mass production implies the factory system of manufacture, in which centrally-produced power drives any number of machines. But long before such a system could operate there must have existed a large population with a need for goods and with means to satisfy its need. The forging of an industrial machine capable of thinking in terms of mass production has been a long business.

A question that may be disposed of early is the matter of standardization, which must be recognized as a pre-requisite of mass production. One has only to look back upon the mass of eighteenth, nineteenth and twentieth-century standardized housing to realize that the differences of individual occupation have always been easily accommodated with a standardized fabric. The variables in domestic planning have been markedly unimportant at any one time. Nor in essentials have the main elements of standard planning altered very much. The gulf between the rich man's house and the poor man's house has narrowed, and been filled in by the house of the middle-class man; but so long as the family continues to provide the unit of housing, our advances are technical rather than social, except that in the matter of control what progress we make is to be counted as lost ground recovered.

THE MINIMUM WORKMAN'S HOUSE

You will find, if you look, that from the eighteenth century onward to today we have been building a minimum workman's house that has altered only in character, as the trim Georgian cottage became grimmer, harder and uglier, with the advancing years of the nineteenth century. Even though its aspect softened in our own time, it has grown only by the addition of a bath. In other respects it has remained fairly true to type. The alterations were at the other end of the scale, and showed themselves as a levelling towards a gradually establishing middle-class mean. That mean has crystallized into the too familiar house of the speculative builder; and if industry can make a better job of standardizing this "mean," I take it that most of us are prepared to give it a chance.

THE POTENTIAL MARKET

Let us look again at the potential market for a "mass-produced" house. If one is to judge from the advertisements of such firms in America as are producing, or claim to be producing, complete houses mass produced for immediate delivery, one senses at once the middle-class customer a moron raised enough above the poverty line to pay the little extra that floats a new thing into the ocean of competition. But is this man really a man of substance? And does he represent the fit market for this mass-produced house that has not yet been proved to exist?

Imagine for a moment what might follow from the energetic pushing of a "mass-produced" house campaign under normal conditions. Take it as possible that such a house could be delivered on a super-lorry and trailer to any customer anywhere, and at a price that left the speculative builder standing. What might follow? First, you might find the man in the street overjoyed by the simplicity of buying his house from a catalogue, setting his little box here, there and everywhere, as bungalow-dwellers do; their colonies springing up like mushrooms, unplanned, undrained and un-serviced. There is little to look forward to there; and as a market for a large and necessarily continuous production it has a too sporadic and risky appearance.

The manufacturer must then organize handling companies to buy land, put in services and prepare for the houses as they come from the factory; and as he does so he invokes the necessity for some form of control over development, and must recognize thereby that a house is more than itself or the land it stands on: that it has material and spiritual connections with the community of houses and people; and that if there are economies in the mass production of dwelling units, no less so does this apply to the servicing of dwellings, to the roads, the sewers, pipes, conduits and every other form of circulation that binds a house into the network of the community plan.

If this is true, then may we not question the ultimate economy of any form of *single* mass-produced dwelling? And if we assume that one house is as much as can conveniently be pre-fabricated are we not answered? I feel when I look at the total market for housing that we are, so long as we continue to think in terms of the little middle-class home.

But mass production as a basis for housing is by no means invalidated by the argument. No type of dwelling is entirely free from the influence of mass production. Here are a few of the elements of construction, and, *ipso facto*, of design which are today mass produced: metal windows; doors; patent floors; bricks; slabs; cooking, heating, refrigerating, sanitary and other equipment; rain-water goods in cast iron and asbestos; and so on over an extensive field. What further degree of mass production gives us the "mass-produced" house?

Well, one might say, a large brick manufacturing company have made 5¾ million of bricks this year, but we are not much nearer the mass-produced house by that immense output. Nor does it help us very much if twenty thousand mass-produced refrigerators stand here, there and everywhere in as many houses. The idea behind the "mass-produced" house leads us inevitably towards the standardized plan into which everyone of these pre-fabricated elements fits as neatly as the parts of a Morris car; towards the dwelling that is not built as we know it now, but, like a motor-car, is assembled.

There are two schools of thought in the motor

manufacturing world ; one stands for the single factory producing the complete car ; another for the associated group of specialist factories feeding an assembly plant. The second strikes me as providing the clue to " mass-produced " housing, the more so as it is the less disturbing to the existing industrial system. But the assembling plant for a motor-car is a simple conception, because manufacture ends where the motor-car is driven away, an apparently disconnected unit in space. For housing the assembly plant is the site, wherever it may be, and the driving forces and the exhaust pipes of the building come into it and pass out of it from a complicated subterranean network. The assembly plant is the site but the control is elsewhere. By the consent of the public, a car manufacturer may turn out, say, five models, and only five, for a whole year's production of his assembly plant. By carefully feeling the market's pulse that manufacturer is enabled to make decisions that set a score of factories producing in quantity exactly the engines, the dynamos, the pressed-steel bodies, etc., that he wants.

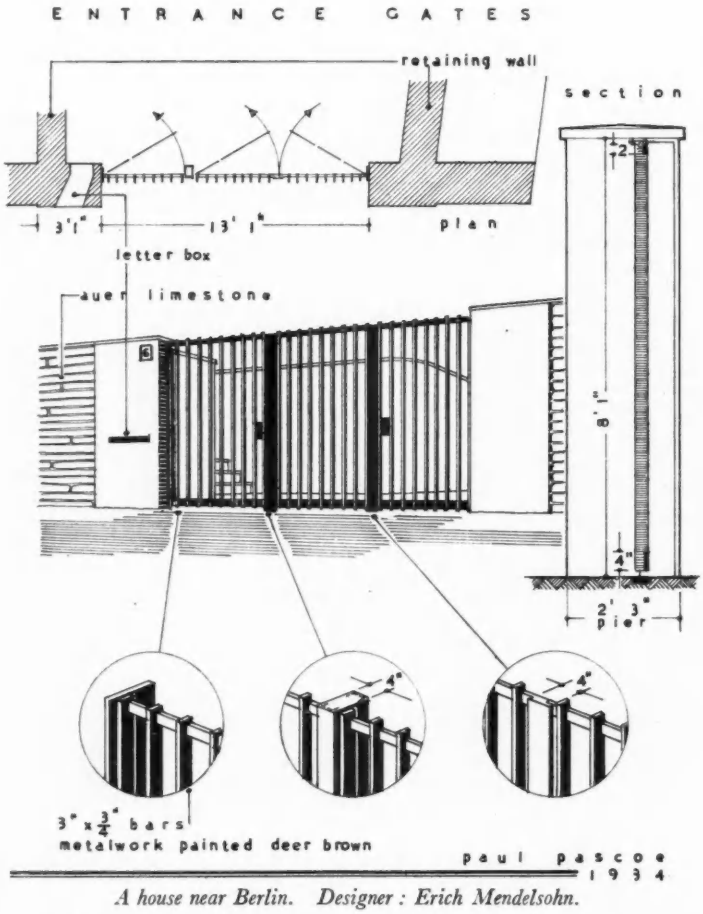
How are we to plan the production programmes for " mass-produced " housing ? This is an enormously important and difficult question to answer. It is the control factor. The second field for exploration of my opening statement.

To meet what I take to be the requirements of a fully mass-produced house there must exist the clear need for a vast quantity of dwellings of a plan variation that allows of only a few highly standardized types. In the long run such control, since it must always take into account the further systematizing of communal services, would have to be nation wide, if not in fact national, in the sense of being a governmental control. This is the obvious direction of the slum clearance movement wherein we detect the makings of an extensive market or, thinking more clearly and long-sightedly, of a consumer-public, in which the variables can be assessed by competent research to the perfection of a limited number of type dwellings. Here we have a legitimate aim for " mass-production." And if for the houses of the very poor, why not for those of the just poor, the not so poor, and the very nearly solvent ? Why not, as many an unfortunate middle-classer has thought, have " housing " for all ?

THE ADVANTAGES OF " MASS-PRODUCED " HOUSING

What would be the benefits of " mass-produced " housing properly controlled ? They would correspond in degree with those that flow to the motorist of 1935 compared with his like in 1914. What is undoubted luxury now—the house run by foolproof machinery arranged with all the skill of a first-rate machine designer, with stove spaces built in, with efficient heating and lighting, and flexible living space—all this would cease to be a luxury and would come to be within the means of the common man.

In point of design the gain would be clear. If you would understand the nature of this gain observe closely the stabilizing effect of standard metal casements upon cottage design. Their widespread use acted as a restriction upon the number of types of windows used ; but of much greater importance they provided a unit which in many an instance was the only restraining influence in a troubled wall. The idea of mass-production is based upon repetition and implies a basic modulus for design, and if anything is wanted in architecture today it is this. But further, and in detail, we have only to look upon the products of mass-production, not only its best but its normal products, to realize that the true economics of contemporary materials, serving and being served by their machines, leads to a fining away of the useless and the redundant. On the whole this is true over a wide field, and such exceptions as the sanitary trade, whose base surrender to the lowest



A house near Berlin. Designer : Erich Mendelsohn.

levels of popular demand I can never forgive, prove the tendency to be a natural one. I do not forget for one minute that control must cover design as well as production ; for little of this can be achieved without it.

Sir Kingsley Wood may be able to reduce his telephone charges and still hand over a handsome profit to the Treasury ; but he is a controller. Nobody on the Birmingham City Council can demand a Birmingham telephone for Birmingham business men, because the design and the control over the manufacture of the telephone is a national affair. The telephone is a standard and mass-produced article. The house is still both local in conception and subject to every idiosyncracy, personal and political.

The evolution of mass-production methods of building goes on both here and abroad. In measure, as it tends towards accuracy of assembly, it moves towards a " dry " system where the materials of building come on to the job in their finished state, requiring only the labour of fixing. There are two notable examples where this system has been worked out in detail. The first is at Drancy, outside Paris, where a huge concentration of flats are arranged in four-storey blocks and skyscraper towers. The guiding genius of this achievement is M. Mopin, an engineer of unusual brilliance, who, understanding the close connection between building structure and factory production, has evolved a system which combines the lightest structural steel framework with a reinforced concrete membrane covering, the elements of which are all pre-standardized and pre-cast before going on to the building for assembly.

I believe that M. Mopin has got to the heart of the problem and this answer to the opening question would be, " Yes, you may mass-produce *all* the parts of building within a tolerably wide range of standardized types." The second example comes from Holland, where at Amsterdam a Dutch firm of architects have designed an eleven-storey block of flats in a framework of standard steel units with outer walls in metal sheets covering layers of insulating materials —again a " dry " assembly.

You might almost say that the answer is given ; for in these two examples, and, in lesser degree, the terms of the solution are clearly to be read in many others scattered over the Continent.

Mass-produced housing, therefore, is not the fantastic idea of ambitious technocrats ; but represents the next stage in the gradual industrialization of building. It is not the complete little house for delivery anywhere ; for that I take to be an interesting experiment, but mere window-dressing when compared with the larger aspects of the housing problem. It is in a manner of speaking the complete dwelling unit in so far as mass-production must be related to certain fixed or standardized plan forms. But in the main I take it to mean the mass-production of the separate parts of building, to the end that building shall be a matter of assembly on the site, instead of being, as it is now, the separate creation for every job, of a temporarily organized workshop, open to the weather and indifferently lit, where materials that could be made to answer to accurate specification are handled without the control required for such performance.

This is bound to take us some time to achieve for the process of standardization has yet a long way to go, and the need for control over the programme of building and the system of mass-production is only now being stated. The urgency of the slum clearance problem is the incentive. It may bring us mass-produced housing within a very few years.

MOUNT ROYAL FLATS, OXFORD STREET, W.

LARKIN

This building, to be opened today, November 1, occupies an island site, with the main elevation to Oxford Street, and side elevations to Old Quebec Street, Portman Street and Bryanston Street. It consists of a block of 650 one and two-roomed furnished flats, with accommodation for 1,200 persons. The main entrance to the block is in Bryanston Street, in order to avoid traffic congestion.

The ground floor, devoted to shop space, is distinct from the rest of the building, being finished in natural Portland stone; the upper floors are of brick, with artificial stone dressings. The strong horizontal lines of the elevational treatment emphasize the uniformity of these upper floors, with their standard steel windows, uniformly spaced.

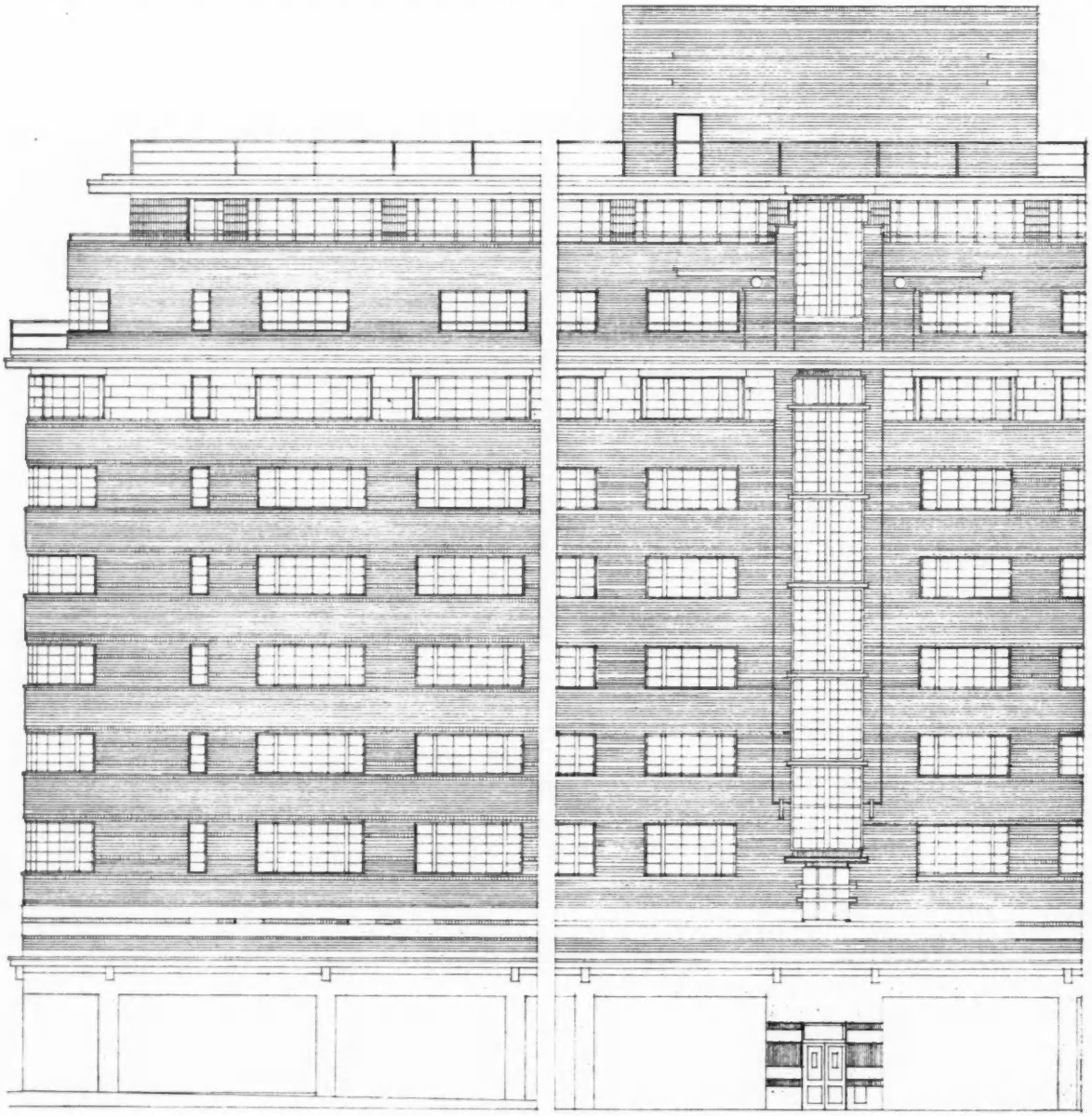
The top photograph is a view of the main front to Oxford Street; the bottom, the corner of the building between Bryanston Street and Portman Street.

S. W. NEWBERY

DESIGNED BY

SIR JOHN BURNET, TAIT AND LORNE

MOUNT ROYAL FLATS, OXFORD STREET, W.:

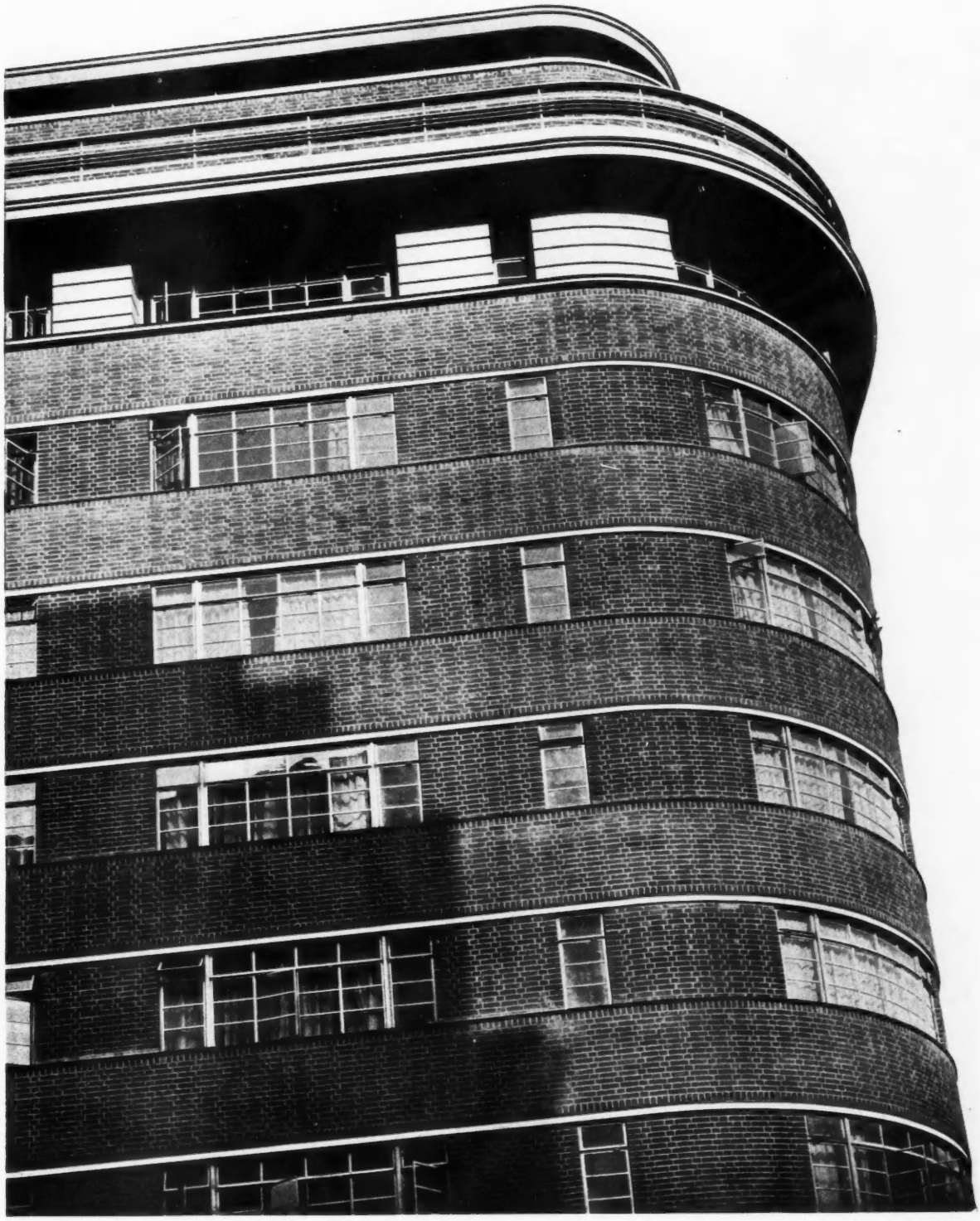


S. W. NEWBERY

On this page are reproduced drawings of the central and end features, and a photograph of part of the main (Oxford Street) elevation.

The photograph on the page facing is a view of the corner of the building at the junction of Oxford Street and Portman Street.

BY SIR JOHN BURNET, TAIT AND LORNE



S. W. NEWBERY

MOUNT ROYAL FLATS, OXFORD

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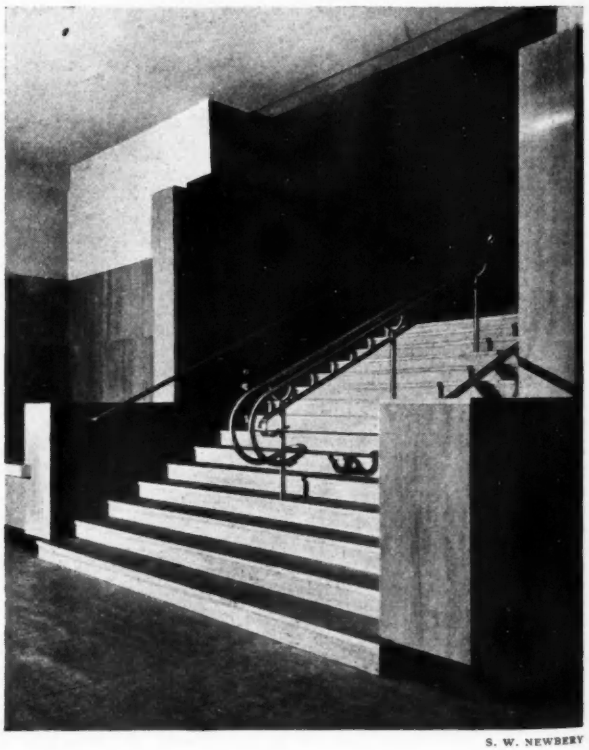
DESIGNED BY

SIR JOHN BURNET, TAIT AND LORNE



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S. W. NEWBERY

The photographs show : 1, the vertical feature on the main elevation, which contains an emergency staircase ; there are four of these—one on each elevation ; 2, a detail of the top of the main staircase, taken from beneath lounge level ; 3, the main staircase, leading to the lounge and restaurant on the first floor ; 4 (on facing page), a detail of the handrail in the centre of the staircase.

STREET, W: THE MAIN STAIRCASE

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S. W. NEWBERY

MOUNT ROYAL FLATS: BY SIR JOHN BURNET, TAIT AND LORNE

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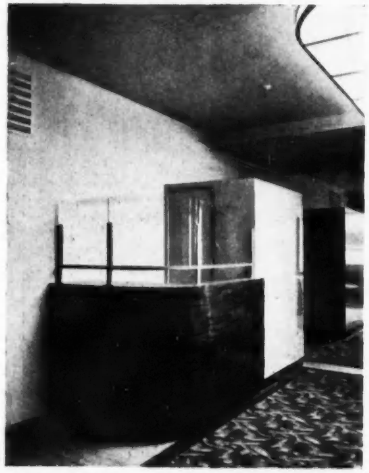

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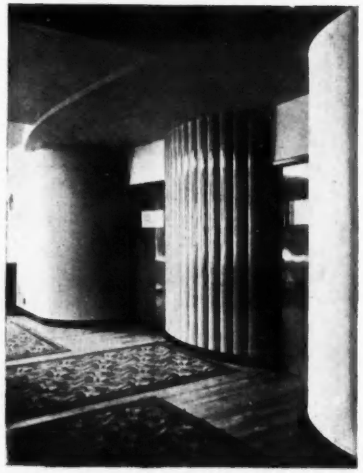

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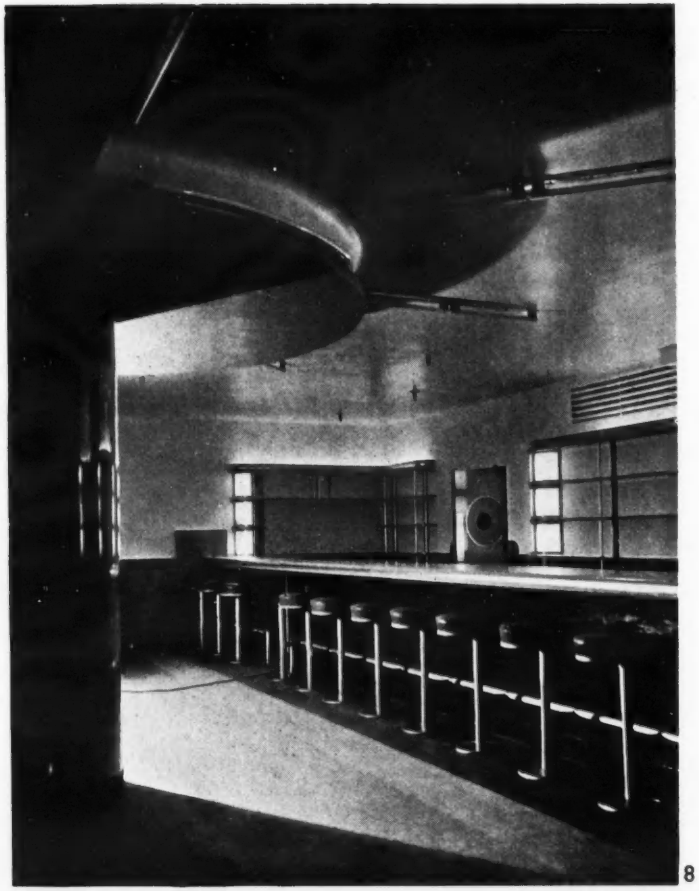
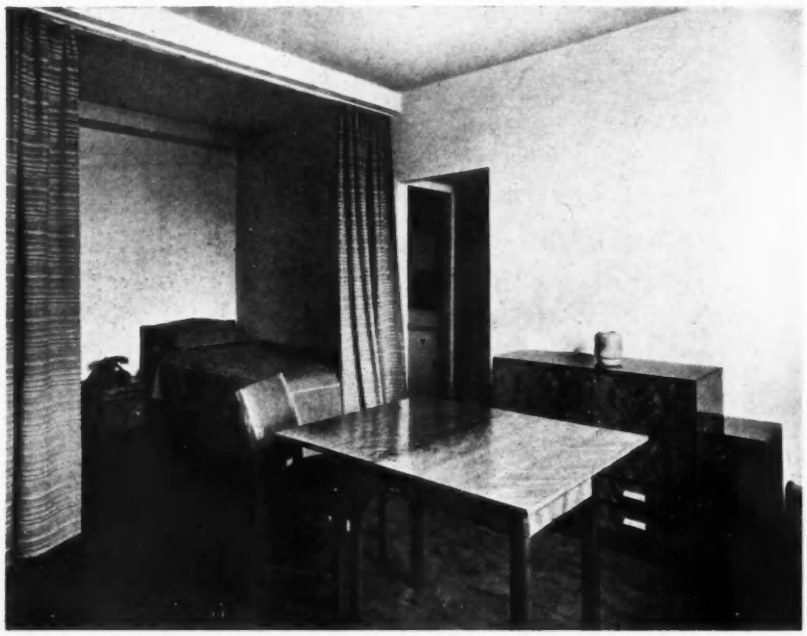


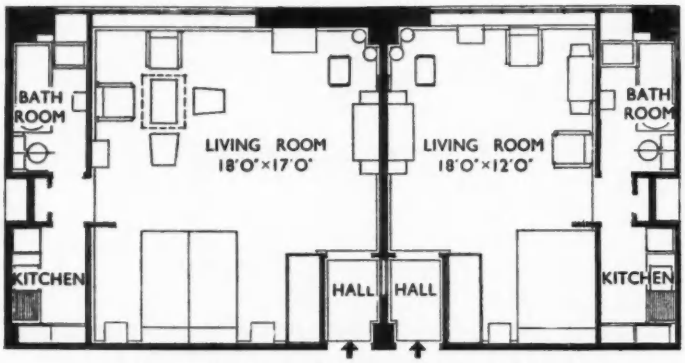
8

S. W. NEWBERY

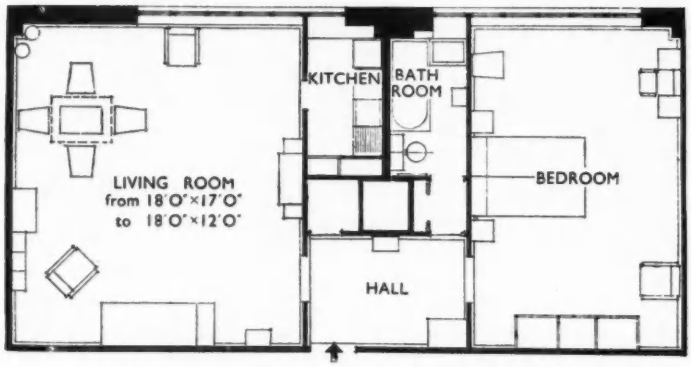
Some of the main public rooms. The photographs show: 1, the restaurant on the first floor, capable of seating over 200 people: the flooring here is maple; 2, the pay-box and service for the restaurant; 3, the doors between the main restaurant and the two private dining rooms; 4, a detail of the hat and coat rack for the public rooms on the first floor; 5, the lounge, which has rubber flooring; 6, a corner of the lounge, showing the reception counter with its separate divisions for keys, post, enquiries, etc.; 7, the soda fountain; 8, the cocktail bar. The ceilings of all these rooms are of plaster.

MOUNT ROYAL FLATS, OXFORD STREET, W.:

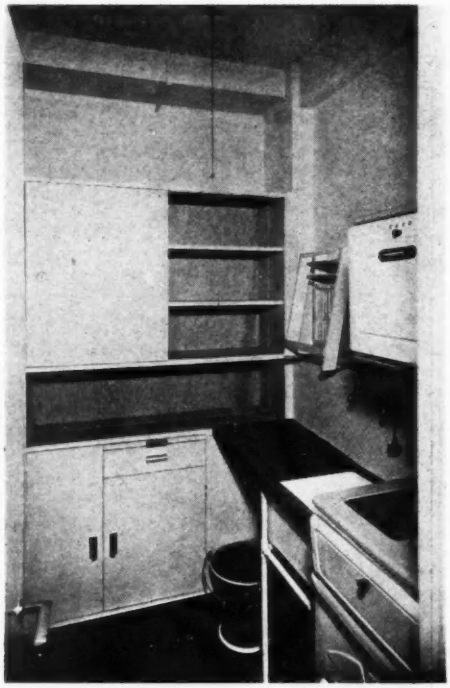




TYPICAL SINGLE-ROOM FLAT LAY-OUT



TYPICAL TWO-ROOM FLAT LAY-OUT

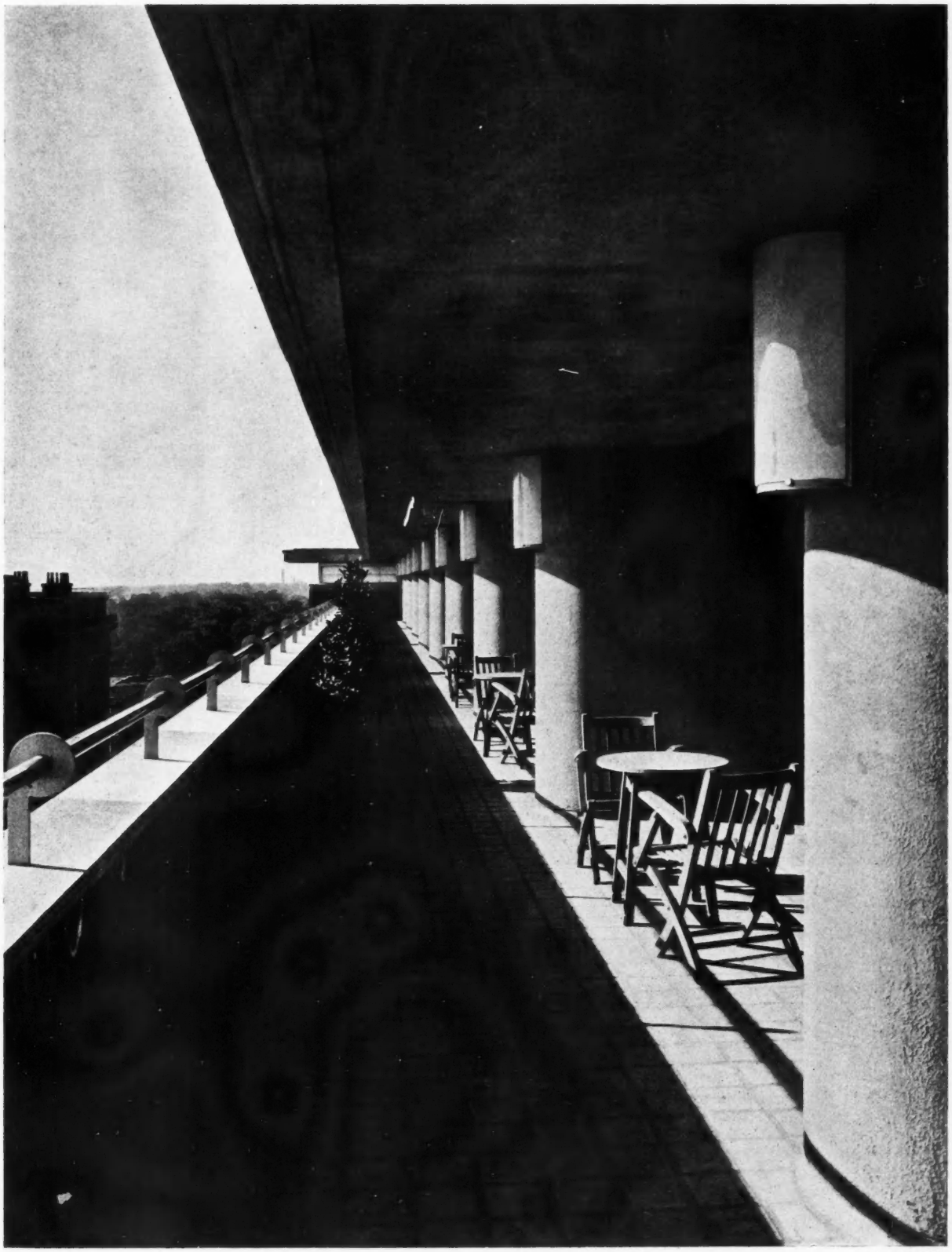


S. W. NEWBERY

The top photograph on this page is a view of the living-room of a single-room flat. The other accommodation consists of a hall, private bathroom and kitchenette (which is illustrated below). A running curtain enables the back part of the living-room to be screened off as a bed-recess.

The photograph on the page facing shows the garden terrace on the eighth floor and the continuous promenade balcony, 1,000 ft. long. The floor is of buff-coloured quarries.

BY SIR JOHN BURNET, TAIT AND LORNE



S. W. NEWBERY

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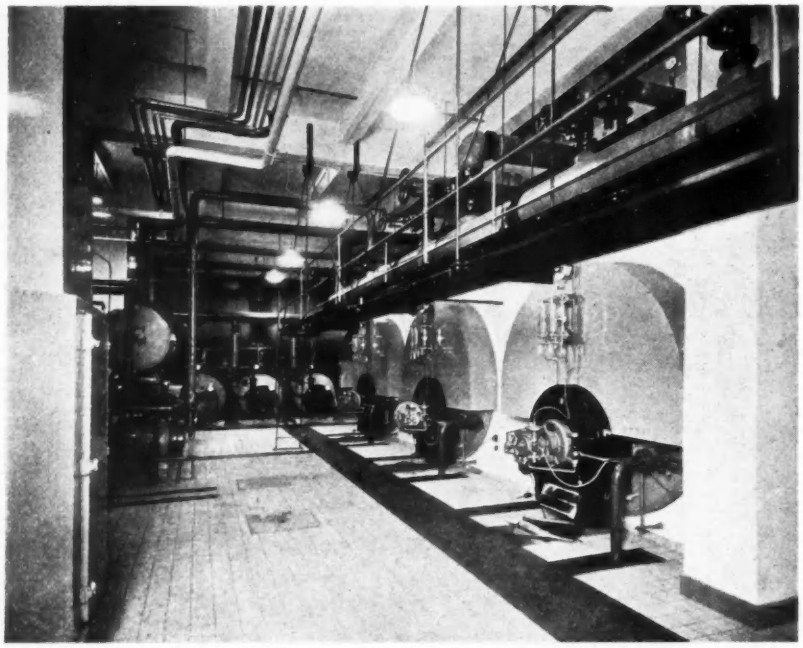
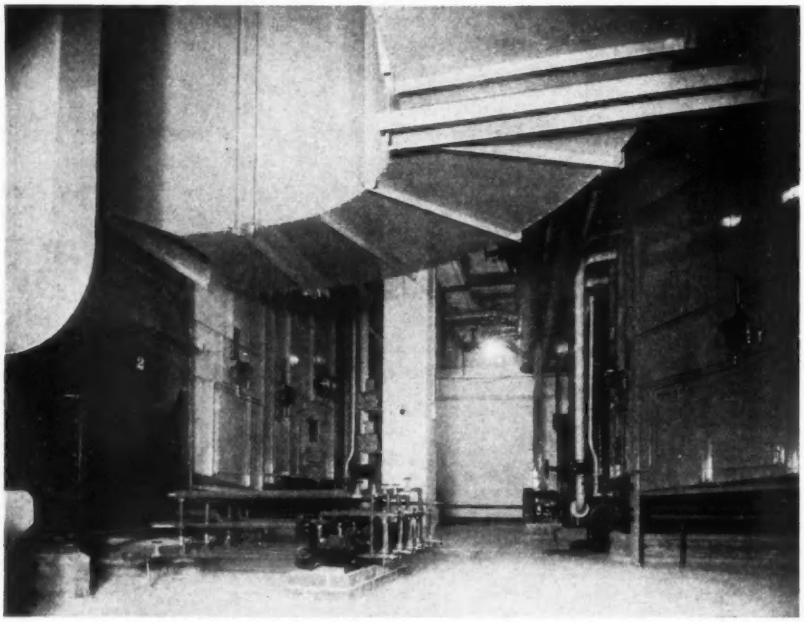
MOUNT ROYAL FLATS, OXFORD STREET, W.





LARKIN

The boiler house and plant room (top) are in the basement and sub-basement of the building. Four large-capacity boilers, automatically fired with oil fuel, supply steam to the calorifiers, and to the large air conditioning chamber for the shop premises on the ground floor. A vapour system of heating is employed; the medium is taken from the central boiler house and is circulated by means of powerful vacuum pumps, which draw the hot vapour through the whole system. The water is heated by a battery of steam-heated calorifiers, and is maintained at a definite temperature by thermostatic control. The engineer has a centralized indicator board which keeps him in touch with the working of the apparatus throughout the building. A view of the ventilation room is reproduced below.

DESIGNED BY SIR JOHN BURNET, TAIT AND LORNE

LETTERS FROM READERS

A GROUP OF DESIGNERS AND MANUFACTURERS
ARTHUR WILLIAMSON
H. L. NATHAN, M.P.
W. B. MOWBRAY, A.R.I.B.A.

The Dorland Hall Exhibition

SIR,—In the catalogue of the Exhibition of Contemporary Industrial Design at Dorland Hall, Regent Street, we read that, at an exhibition organized last year under the same auspices, a collaboration between manufacturer and designer was reached and the long autonomy of the machine ended.

This claim serves as introduction to a typical luxury exhibition: a number of rooms of an extravagant type, the furniture of which could only be bought by people of considerable income and extreme taste. A member of the public visiting this exhibition will find, with few exceptions, a display of goods almost entirely beyond his reach and too extreme for his sympathy.

The collaboration of artist and manufacturer is of real importance to contemporary design. The undersigned designers and manufacturers express their agreement with the JOURNAL'S recent leading article criticizing the exhibition from this point of view, and wish to record their belief that the artist can only influence design in so far as he studies the processes of manufacture and produces his designs for goods that are as efficient and as cheap as the ill-designed goods at present on the market and that displays of luxury only serve to heighten the public suspicion of the artist in industry and to drive him back to his few special commissions for wealthy patrons.

ANTHONY BERTRAM
WELLS COATES
SERGE CHERMAYEFF
A. M. CHITTY
J. M. COHEN
L. W. A. T. DRAKE
M. A. S. DUGDALE
E. MAXWELL FRY
V. HARDING
AMBROSE HEAL
J. CRAVEN PRITCHARD
R. D. RUSSELL
R. T. F. SKINNER
HAMILTON T. SMITH

Economics and the Architect

SIR,—May we run a discussion on poppet *versus* piston valves in your pages? I am tempted to ask by the highly technical discussion about money which you are so hospitably accommodating.

To the ordinary person the thing that matters is that he hasn't got enough money to buy all the things he wants, although it is perfectly obvious to him that they can be quite easily produced. Indeed, in his capacity of producer, his great trouble is that he can't get rid of anything like all the goods he could produce if only the pockets of his customer's garments contained more money.

What the ordinary person ought to do is to take advantage of our democratic British constitution to demand of the Government, through his M.P., that enough money should be issued to him (and to all his fellow consumers) to enable him to buy as much of what can be produced as he wants.

It isn't his job to tell the financial experts *how* the present financial system has failed, or *how* it could be adjusted. If he happens to know, he need not confuse the issue in the eyes of the public by explaining. But he certainly ought to express his will to be provided with the means to buy what he sees can be produced, and he can do this through the available constitutional channel of the polls.

There is a movement afoot—in the furtherance of which both Mr. Welford and Mr. Biddulph can join hands—to urge every elector to refrain from voting at the next election except for candidates who will make it their primary business to insist upon the Government providing a National Dividend to everyone before it does anything else.

The National Dividend must, obviously, be so devised as to put the general public into sufficient funds to buy as much of the product of industry as it desires. It is for the experts to draw up the necessary financial mechanism, and the Government has the necessary experts at command.

ARTHUR WILLIAMSON
Aviemore, Inverness-shire

Dwellings for Aged Persons

SIR,—May I refer to my letter on the above important subject which you were good enough to publish in your issue for August 2? In that letter I deplored Sir Hilton Young's action in abandoning Mr. Greenwood's scheme whereby local authorities could receive an Exchequer subsidy of £5 per house annually for 40 years in aid of the erection of small dwellings (cottages, bungalows, or flats) that would be definitely reserved for occupation by aged persons.

It may interest your readers to know that on page 153 of the recently published Annual Report of the Ministry of Health for 1933-34 (cmd. 4664) it is stated that:—

"It has been recognized that the one-bedroomed type of house for the occupation of aged persons is not one to which private enterprise is likely to be attracted."

It is surely regrettable that the Minister of Health, when advising Parliament to terminate a very useful and humane scheme, failed to foresee the consequences of his hasty action. At the present time the output of cottages suitable for aged persons is negligible, because local authorities are generally unwilling to undertake their construction without subsidy. I suggest, therefore, that concerted pressure should be brought to bear on the Minister to make amends for his error of judgment by including some adequate provision for these dwellings in his forthcoming Housing Bill.

H. L. NATHAN
House of Commons

How Britain will End Overcrowding

SIR,—The above headline met my eye recently when I opened *The Daily Telegraph*. Needless to say, I did not stop at the headline, but read the whole report of Sir Hilton Young's address at Plymouth.

I do not write now to dissect the speech, or suggest any methods, but I would, instead, say this: "Be Prepared" architects all, individuals, and the R.I.B.A. as a whole; so that, if the scheme materializes, architects will get the work. "All Local Authorities are to do this," and "All Local Authorities are to do that," states the report.

Let us then get the machinery ready now that will bring the work that concerns us our way. We look to the R.I.B.A. to see that it is so.

W. B. MOWBRAY
Sutton, Surrey

[Owing to pressure on our space, we are compelled to hold over several letters until next week.—ED., *A.J.*]

Change of Address

Mr. Charles Sykes, A.R.I.B.A., Chartered Architect and Surveyor, has removed his offices to 161, New Bond Street, W.1. Telephone No.: Regent 5794.

The entrance hall, looking towards the entrance to the "contemporary home." On the right-hand wall is a display of equipment for five representative games: hunting, shooting, fishing, tennis and golf.

THE EXHIBITION OF CONTEMPORARY INDUSTRIAL DESIGN IN THE HOME

[*By A. E. FROST*]

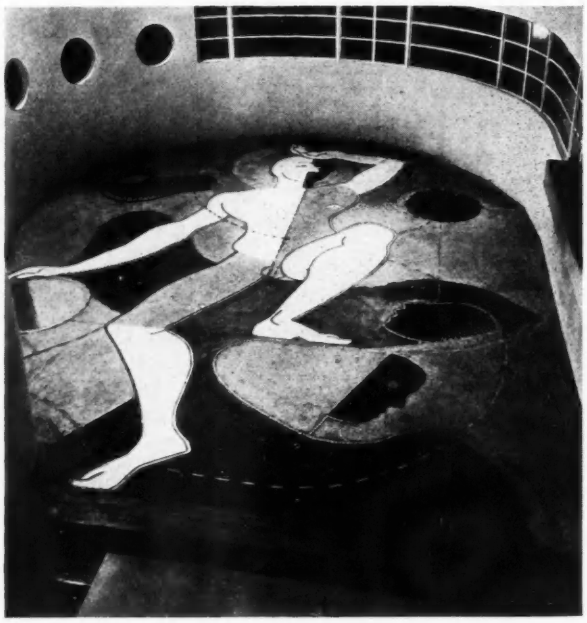
On this and the following four pages are reproduced a selection of photographs taken at the Exhibition now being held at Dorland Hall, until November 3 (10 a.m. to 10 p.m.)

A NUMBER of the exhibits at Dorland Hall certainly suggest industrious rather than industrial design. This failure to live up to its name has already been noted in these pages, and the exhibition criticized for not applying itself more closely to the necessitous field of design conditioned by the minimum middle-class householder. *Qua* exhibition, however, the indoor fireworks can be contemplated quite apart from their lack of justification. If one preserves one's soberer satisfaction for the more relevant contributions by Lubetkin and Tecton, Walter Goodesmith and Serge Chermayeff, the virtuoso display on the ground floor can be judged on its own merits as expert and lavish showmanship. The average Englishman who generally prefers to see something more in the nature of an inhibition than an exhibition will no doubt find the sophisticated exuberance of these exhibits out of his line altogether.

After this it is interesting to note that the proportion of practical to irrelevant exhibits is probably much greater than in the Exhibition of British Industrial Art held in Dorland Hall a year ago. The Contemporary House by Oliver Hill contains a living-room that comes within the remotely practicable rather than the practical category, and the adjacent study, dressing room and bedroom are similarly relevant only to the all too few among us who are revered by our bank managers. But, apart from this ensemble, which as the culmination of the entrance hall has a certain ceremonial function to fulfil, the majority of the exhibits are of a reasonably practical and applicable nature.

Duncan Miller's bedroom is an impressive excursion in somnolence and is possibly the most successful of the displays. It is surely a scene for the public slumbers of a cinema princess. The complete design is a good piece of tasteful extravagance and attracts most of the visitors into hushed contemplation. The circular dining-room by Oliver Hill is an amusing nautical folly contrasting remarkably with the purposeful efficiency of the kitchen next door whose standardized Vono units are first rate. These domestic quarters by Mrs. Darcy Braddell are barely reconcilable with the snakeskin piano opposite, and it is evident that in the contemporary house there is to be a certain functional superiority manifested among the servants which may well make the rest of its inhabitants somewhat self conscious of their decorative departures. The study by Green and Abbott is designed as a picture, and though a pleasing contribution is not a noticeably architectural contribution.

The Reinforced Concrete Flat by Lubetkin and Tecton on the lower ground floor, is one of the best things in the exhibition. It is a replica of one of the 65 flats in a block now being built by the same architects at High-



1: The Sun God, in the forecourt to "the contemporary home." Designer: John Cooper.

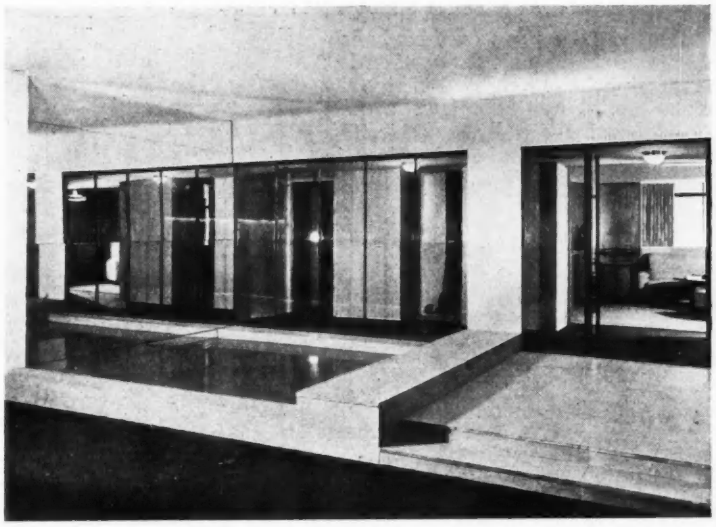
(Exhibit No. 15.)

gate. The living-room is light, pleasantly proportioned and fresh coloured, the furniture attractive and serviceable, and the general suggestion cheerful and definitely inhabitable. The flat is planned off a small lobby and no space is wasted. The bedrooms are disposed on either side of the bathroom and equipped with built-in wardrobes. Altogether it is as valuable and workmanlike a contribution to domestic design as any in the Hall. The propaganda display outside is well done.

The outstanding exhibit on the first floor is the All-electric Ensemble by Walter Goodesmith, and the most popular part of this the All-electric office whose sleek pair of streamlined desks have probably been photographed more than anything else in the exhibition. This office is certainly an excellent piece of work. The All-electric House is motivated by an urge towards the luxury of perfect efficiency. Needless to say it is as nearly completely successful as is mechanically possible, and the only criticism to be made is that the colouring of the living-room is a shade too sober, a fault which all the other designers have strenuously avoided and which, therefore, becomes almost a comparative virtue. The bathroom and adjuncts are equipped as thoroughly as a switchboard and reveal a comprehensive control that must fascinate the mechanically minded.

The attractive living room by Serge Chermayeff is an admirable exercise in standard units. He shows how adaptable are these plan units and how an individual room may arise from their effective arrangement. The chairs are particularly commendable and prove how well wood can hold its own against chromium-plated steel in the race for comfort. Of the four bedrooms on this floor the example by George Checkley is most successful in its exploitation of drugged colours and soothing lighting without losing that necessary stimulating quality present in all good design. The occasional chair seems an afterthought but otherwise the furniture of this room is well considered.

Bathrooms lend themselves too readily to exploitation. They are the equivalent in domestic design of the tie in



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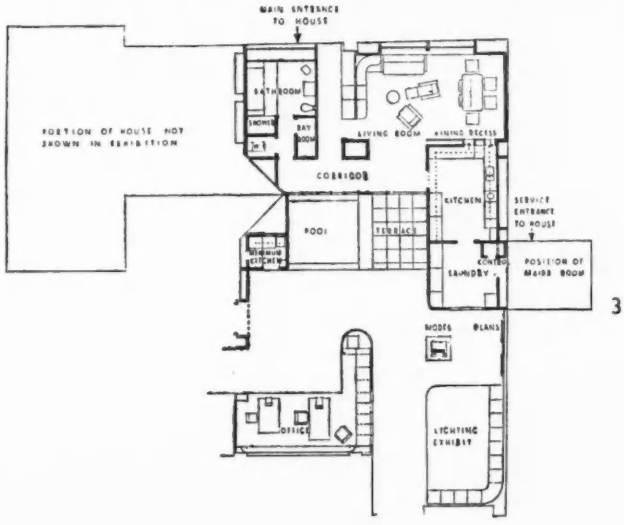

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On this page are reproduced two photographs and a plan of the All-electric House, designed by Walter Goodesmith.

2: The pool and terrace.

3: Ground floor plan.

4: Secretary's Desk.

Working Details of the built-in fitment in the living room of this exhibit (No. 74) are reproduced on page 648 of this issue.

sartorial, and just as a man seems to lose all visual criteria over his haberdashery so the architect too often lets things rip when he comes to design the bathroom. For this reason a firm stand must be taken by the critic, if by no one else, and the honours given in this field to the Plastic Bathroom by Connell, Ward and Lucas which offends no susceptibility and is, in fact, a neat and forthright piece of work. The Marble Bathroom, by Howard Robertson, is on a larger scale than its size warrants, and the impracticability of its floor covering is evident from the tell-tale spoor of numerous trespassers. Nearby is a dressing room with an astounding spider-motif.

On the second floor the Gas, Light and Coke Company's main exhibit, designed by Maxwell Fry, is an excellent piece of propaganda in every way and does credit to everyone concerned, especially to Hazen Sise, who is responsible for the photographs in the photo-mural arrangement. The other main features on this floor are the five cocktail-sets, of which the only successfully sophisticated example is the one designed for Osbert Sitwell, by John Banting, and the Snack Bar by Raymond McGrath and Walter Goodesmith. A major disappointment in this exhibition is the non-materialization of the Five Interiors in Motion, which were to be designed by Raymond McGrath.

Any general impression of the exhibition is not likely to be clear cut and well defined ; the exhibits are too various and the achievements too individual. There is no doubt that it will be occupied largely by the fantastic display and recondite materials of the Contemporary House and a certain theatrical touch noticeable in one or two of the bedrooms. The valuable contributions to domestic design by Walter Goodesmith and Lubetkin and Tecton in particular may be undeservedly swamped by the showmanship of their more exhibitionist collaborators and this would be a pity. The All-electric House and Office and the Reinforced Concrete Flat are constructive applications in the field of industrial design and, as such, are the features which should rightly be singled out as the main achievements of this exhibition.

It only remains to add that the lesser exhibits—textiles, pottery, fishing tackle, guns, hunting equipment—are uniformly excellent.

THE CONTEMPORARY

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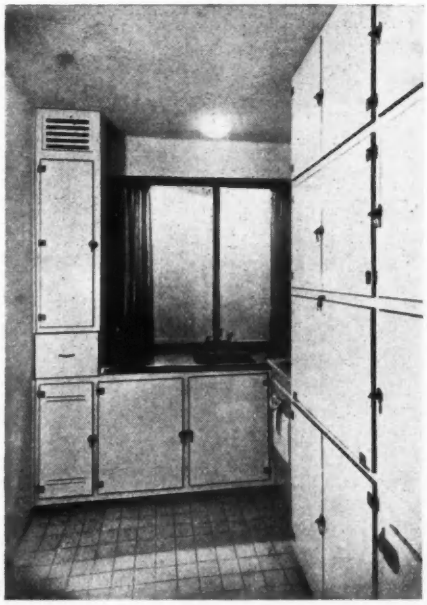
5. *Living room, designed by Serge Chermayeff. (Exhibit No. 74.)*

6. *Stand for modern gas apparatus, designed by E. Maxwell Fry. (Exhibit No. 81.)*

7. *Pottery, by Josiah Wedgwood. (Exhibit No. 43.)*

INDUSTRIAL DESIGN EXHIBITION



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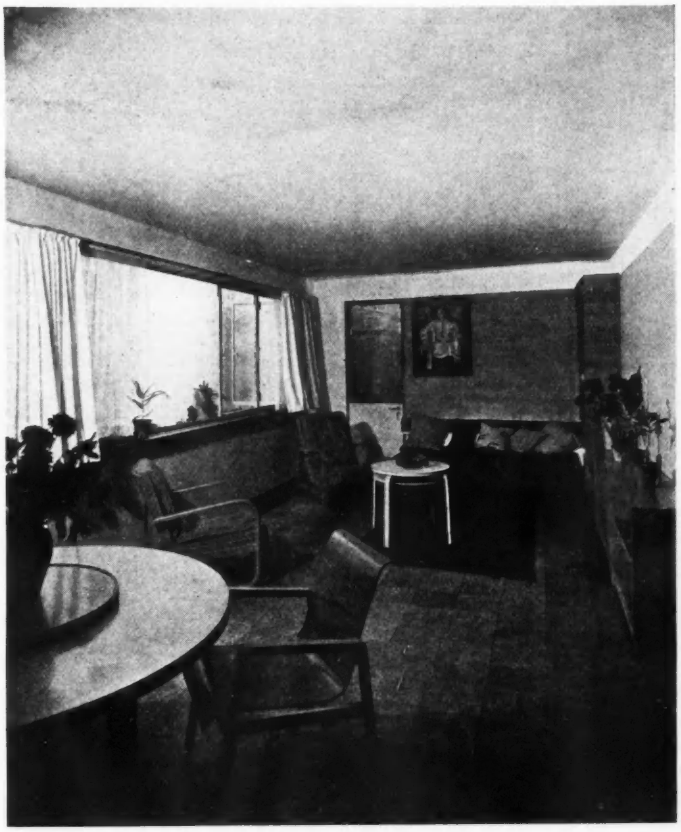

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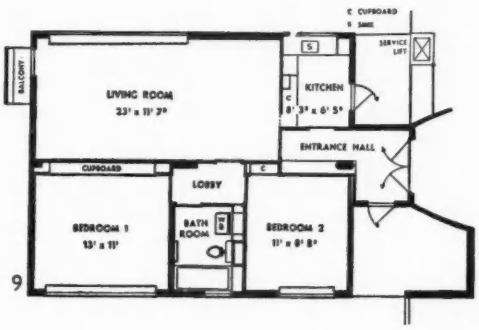

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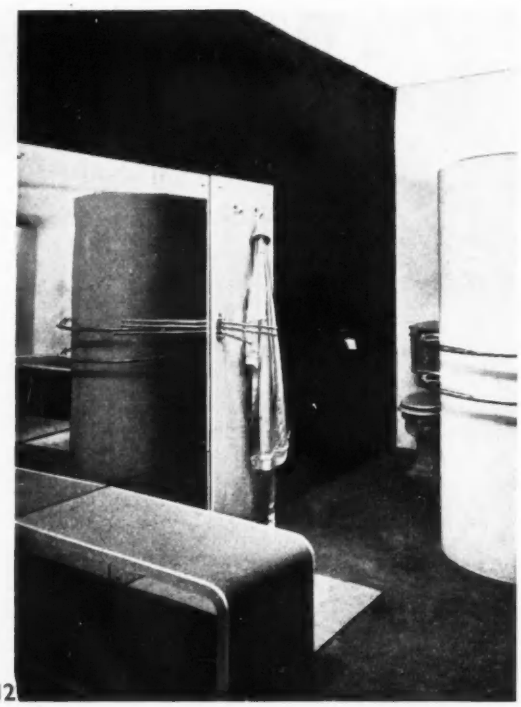
Reinforced Concrete Flat, designed by Lubetkin and Tecton: 8, kitchen; 9, ground floor plan; 10, living room; 11, bedroom. (Exhibit No. 34.)

S. W. NEWBERY

CONTEMPORARY INDUSTRIAL DESIGN EXHIBITION



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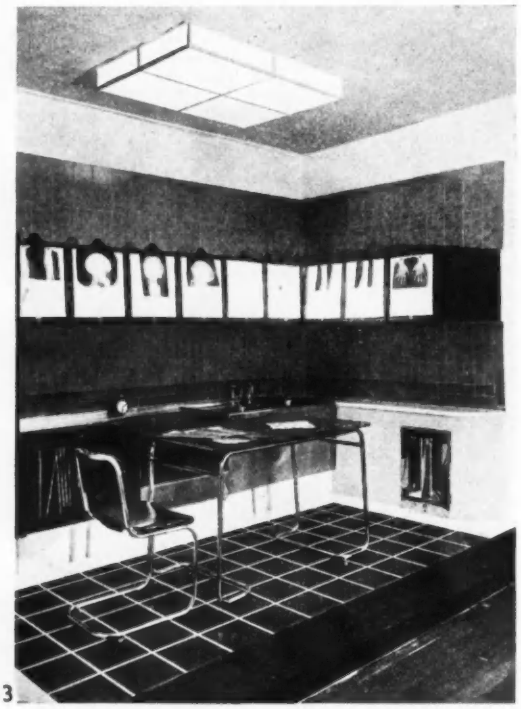

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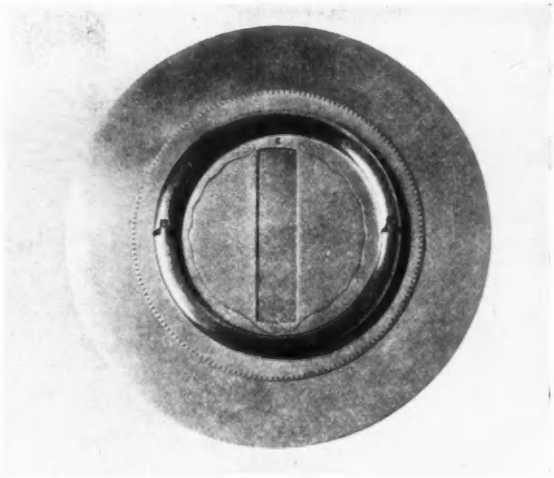
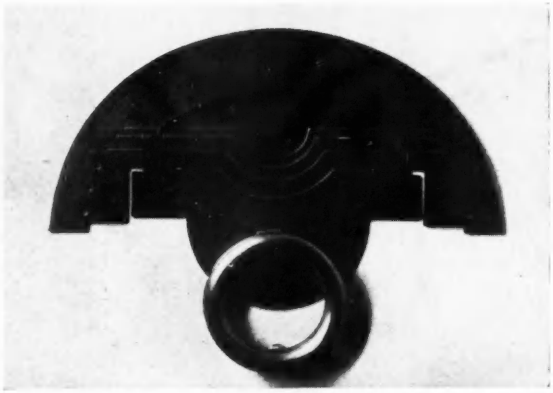
S. W. NEWBERY





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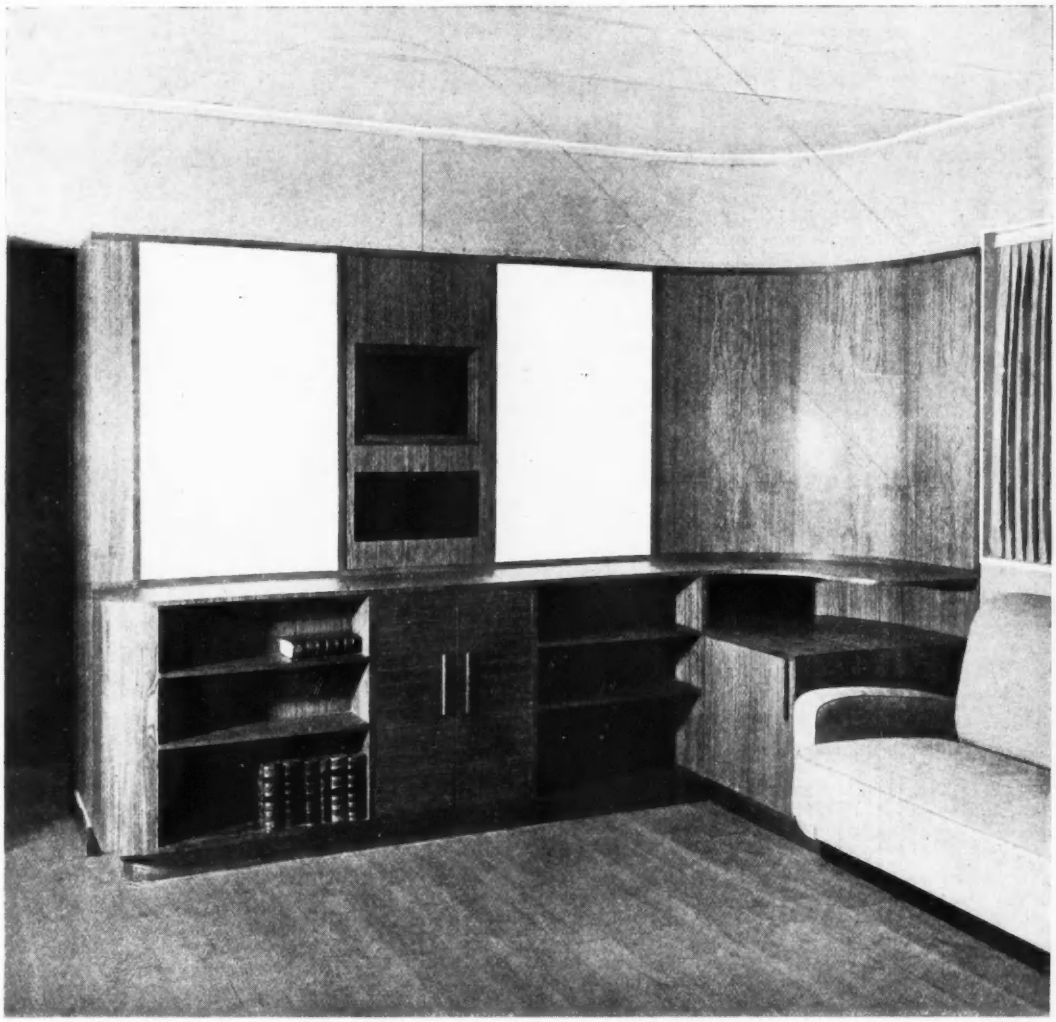
The photographs show : 12, Plastic bathroom, designed by Connell, Ward and Lucas (Exhibit No. 71) ; 13, Office, designed by Christian Barman (Exhibit No. 77) ; 14, letter-plates and door knockers, designed by Gertrude Hermes (Exhibit No. 83).

WORKING DETAILS : 145

BUILT-IN FITMENT • ALL-ELECTRIC HOUSE AT THE C.I.D. EXHIBITION • WALTER GOODESMITH

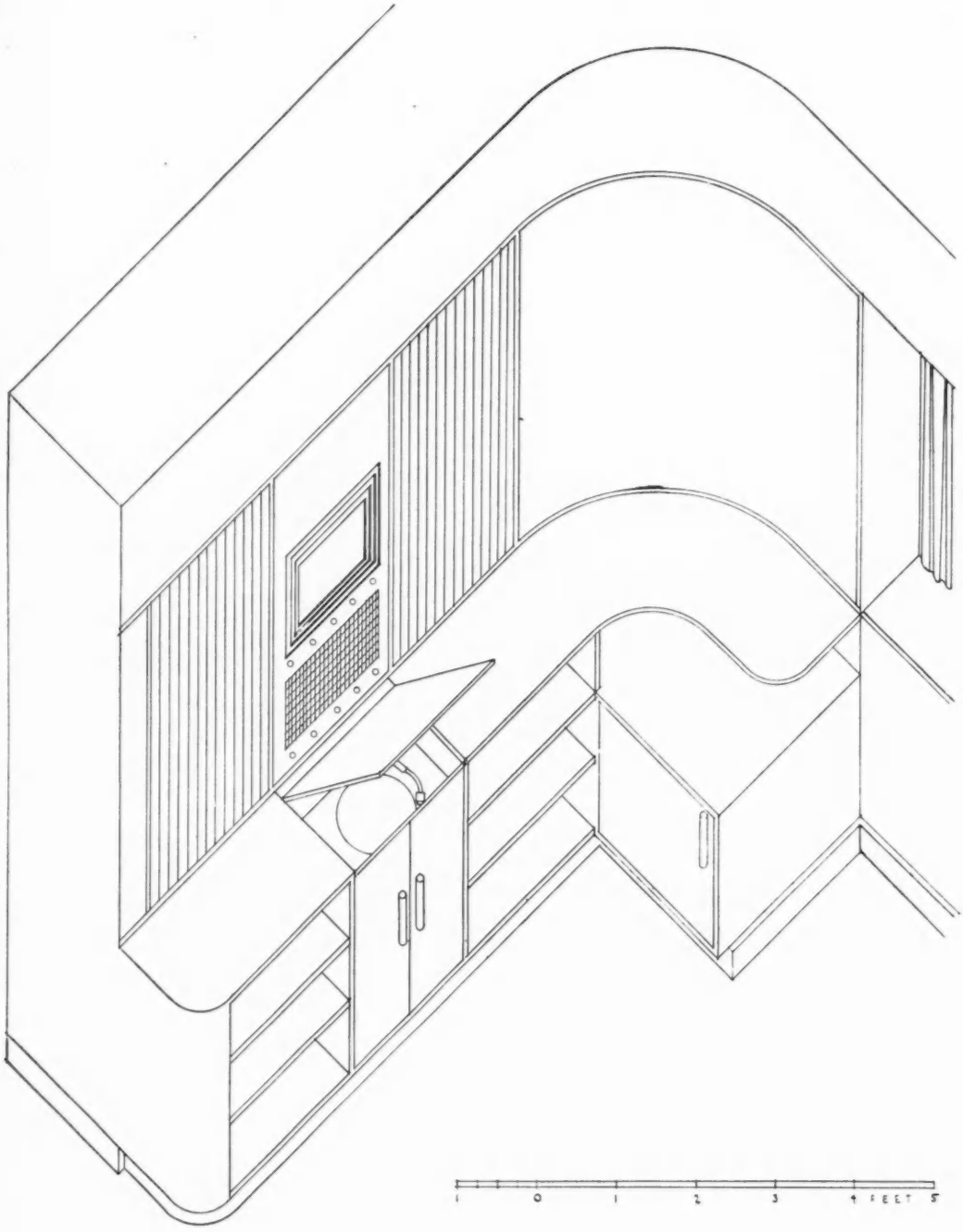


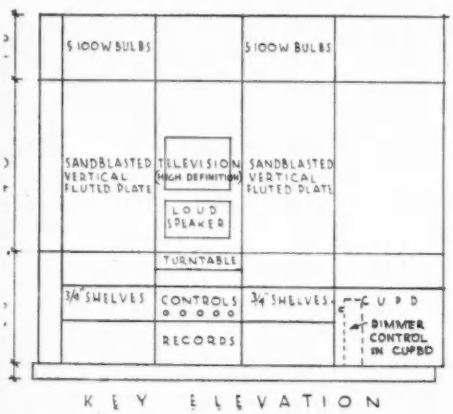
S. W. NEWBERY

The built-in fitment in the living room of the all-electric house exhibited at the Contemporary Industrial Design Exhibition at Dorland Hall. Detail drawings are reproduced overleaf. The fitment is executed in Indian silver greywood and comprises a glazed lighting panel, a centre section combining television, radiogram and record cabinet, bookshelves and cupboard. In the cupboard on the extreme right is a variable resistance for controlling the intensity of the light.

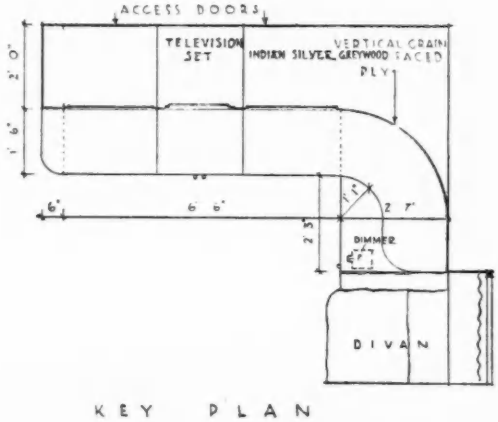
WORKING DETAILS : 146

BUILT-IN FITMENT • ALL-ELECTRIC HOUSE AT THE C.I.D. EXHIBITION • WALTER GOODESMITH





KEY ELEVATION



KEY PLAN

Details of the built-in fitment, a description of which is given overleaf.

WORKING DETAILS : 147

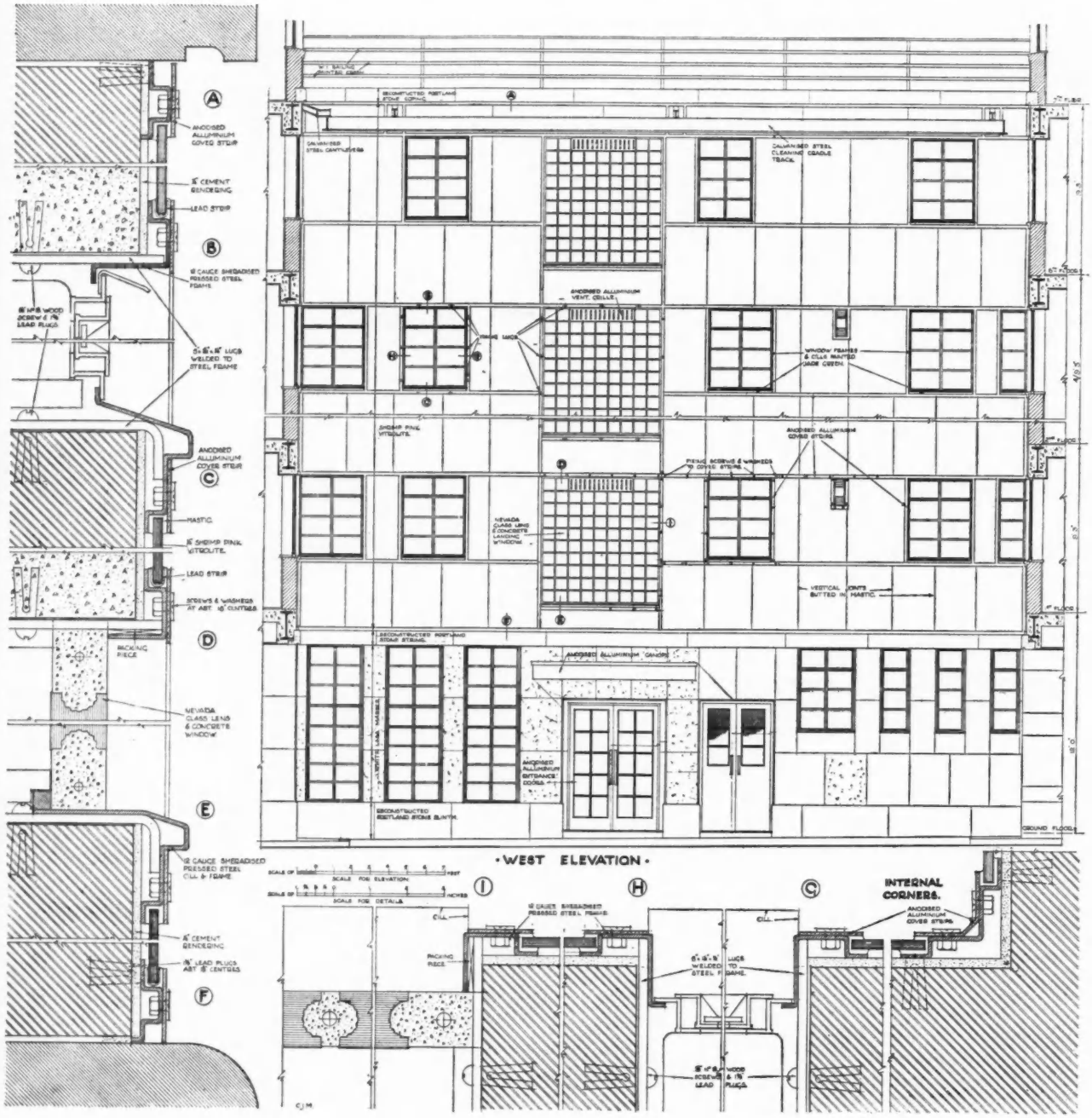
WALL FACINGS • TROY COURT, HIGH STREET, KENSINGTON • MICHAEL ROSENAUER

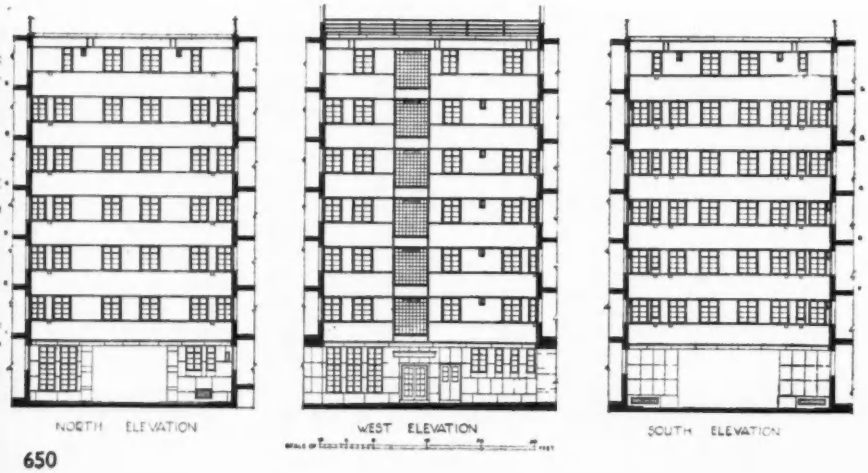
S. W. NEWBERY

The elevations to the central courtyard of this block of flats, of which details are reproduced overleaf, are faced with white marble up to the first floor and, above, with shrimp-pink glass, with stainless metal bands. The six large windows above the canopy are of 9 in. by 9 in. glass and concrete, cast in situ ; the ventilation grilles are of anodized aluminium.

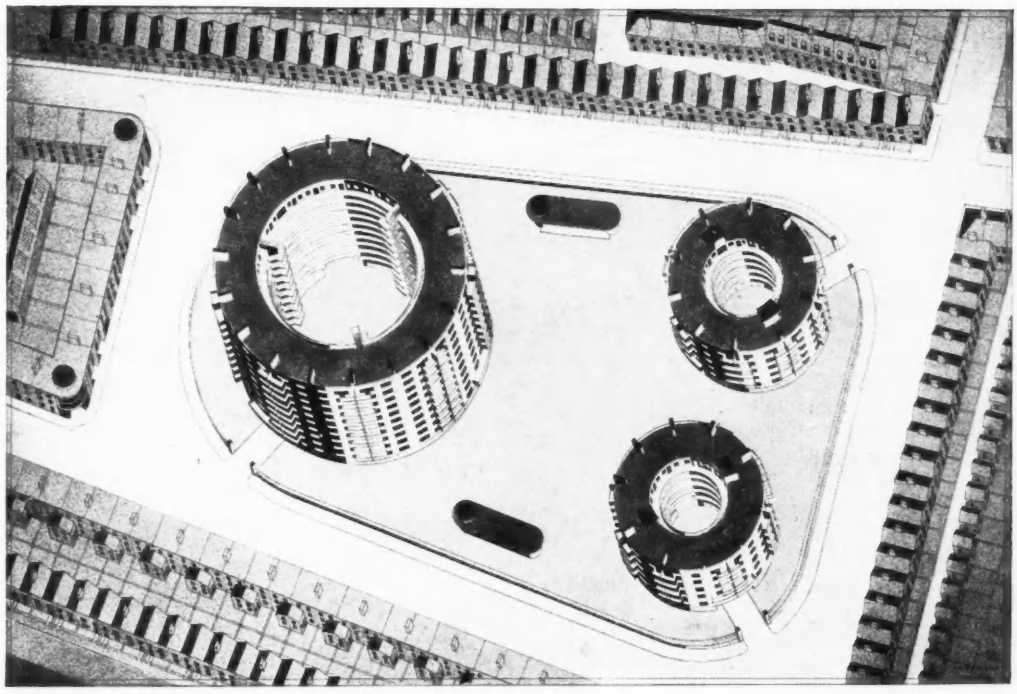
WORKING DETAILS : 148

WALL FACINGS • TROY COURT, HIGH STREET, KENSINGTON • MICHAEL ROSENAUER





Elevations and details. See description overleaf.



CIRCULAR BUILDING

[*BY DOUGLAS H. GREEN, O.B.E.*]

Managing Director, Trussed Concrete Steel Co.

THE outstanding problem today, so far as the building industry is concerned, is " the possibility of securing a reduction in present costs without impairing the efficiency of the buildings for the purposes for which they are designed." This quotation is taken from the terms of reference of the Departmental Committee on the Cost of Hospitals and other Public Buildings, with particular reference to capital cost of construction and annual cost of maintenance.

Economies in specification and the costs of actual building have of recent years been carried to such a point that very little reduction is possible. The two fields that offer possibilities of success in this direction are the elimination of superfluous materials and processes, or a change in our methods of planning.

Reinforced concrete, according to modern technique, can be utilized at one and the same time as a weight-carrying medium, a shell to protect the building against the elements, and as a decorative treatment, both internally and externally ; this threefold use of a material should show economy over a design employing a different material for each purpose, each having to be carried in turn by the others.

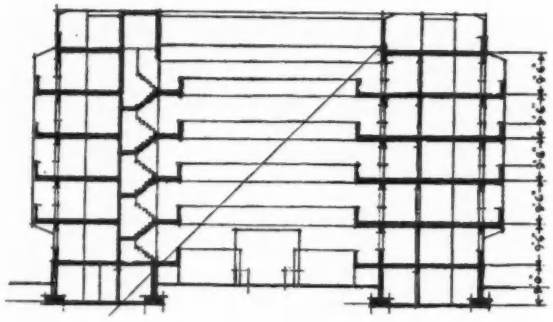
The circular conception of building may provide further economies. The interpretation of Mr. L. H. Keay, the Liverpool Director of Housing, has shown the advantages of the circular conception as applied to tenement buildings, and it is worth while giving consideration to this circular conception for buildings of other types, such as the office block with shops on the ground floor, public buildings, or residential flats in built-up areas. Some designs prepared by Mr. James Wallace illustrate what can be done in this field. The perspective view of the design (page 623) showing a block of shops with offices over illustrates how a circular building can be treated architecturally without sacrificing any of the advantages, and also shows certain structural details best suited to the circular conception.

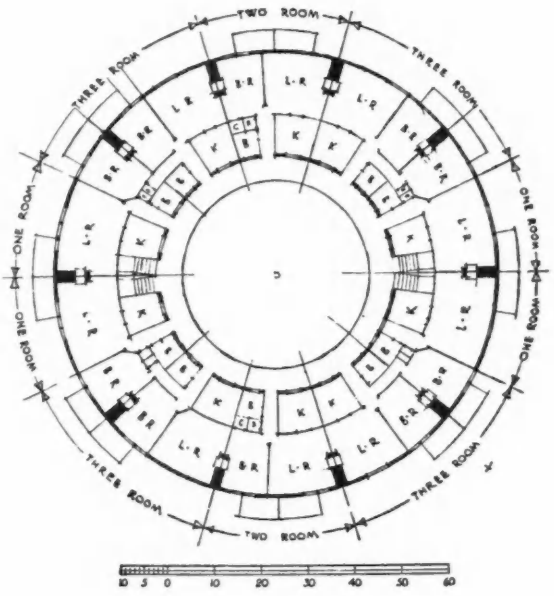
The advantages of a circular plan for the office floors are quite obvious, with equal light to all elevations, and the facility of access provided by the corridor in the interior circumference. The value of the shop window takes on an entirely new aspect. The gradual manner in which the customer is shepherded along the window frontage, quite unconscious that he is no longer in the main thoroughfare, enhances the value of what would, in a normal design, be the side or rear elevation.

The value of the gradually widening pavement is clearly shown in the perspective sketch (p. 623). It shows the large area of pavement in which the public can meet or congregate without obstructing the free access to the shop windows. As shown, a balcony is now permissible, without encroaching upon the public footway. This not only provides shelter to the shopping public, but enables, if so desired, shop windows, or, in fact, other shops, to be planned on the first floor, with direct access from the street.

Before embarking upon any such conception, it is necessary for us to visualize its extended development, so that we can see more clearly where it will lead us. With this in view, Mr. Wallace has drawn the street scene illustrated on page 624, utilizing the circular conception throughout. This picture brings out clearly a new idea of a street. Gone is the long tunnel effect to which we are accustomed ; light and air are brought into our main roads almost irrespective of the height of the buildings on either side.

Whereas it is now necessary to set back the upper floors of a multi-storey building in order to provide the requisite light and air to the premises on the opposite side of the road, the setting back is obtained on plan, and it is suggested that an equivalent degree of light and air is obtained, even if





Section and plan of proposed scheme for multistorey circular flats, described in the accompanying article.

buildings are carried to a much greater height than is at present common.

Although the circular conception sacrifices a certain amount of site area, this is more than compensated for by the better utilization of the floor space provided, and by the fact that taller buildings can be erected without the usual objections.

Our cross roads, again, have a new aspect. Many of the problems with which our Minister of Transport is now faced would obviously disappear. The rounded corners of the buildings flanking a cross road greatly increase the distance of visibility of one line of traffic to the other, at the same time providing the space for a "roundabout" in the centre of the road, a system which has proved satisfactory wherever it has been tried.

The plan of such an area shows, first, that the secondary roads parallel to our main thoroughfares now have a different aspect. They are no longer "back streets"; but are of equal interest to our shopping public. We have, in fact, a series of arcades, with vehicular traffic only concentrated to the line of the main streets. The possibilities of one-way streets are greatly improved, as the access from one street to another is such that little hardship is imposed upon the public if they are discharged into a parallel or secondary road.

Our main drains, water, gas and other services, will be logically located on the centre line of the blocks, instead of, as at present, down the centre of our main thoroughfares, where any work or alterations that have to be done to them are an inevitable obstruction to our street traffic. These services beneath the road are not only a source of obstruction, but seriously affect the life of the road itself.

If the interior well of each block were utilised for the unloading of goods to the various blocks, and for the setting down of customers from their cars, a considerable amount of traffic would be eliminated from the main thoroughfares.

The planning which Mr. Keay has shown for a tenement building is equally applicable to that of a block of high-class residential flats. Probably in the latter the interior access corridor would be enclosed in glass; but in other respects a more elaborate specification is all that is necessary to meet any demands.

The design shown for a small five-storey block of flats speaks for itself. Although this was prepared with a tenement building in mind, the modifications required are easily arranged. It is, of course, difficult to give an idea as to the cost of buildings on this circular conception, because of the great difference in specification. The main factor in this cost comparison is that, with the circular conception, the external walling is a minimum for the enclosed floor space, and the standardisation attained must achieve economies in every material used, particularly when it is borne in mind that standardisation makes mass production possible.

It is, perhaps, in the town planning of flats that one of the most important advantages of the circular conception is obvious. The axonometric drawing of a group of three blocks of circular flats tells its own story. The area envisaged is one of 2·62 acres, taking into account the rounded corners which have been surrendered to the public. These three blocks, one of ten storeys with 177 flats, or 424 rooms, and two blocks each of 48 flats or 96 rooms, give us 616 rooms, or 235 rooms per acre, as compared with the usually accepted maximum density of 200 rooms per acre. In spite of this density, the effect of a Garden City is obtained rather than that of a built-up area. The available space is converted from semi-enclosed courtyards to open gardens and playgrounds.

A point which may be of interest to the mathematician is the effect that this conception has upon the work of the Quantity Surveyor. Every measurement to be taken is a function of the radius of the building, and any adjustment in the size of the building can readily be apportioned on this basis.

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Northern Architectural Association

Mr. W. Milburn, F.R.I.B.A., in his presidential address to the above Association on October 16, said:—"The problem of housing and slum clearance is still a national issue. The Housing Act of 1933 abolished the subsidy for municipal housing. In my opinion this abolition of the subsidy was long overdue. The result has been that in all parts of the country a building boom by private enterprise has occurred. I hope that we shall never see another subsidy for house building introduced by any Government. I also hope that for the next few years private enterprise will be left to solve the problem of providing houses for the working classes at an economic rent. We are told that hundreds and thousands of houses are required for the working classes at an all-in rent of ten shillings per week. From my own knowledge of developments in housing, I am of opinion that such houses can be provided, and will be provided, by private enterprise. If the speculative builder is left to develop on his own unrestricted lines he will provide the necessary houses for the working classes at an economic rent. But it is advisable that a relaxation be made in the common density of twelve houses to the acre. Sixteen or eighteen houses to the acre is a satisfactory density for working class houses.

TRADE NOTES

[BY F. R. S. YORKE, A.R.I.B.A.]

Concrete Window

AMONG the very few examples of industrial art shown at the Exhibition now open at Dorland Hall, is a window formed from a framework of pre-cast concrete, with reinforced bars, 1¼ in. thick, rebated to receive ordinary glazing. The window here is glazed with double reeded rolled glass in sheets 11 in. square. It is curved to a 28 ft. radius, pre-cast in one piece at works, and glazed *in situ*.

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These windows, which are marketed by Lenscrete Ltd., are less expensive than similar types constructed with heavy moulded glass in lenses. The framework can be made in heavier sections to form an integral part of building superstructure, enabling large sections of concrete and glass walling to be constructed rapidly. Opening portions and ventilation grilles or louvres can be incorporated.

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It is a window suitable in straight or curved form for almost any purpose, including staircase enclosures, winter gardens and glazed partitions.

Kitchen Fittings

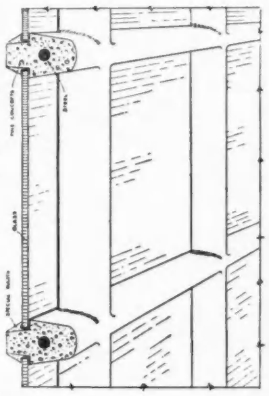
Some of the Exhibition kitchens are equipped with Vono sectional kitchen fitments composed of three standard sections, each approximately 3 ft. 6 in. wide, designed for assembly one above another. The lower section is a fitted cupboard with drawers above, and a linoleum top at table height. The middle section is a shelf unit with several alternative shelf arrangements. The top section is a cupboard, with horizontally sliding leaves of wood or glass.

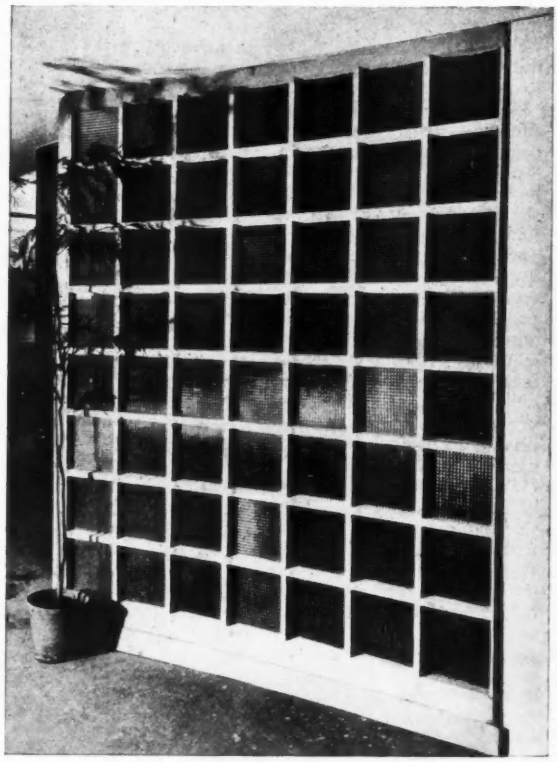
Paving Slabs

The main entrance hall to the Exhibition is paved with Nollite tiles. These tiles are produced as an economical alternative to natural stone for external paving, etc. They have a pleasant colour and textured non-slip surface. Standard colours, sizes, and prices are :—

	9″×9″	12″×12″	2′ 3″×1′ 6″ 1′ 6″×1′ 6″ 1′ 6″×9″ 9″×9″
	1¼″ thick	1½″ thick	2″ thick
Grey Green	4/10	6/–	8/–
Sand Grey (Buff) ..	4/10	6/–	8/–
Brick Red, Shade II..	5/2	6/6	8/6*
Slate (Grey Blue) ..	5/2	6/6	8/6*
Stone (Light Yellow)	5/4	6/8	8/8*
Brick Red, Shade I (deeper colour) ..	5/6	6/10	8/10*

*Made to order only.





Drawing and photograph of a glazed window at the C.I.D. Exhibition. See note on this page.

The following instructions for laying are suggested : The ground surface to receive the tiles must first be made perfectly smooth and well rammed or rolled. A thin layer of sifted soil or sand is then spread over the surface to a depth of ½ in. The tiles are laid in position one by one, and pressed firmly into the soil.

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A space of ½ or ¼ in. is left between each tile. Sifted soil or sand is thrown over the surface and well brushed into the spaces between the tiles. This soil will probably sink slightly after the first shower of rain, when the process should be repeated.

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At the end of two or three weeks no movement will take place in the tiles, and the path or terrace will need no further attention.

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In certain cases the tiles are better bedded in cement.

Plastic Composition Wall Covering

In a bathroom on the first floor, the walls and floor are covered, and the bath panel and curved shower enclosure formed in Linolite plastic composition. The material here has a pleasant buff colour, and presents a jointless surface that is easily cleaned, especially when the wall covering and bath panel are continued with a coved skirting to the floor.

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The material is laid in a plastic state over wood, concrete, stone or metal. The

ingredients are mixed at works, and so "varying mix" and consequent patchy appearance are eliminated. The material is said to possess good insulating properties.

LAW REPORT

THE KENSINGTON IMPROVEMENT ACT

In re Edwardes Square Garden Committee.—Smith and others v. *Mitchell.—Chancery Division. Before Mr. Justice Clauson.*

THIS matter came before the court on an originating summons taken out by Mrs. M. L. F. Smith, Mrs. L. B. Mocatta, and Miss M. R. Brooke, householders in occupation of dwelling houses in Edwardes Square, Kensington, for its construction of Section 43 of the Kensington Improvement Act, 1851 and Sections 1 and 4 of the Sex Disqualification (Removal) Act, 1919. The defendant, Miss Mitchell, was secretary of the Garden Committee.

Section 43 of the Act of 1851 provided for the maintaining and keeping in order and repair of certain squares and gardens, with a committee of male inhabitant householders for the care and management of them, who had power to appoint a sub-committee. One of the squares which came under the Act was Edwardes Square.

Lately certain ladies who lived in the square desired to sit on the garden committee and to be appointed to the sub-committee.

The question that arose was whether the Sex Disqualification (Removal) Act, 1919, applied to this case. That Act provided that a person should not be disqualified by sex or marriage for the exercise of any public function or from being appointed to or holding any civil or judicial office or post.

The Garden Committee were quite willing that women should sit on the committee, as well as male householders, but as the committee had certain duties to perform it had to obtain a decision of the Court.

Mr. Horace Freeman, for the plaintiffs, contended that membership of the garden committee involved the exercise of a "public function" or was a civil office or post within the meaning of the Act, and that the Act of 1919 removed any disqualification that hitherto existed.

Mr. Harold Simmonds submitted that the question was whether the garden committee was exercising a "public function." Apparently the garden was not a public place, admission being limited to the inhabitants of the square and their friends. He contended that the garden was a private one and that it required some stretch of the imagination to call the supervision of a private garden the exercise of a public function.

His lordship held that in the construction of the Act of 1851 and the Act of 1919 women were not disqualified by reason of their sex, from membership of the Edwardes Square Garden Committee. His lordship said that the garden committee was given power to make bye-laws for the proper management of the square. That power had the result that the bye-laws were a legislative authority, and any member of the public who infringed a bye-law committed an offence for which he might appear before a magistrate and be subjected to a penalty. In his view, therefore, the garden committee, thus constituted by statute, exercised a public function. There was an element of publicity that they made bye-laws which would bind members of the public. If he were right in so holding, in his opinion it seemed to necessarily follow by reason of the Sex Disqualification (Removal) Act, 1919, that so much of the Act of 1851, which provided that membership of the garden committee should be confined to male inhabitants, was repealed by the operation of the 1919 Act, and it followed that the provision in the Act of 1851, that only the male sex should sit on the garden committee, had ceased to operate.

SOCIETIES AND INSTITUTIONS

B.B. AND O.A.A. TRAVELLING SCHOLARSHIPS

At a recent meeting of the Council of the Berks., Bucks. and Oxon Architectural Association, the Association's Annual Travelling Studentship for 1934-35 was awarded to Mr. Kenneth A. Stevens, of Oxford.

The Studentship, to the value of £50, is given to enable a senior architectural student to travel for the purposes of widening his knowledge of both ancient and modern architecture.

At the C.I.D. Exhibition.

On stand No. 61 at the Exhibition of Contemporary Industrial Design in the Home, now being held at Dorland Hall, 18, Regent Street, S.W.1, Messrs. M. R. C., Ltd. are exhibiting their system of mechanical remote control applied to the operating of windows, door-locks, ventilators, etc. A brochure illustrating and describing this system is obtainable from the stand at the Exhibition, or from Messrs. M. R. C., Ltd., at 21, Maddox Street, S.W.1. The system consists of a flexible actuating member or cable, which is designed to work freely in a flexible or rigid tubular outer casing. The actuating member is built up on a flexible cable which forms the core, and over this, two or more wires of different diameters are wound so as to leave a projecting thread or helix throughout its whole length. By this means an elongated flexible screw of any desired length is obtained, able to withstand high tensional and compression stresses. Within limits of their cross-sectional strength, the core, it is claimed, will stand any pull put upon it, while the closely and tightly wound overlaid wires virtually form a tube which will resist compression through any push exerted upon it. The action of the actuating member is therefore direct and effective, whether positive or negative in direction.

It is pointed out that "accuracy of diameter can be obtained in manufacture, thus, a good sliding fit in the outer casing is assured, therefore there is no play or loss of motion in operation. At the same time, whether on bends or straight runs frictional resistance is reduced to a minimum. Ease of operation is obtained, not only through the sliding of rounded surfaces forming the helix, but through the helix itself which offers lubricating channels, giving continuous bearing surfaces at short intervals throughout the whole length of the casing in which it moves. The system is also applicable to torsional actuation, in which case, the left and right-handed lays of the wires tightly lapped round the core will give the necessary resistance to the actuating member when in torque. Longitudinal and rotary motions may be combined within one control if desired.

"For actual mechanical translation and means of connections (the latter are made in a variety of forms), the threaded actuating member offers facilities, advantages, and scope. The peculiar novelty of the thread lends itself for engaging with toothed-wheels, quadrants, etc., on the rack-and-pinion principle, or as a rotary worm-drive, at any terminal or intermediate point. It can also be used as a means of providing exact synchronization in multiple controls, or for giving micrometer settings to terminal connections. As a universal form of remote control the tubular system can be placed out of the way, made to follow structural members, and run in that direction which offers the greatest advantages."

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

The following is a list of the general and some of the sub-contractors for Mount Royal, Oxford Street, W., illustrated on pages 631-640 of this issue.

General contractors, Holland & Hannen and Cubitts, Ltd., who were also responsible for the natural stone work, the patent sound-proof ceiling clips and the paint work. Sub-contractors: Willment Brothers, demolition; Redpath Brown & Co., Ltd., structural steel; The Trussed Concrete Steel Co., Ltd., precast concrete floors; Scaffolding, Ltd., tubular steel scaffolding; Basildon Brick Works, red facing bricks; Ames and Finnis, grey facing bricks; London Brick Co. and Forders Ltd., Fletton bricks; D. G. Somerville & Co., Ltd., Durus precast stone; Limmer and Trinidad Lake Asphalt Co., Ltd., asphalt work; F. McNeill & Co., Ltd., Insulcrete, pumice partitions; Art Pavements and Decorations, Ltd., marble works; Fenning & Co., granite work; J. M. Pirie & Co. (London), Ltd., internal ornamental metal work and door furniture; Brown and Tawse, Ltd., general smiths' work; J. Starkie Gardner, Ltd., cornice balustrade; Fredk. Braby & Co., Ltd., steel windows, steel stairs, copper flashing, pressed steel door frames, skirtings, window cills and radiator enclosures; H. H. Martyn & Co., Ltd., slate external cills; Sevenoaks Brick Co., Ltd., white sand lime bricks in court; Plastering, Ltd., plaster work and screeds (Statite patent plaster); Celotex Co., ceiling insulation; Matthew Hall & Co., sanitary engineering; Ashwell and Nesbitt and Young, Austen and Young, heating and ventilation and roof tanks; Automatic Sprinkler Co., sprinklers; Waygood-Otis, Ltd., lifts; Compton Brothers, glass; Malcolm McLeod, granolithic; Diespeker & Co., Ltd., terrazzo; Wallington Jones & Co., Ltd., cork roof insulation; Lamson Store Service Co., Ltd., letter chute; Shutter Contractors, Ltd., fire resisting roller shutters; Carbo Plastering Co., Ltd., external coloured renderings; Guthrie and Wells and John Hall, paint work; Jenson and Nicholson, paint materials; Eric Munday, Ltd., lettering, signs, etc.; The Avon India Rubber Co., Ltd., rubber flooring; Rippers, Ltd., wardrobes, counters, doors and general interior joinery; John Bolding and Sons, Ltd., plumbing fittings; J. A. King & Co., Ltd., pavement lights; Macintosh Cable Co., electric cables; T. F. Firth and Sons, carpets; Falk Stadelmann & Co., Ltd., lighting fixtures and neon signs; Noel Floors, Ltd., wood floorings; H. Holdron, Ltd., linoleum; Amalgamated Hotel Supplies, medicine cabinets; Pressed Steel Co., combined electric stoves and refrigerators; Scottish Caterers, Ltd., restaurant kitchen equipment; D. Macdonald and Bros., furniture—3rd floor and bath stools; W. & T. Lock, Ltd., furniture—5th and 6th floors; Waring and Gillow, Ltd., furniture—remainder and curtains; Pyrene, Ltd., fire extinguishers; Curzon Window Cleaning Co., window cleaner; Wm. Rhodes, Ltd., beds and pillows (Somnus), and blankets; Synchronome, Ltd., clocks; Bective Electrical Co., Ltd., standard lamps; John Brown, Ltd., curtains; Newman Smith and Newman, quilts; L. Lumley & Co., Ltd., soda fountain; Marian Dorn, Ltd., rugs; Fortifex Ltd., rubber mats; L. Sterne & Co., Ltd., kitchen refrigerators; Siemens Electric Lamps and Supplies, Ltd., 7,000 Siemens electric lamps; Aluminium Protection Co., Ltd., oxidized satin-silver finish to aluminium; R.I.W. Protection Products Co., Ltd., waterproofing of walls and anti-staining damp-resisting paint on stone work.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

CITY OF LONDON. *Guildhall Improvements.* The City Lands Committee of the City of London Corporation recommends with reference to the proposed improvement of the offices and buildings at the Guildhall that a general preliminary report, with the necessary plans, be obtained from Sir Giles Gilbert Scott, R.A., at a fee of 1,500 guineas, such fee to be merged in the commission of six per cent. on the cost of the work, if the work is eventually carried out.

HARROW. *Fire Station.* The U.D.C. has appointed Mr. C. W. Richardson, architect, of the firm of Messrs. Swannell and Sly, to prepare plans for the erection of a central fire station in Pinner Road, and instructed the surveyor to seek a site in Stanmore for a sub-fire station.

KEMPTON PARK. *Water Supply.* The Works Committee of the Metropolitan Water Board recommends schemes for extensive works in connection with the future water supply to the metropolis, comprising the construction of two additional reservoirs, with pumping plant, at an estimated cost of £1,319,000, and £1,317,000 respectively, a main from Kempton Park to Cricklewood, continuing to Fortis Green, with the necessary plant at Kempton Park, at a cost of £927,000, and a main from Hampton to Honor Oak and Nunhead, at an estimated cost of £520,000, making a total proposed expenditure of £4,083,000.

LEWISHAM. *Flats, etc.* Plans passed by the B.C.: Flats, Baring Road, Lee, for Messrs. Marshall and Tweedy; flats, Lee Terrace, Blackheath, for Mr. Andrew Mather; flats, Queen's Road, Forest Hill, for Messrs. Bertram Carter and Sloot; shops and petrol filling station, Creeland Grove, Catford, for Messrs. W. R. Hindmarsh & Co.; two houses, Sydenham Park Road, for Messrs. Brett and Son; blocks of dwellings, Honor Oak estate, Brockley, for Messrs. Henry Boot and Sons, Ltd.; two houses, Tredown Road, for Mr. A. L. Parmiter; two houses, Riverview Park, for Mr. S. W. J. Smith.

SURBITON. *Water Tank.* The Works Committee of the Metropolitan Water Board recommends the construction of a covered filtered water tank at the works at an estimated cost of £50,000. This is the first step in the scheme for the proposed remodelling of the whole of the filtration works.

WATFORD. *Aerodrome.* The Corporation is to consider further the question of the provision of a municipal aerodrome.

WATFORD. *Houses and Shops.* Plans passed by Corporation: 30 houses, Briar Road, for Hillingdon Estate Co.; two houses, Bushey Lodge estate, for Mr. G. H. Ryder; six houses, Parkside Drive, for Mr. J. Randall; shop fronts, High Street, for Mr. J. Evett; 12 houses, Third and Fourth Avenue, for Messrs. Withey and Turner; 10 houses, Goodwood Avenue, for Mr. C. J. Hopwood; two houses, Devereux Drive, for Mr. D. Greenhill; six houses, Perivale Gardens, for Mr. E. G. Poole; shop, Eastbury Road, for Messrs. Lawton and Wright.

WESTMINSTER. *Housing Estate Extension.* The Housing Committee of the City Council reports that the L.C.C. has approved, subject to minor points, of the revised plans and estimates for the Ebury Bridge housing estate extension scheme, and that the committee has instructed the architect for the scheme, Mr. A. J. Thomas, to confer with the L.C.C. upon the outstanding points. Mr. Ingram, the clerk of works for the Grosvenor scheme, has been appointed clerk of works for the Ebury extension.

WESTMINSTER. *Flats and Showrooms.* The L.C.C. reports that two offers were received to take on building lease for 99 years, at a rent of £2,712 a year, an area of surplus land, with frontages to Horseferry Road, Dean Bradley Street and Romney Street, and the offer of Auto Auctions, Ltd., to take the site for the erection of a building comprising motor showrooms, etc., on the ground and first floors and flats on the upper floors was considered satisfactory. The company proposes, by arrangement with the owner of the new "Marquis of Granby" public-house, which is situated at the north-east corner of the site, to erect flats over that building also, so as to secure the uniform completion of the whole property.

WOOLWICH. *Garage.* The B.C. is to erect and equip a central garage at Plumstead at a cost of £10,000.

SOUTHERN COUNTIES

EASTBOURNE. *Town Hall Extensions.* The Corporation has asked the Borough Engineer to prepare plans for Town Hall extensions to include police premises and offices for the education department.

FARNHAM. *Houses.* Mr. H. Cossins is to erect 194 houses on an estate off Farnborough Road.

HASTINGS. *Estate Development.* At the request of Mr. F. H. Bishop, the owner of the Park estate off St. Helen's Road, which is being developed as a housing estate, the Highways Committee of the Corporation is to construct roads, footpaths and sewers, etc., as the estate develops.

HERNE BAY. *Station.* The U.D.C. is suggesting the vicinity of Bogshole Bridge as the site for the proposed Southern Railway station.

SOUTH-WESTERN COUNTIES

BRISTOL. *Reconstruction.* The Corporation recommends a revised scheme for the reconstruction of the Colston Hall, at a cost of £34,396.

EXETER. *Flats.* The Corporation is in negotiation for the acquisition of land in No. 4 clearance area for the erection thereon of 22 additional flats.

EXETER. *Isolation Hospital.* The Corporation has under consideration a scheme for extending the isolation hospital.

HEREFORD. *School.* The Education Committee is to purchase a site behind Holy Trinity Church for the erection of a proposed school.

PAIGNTON. *Bandstand, etc.* The U.D.C. has considered alternative schemes prepared by the Surveyor for the provision of a new partly covered band enclosure, and instructed him to prepare detailed plans and estimate for such enclosure, together with a new bandstand, offices, band room, and shelters, etc., on the southern portion of Paignton Green.

MIDLAND COUNTIES

LEICESTER. *Paddling Pool.* The Corporation is to provide a paddling pool, erect a bridge and construct roads in Braunstone Park at a cost of £9,220.

MANSFIELD. *Houses.* The Corporation has obtained sanction to borrow £10,650 for the erection of 34 houses under the clearance scheme.

SEDGLEY. *Housing.* The U.D.C. is in negotiation for the purchase of land at Bird Street for housing purposes.

STOKE-ON-TRENT. *Housing.* The Corporation is to raise a loan of £478,000 for housing purposes.

STOKE-ON-TRENT. *Swimming Baths.* The Corporation is in communication with the Ministry of Health with regard to the proposed new swimming baths in the city.

STOKE-ON-TRENT. *Houses.* The Corporation has obtained sanction to borrow £10,500 for the purchase of land adjoining the Stanfield housing site, Burslem, for the erection of houses.

STOKE-ON-TRENT. *Police Station.* The Corporation has approved plans submitted by the Borough Engineer for the erection of a new police station at Burslem.

STOKE-ON-TRENT. *Libraries.* The Libraries Committee of the Corporation is to formulate a scheme for the improvement of the library facilities throughout the city, and particularly with regard to the proposed provision of a library at Goldenhill.

SUTTON COLDFIELD. *Library.* The Corporation is to consider further the question of the provision of a public free library, including a reference library.

WOLVERHAMPTON. *Housing.* The Corporation has purchased land in Old Heath Road for a rehousing scheme and two acres in Bilston Road, for housing purposes.

NORTHERN COUNTIES

BIRKENHEAD. *Tenements.* The Corporation has approved plans by the Borough Engineer for the erection of four-storey tenements on the Vernon Place site.

BIRKENHEAD. *Schools.* The Education Committee has arranged to reserve sites on the Woodchurch estate for the erection of elementary and secondary schools.

CHESTER. *Swimming Pool.* At the Estates Committee of the Corporation the city engineer submitted preliminary sketches of a proposed swimming pool at the Little Roodee, and, after consideration, the Committee decided to recommend that further consideration of the question of the construction of the pool should be deferred at present.

CHESTER. *News Cinema.* Plans have been submitted to the Watch Committee by Mr. C. W. Fennell, of Sandiway, Cheshire, for the erection of a news cinema at Swan Court, Foregate Street.

CHESTER. *Housing.* The Housing Committee of the Corporation recommends the purchase from Mr. Chas. Lawrence Hall of approximately 3,000 sq. yds. of land at Cliveden Road, for housing purposes.

GRIMSBY. *Post Office.* The Corporation Estates Committee recommends granting a lease to H.M. Office of Works, of a site in Cleethorpes Road, for the erection of a post office.

SHIPLEY. *Schools.* The U.D.C. Education Committee has decided to prepare revised plans for the provision of an open-air school and is to invite tenders for the erection of an elementary school in Baker Street to accommodate about 150 children at an estimated cost of £6,176.

SHIPLEY. *Housing.* The U.D.C. is to acquire about 37 acres at West Royds, New Road, Windhill, for housing purposes.

SHIPLEY. *Houses and Shops.* Plans passed by the U.D.C.: Two houses, Booth Street, for Mr. W. H. Brooks; two houses, Poplar Road, for Messrs. Dobby and Richmond: two houses, Ashfield Avenue, for Mr. E. Dawson; 28 houses, Low Ash estate, for Messrs. Walton Bros.; eight houses, Westfield Grove, for Mr. A. Dickinson; 20 houses, Poplar Avenue, for Messrs. Dale and Wild; shop, Wrose Road, for Mr. E. Bleazard.

SOUTHPORT. *Shops and Houses.* Plans submitted to the Corporation: Five shops, Hoghton Street, for Mr. J. A. Lloyd; four houses, Rathmore Crescent, for Mr. E. R. Crane; showroom, Eastbourne Road, for Builders' Supply Co.; nine shops, Lord Street and Portland Street, for Southport Estates, Ltd.; two houses, Park Road, for Mr. W. J. Poole.

TYNEMOUTH. *Aerodrome.* The Corporation is in negotiation with the Air Ministry regarding the proposal for the establishment of a municipal aerodrome.

WALLSEND. *Houses.* Northern Homes and Estates, Ltd., have submitted lay-out plans to the Corporation for the proposed erection of 88 houses on a site between Tynemouth Road and Archer Street. In connection with the slum clearance programme, the Corporation proposes to clear a number of areas and to erect a total number of 424 new houses for rehousing accommodation.

WARRINGTON. *Housing.* The Corporation is purchasing 28 acres at Alder Lane for housing purposes. Plans passed: 40 houses, Orford Road, etc., for Mr. R. Smith. The Corporation is to invite tenders for the erection of 44 houses on the Thelwall Lane hutment site.

SCOTLAND

GLASGOW. *Houses.* The Corporation has approved plans for the erection of 136 houses at Hillington Park (area No. 1).

GLASGOW. *Shops.* The Corporation has granted an application by Mr. James Meiklejohn for permission to erect shops at Shettleston Road.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A	Aberdeen ..	Scotland	1 6	1 1½
A_1	Abergavenny ..	S. Wales & M.	1 5	1 0½
A_2	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
C	Airdrie ..	Scotland	*1 5½	1 1½
A	Aldeburgh ..	E. Counties	1 1½	10½
B	Altrincham ..	N.W. Counties	1 5½	1 1½
A	Appleby ..	N.W. Counties	1 2	10½
	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
B_2	Aylesbury ..	S. Counties	1 2½	11
B_2	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_3	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham ..	Mid Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth	N.E. Coast	1 5½	1 1½
B_2	Bognor ..	S. Counties	1 3	11½
A	Bolton.. ..	N.W. Counties	1 5½	1 1½
A_2	Boston.. ..	Mid. Counties	1 4	1 0
A	Bournemouth..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_2	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A	Brighton ..	S. Counties	1 4	1 0
A	Bristol.. ..	S.W. Counties	1 5½	1 1½
B_2	Brixham ..	S.W. Counties	1 2½	11
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
A	Burslem ..	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury	N.W. Counties	1 5½	1 1½
A	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE..	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff.. ..	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A	Chelmsford ..	E. Counties	1 4	1 0
A	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester ..	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley ..	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A	Colchester ..	E. Counties	1 4	1 0
A	Colne	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorches ..	S.W. Counties	1 2½	11
A	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A_2	Dumfries ..	Scotland	1 5	1 0½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N E. Coast	1 5½	1 1½
A_2	EASTBOURNE	S. Counties	1 4	1 0
A	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorgan-shire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE	E. Counties	1 4	1 0
A	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S. W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A	Glasgow ..	Scotland	1 6	1 1½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	Gosport ..	S. Counties	1 4½	1 0½
A_2	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln ..	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLES-FIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_2	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middlesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth ..	S. Wales & M.	1 2½	11
	& S. and E. Glamorganshire			
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson.. ..	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid Counties	1 5½	1 1½
A_2	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford.. ..	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth	Scotland	*1 5½	1 1½
A_2	Peterborough	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby.. ..	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	Slough ..	S. Counties	1 4½	1 0½
A_1	Solihull ..	Mid. Counties	1 5	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stirling ..	Scotland	1 6	1 1½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud ..	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist..	N.E. Counties	1 5½	1 1½
A_1	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay ..	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall ..	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick ..	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby ..	Yorkshire	1 4½	1 0½
A	Widnes ..	N.W. Counties	1 5½	1 1½
A	Wigan ..	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor ..	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A	Wycombe ..	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil ..	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 8
Mason (Banker) . . . . . ,,	1 7
,, (Fixer) . . . . . ,,	1 8
Plumber . . . . . ,,	1 7
Painter . . . . . ,,	1 6
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 7
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 3
Timberman	1 3
Navvy . . . . . ,,	1 2½
General Labourer . . . . . ,,	1 2½
Lorryman . . . . . ,,	1 5
Crane Driver . . . . . ,,	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . . per ton	2 2 0
Blue Lias Lime . . . . . ,,	1 16 6
Hydrated Lime . . . . . ,,	3 0 9
Portland Cement, in 4-ton lots (d/d site, including Paper Bags) . ,,	1 18 0
Rapid Hardening Cement, in 4-ton lots (d/d site, including Paper Bags) . ,,	2 4 0
White Portland Cement, in 1-ton lots ,,	8 15 0
Thames Ballast . . . . . per Y.C.	6 3
¾" Crushed Ballast . . . . . ,,	6 9
Building Sand . . . . . ,,	7 3
Washed Sand . . . . . ,,	8 3
2" Broken Brick . . . . . ,,	8 0
¾" ,, ,, ... ,,	10 3
Pan Breeze . . . . . ,,	6 6
Coke Breeze . . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . . per F.R.	0 9	1 1
Bends . . . . each	1 9	2 6
Taper Bends . . ,,	3 6	5 3
Rest Bends . . ,,	4 3	6 3
Single junctions . . ,,	3 6	5 3
Double . . . ,,	4 9	6 6
Straight channels . . per F.R.	1 6	2 6
¼" Channel bends . . each	2 9	4 0
Channel junctions . . ,,	4 6	6 6
Channel tapers . . ,,	2 9	4 0
Yard gullies . . ,,	6 9	8 9
Interceptors . . ,,	16 0	19 6
IRON DRAINS:		
Iron drain pipe . . per F.R.	1 6	2 6
Bends . . . . each	5 0	10 6
Inspection bends . . ,,	9 0	15 0
Single junctions . . ,,	8 9	18 0
Double junctions . . ,,	13 6	30 0
Lead wool . . . lb.	6	—
Gaskin . . . ,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . . Per M.	2 18 0
Grooved do. . . . . ,,	3 0 0
Phorpres bricks . . . . ,,	2 17 3
,, Cellular bricks . . ,,	2 17 3
Stocks, 1st quality . . . ,,	4 11 0
,, 2nd ,, . . . ,,	4 2 6
Blue Bricks, Pressed . . ,,	8 17 6
,, Wirecuts . . ,,	7 17 6
,, Brindles . . ,,	7 0 0
,, Bullnose . . ,,	9 0 0
Red Sand-faced Facings . . ,,	6 18 6
Red Rubbers for Arches . . ,,	12 0 0
Multicoloured Facings . . ,,	7 10 0
Luton Facings . . . ,,	7 10 0
Phorpres White Facings . . ,,	3 17 3
,, Rustic Facings . . ,,	3 12 3
Midhurst White Facings . . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . . ,,	21 0 0
Headers . . . . . ,,	20 10 0
Bullnose . . . . . ,,	27 10 0
Double Stretchers . . . ,,	29 10 0
Double Headers . . . ,,	26 10 0
Glazed Second Quality, *Less* . . ,,	1 0 0
,, Buffs and Creams, *Add* . ,,	2 0 0
,, Other Colours . . ,,	5 10 0
2" Breeze Partition Blocks . . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 10
3" ,, ,, ,, . . ,,	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

The following d/d F.O.R. at Nine Elms:

	s. d.
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 7½
Bath stone . . . . . ,,	2 10
York stone . . . . . ,,	6 6
,, ,, Sawn templates . . ,,	7 6
,, ,, Paving, 2" . . . F.S.	1 8
,, 3" . . . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . . per M.	28 17 6
22" × 12" Marchionesses . . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . . ,,	15 10 0
18" × 9" Ladies . . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, ,, green ,, ,,	24 7 4
Best machine roofing tiles . ,,	4 10 0
Best hand-made do. . . ,,	5 0 0
Hips and valleys . . . each	9½
,, hand-made . . . ,,	10
Nails, compo . . . . lb.	1 4
,, copper . . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . . as 1" F.S.	9
Deal, Joiner's . . . . ,, ,,	5
,, ,, 2nds . . . ,, ,,	4
Mahogany, Honduras . . . ,, ,,	1 3
,, African . . . ,, ,,	1 1
,, Cuban . . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . ,, ,,	4
Teak, Moulmein . . . ,, ,,	1 3
,, Burma . . . ,, ,,	1 2
Walnut, American . . ,, ,,	2 3
,, French . . . ,, ,,	2 3
Whitewood, American . . ,, ,,	1 1
Deal floorings, ¾" . . . Sq.	18 6
,, 1" . . . ,,	1 1 6
,, 1¼" . . . ,,	1 2 0
,, 1½" . . . ,,	1 5 0
,, 1¾" . . . ,,	1 10 0
Deal matchings ¾" . . . ,,	14 0
,, 1" . . . ,,	15 6
,, 1¼" . . . ,,	1 4 0
Rough boarding ¾" . . . ,,	16 0
,, 1" . . . ,,	18 0
,, 1¼" . . . ,,	1 6 0

Plywood, per ft. sup.

—Thickness	¼"	⅜"	½"	¾"
Qualities	AA.A.B.	AA.A.B.	AA.A.B.	AA.A.B.
	d. d. d.	d. d. d.	d. d. d.	d. d. d.
Birch .	4 3 2	5 4 3	7½ 6 4½	8½ 7 6
Alder .	3½ 3 2	5 4 3	6½ 5½ 4½	8 7 6
Gaboon Mahogany	4 3 3	6½ 5½ 4½	9½ 7½ –	1/0½ 10 –
Figured Oak 1 side	8½ 7 –	10 8 –	11½ – –	1/6 – –
Plain Oak . 1 side	6½ 6 –	7½ 7 –	9½ – –	1/– – –
Oregon P.ne	5 4 –	5½ 5 –	6 – –	– – –

	d.
Scotch glue . . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:
(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	¼"	½"	1"	1½"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
,, 3"-11½" long ,,	7	9	1/3	1/8	3/–
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3
,, ,, 3"M-½ long ,,	8	10	1/5	1/11	3/6
Bends . . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . . ,,	1/–	1/3	1/10	2/6	5/1
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/–	2/–
Flanges . . . ,,	9	1/–	1/4	1/9	2/9
Caps . . . . ,,	3½	5	8	1/–	2/–
Backnuts . . . ,,	2	3	5	6	1/1
Iron main cocks . ,,	1/6	2/3	4/2	5/4	11/6
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–

Discounts:

TUBES.	Per cent.		Per cent.
Gas . . .	65	Galvanized gas .	52½
Water . . .	61½	,, water	47½
Steam . . .	57½	,, steam	42½
FITTINGS.			
Gas . . .	57½	Galvanized gas	47½
Water . . .	52½	,, water	42½
Steam . . .	47½	,, steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ¼" . . ,,	8 6
,, ,, ⅜" . . ,,	8 3
,, ,, ½" . . ,,	8 0
,, ,, ⅝" . . ,,	7 6
,, ,, ¾" . . ,,	7 6
,, ,, 1" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1½" . . ,,	7 6
	3" 4"
Cast-iron rain-water pipes of ordinary thickness metal . F.R.	s. d. s. d. 8 10
Shoes . . . . each	2 0 3 0
Anti-splash shoes . . ,,	4 6 8 0
Boots . . . . ,,	3 0 4 0
Bends . . . . ,,	2 7 3 9
,, with access door . ,,	— 6 3
Heads . . . . ,,	4 0 5 0
Swan-necks up to 9" offsets . ,,	3 9 6 0
Plinth bends, 4½" to 6" . ,,	3 9 5 3
Half-round rain-water gutters of ordinary thickness metal . F.R.	5 6
Stop ends . . . . each	6 6
Angles . . . . ,,	1 7 1 11
Obtuse angles . . . ,,	2 0 2 6
Outlets . . . . ,,	1 9 2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . cwt.	18 6
,, drawn pipes . . ,,	17 0
,, soil pipe . . ,,	18 6
,, scrap . . ,,	10 6
Solder, plumbers' . . lb.	9½
,, fine do. . . ,,	1 0
Copper, sheet . . ,,	8½
,, tubes . . ,,	11

L.C.C. soil and waste pipes:	3"	4"	6"
Plain cast . . F.R.	1 0	1 2	2 6
Coated . . ,,	1 1	1 3	2 8
Galvanized . ,,	2 0	2 6	4 6
Holderbats . each	3 10	4 0	4 9
Bends . . ,,	3 9	5 3	10 3
Shoes . . ,,	2 10	4 4	9 6
Heads . . ,,	4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . per ton	2 5 0
Plaster, coarse . . . ,,	2 10 0
,, fine . . . ,,	4 15 0
Hydrated lime . . . ,,	3 0 9
Sirapite . . . . ,,	3 6 9
Keene's cement . . . ,,	5 0 0
Gothite Plaster . . . ,,	3 6 0
Thistle Plaster . . . ,,	3 6 9
Sand, washed . . Y.C.	11 6
Hair . . . . lb.	6
Laths, sawn . . bundle	2 4
,, rent . . ,,	3 9
Lath nails . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft. s. F.S.		2½
,, ,, 26 oz. ,, ,, ,,		3
Flemish, Arctic, Figured (white)* ,,		7
Blazoned glasses . . . ,,		2 6
Reeded; Cross Reeded ,,		11
Cathedral glass, white, double-rolled, plain, hammered, rimpled, waterwite		6½
Crown sheet glass (n/e 12 in. x 10 in.) ,,		2 0
Flashed opals (white and coloured) ,,	1 0 and	2 0
¼" rough cast; rolled plate . ,,		5½
¼" wired cast; wired rolled . ,,		9½
¼" Georgian wired cast. . . ,,		11
¼" Polished plate, n/e 1 ft. . ,,	† 10 to ‡1	1
,, ,, 2 . . ,,	†1 2 ,, ‡1	4
,, ,, 4 . . ,,	†2 3 ,, ‡2	6
,, ,, 8 . . ,,	†2 9 ,, ‡3	2
,, ,, 20 . . ,,	†3 7 ,, ‡4	2
,, ,, 45 . . ,,	†3 11 ,, ‡4	7
,, ,, 100 . . ,,	†5 0 ,, ‡5	7
Vita glass, sheet, n/e 2 ft. . ,,		1 3
,, ,, ,, over 2 . ,,		1 9
,, ,, plate, n/e 2 ft. . ,,		3 0
,, ,, ,, ~ . ,,		5 0
,, ,, ,, 15 . ,,		6 0
,, ,, ,, over 15 . ,,		7 6
"Calorex" sheet 21 oz., and 32 oz. ,,	2 6 and	3 6
,, rough cast ¼" and ½" ,,	8½ ,,	1 0
Putty, linseed oil . . lb.		3

* *Colours*, 1d. *F.S. extra.*
†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s d.
White lead in 1 cwt. casks . . cwt.	2 0 0
Linseed oil . . . . gall.	2 2½
Boiled oil . . . . ,,	2 4½
Turpentine . . . . ,,	4 1½
Patent knotting . . . ,,	14 0
Distemper, washable . . cwt.	2 0 0
,, ordinary . . ,,	2 0 0
Whitening . . . . ,,	4 0
Size, double . . . firkin	3 0
Copal varnish . . . gall.	13 0
Flat varnish . . . ,,	14 0
Outside varnish . . . ,,	16 0
White enamel . . . ,,	1 15 0
Ready mixed paint . . ,,	13 6
Brunswick black . . ,,	7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR

		£	s.	d.
Digging over surface n/e 12" deep and cart away	Y.S.		2	9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.		8	6
" to form basement n/e 5' 0" deep and cart away	"		9	0
" " 10' 0" deep and cart away	"		9	6
" " 15' 0" deep and cart away	"		10	0
If in stiff clay	add			6
If in underpinning	"		4	0
Planking and strutting to sides of excavation	F.S.		1	0
" " to pier holes	"			5
" " to trenches	"			5
" " extra, only if left in	"			3
Hardcore, filled in and rammed	Y.C.		10	0
Portland cement concrete in foundations (6-1)	"	1	6	0
" " (4-2-1)	"	1	12	6
" " underpinning	"	1	16	0
Finishing surface of concrete, spade face	Y.S.			7

DRAINLAYER

		4" s.	d.	6" s.	d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1	6	2	3
Extra, only for bends	Each	2	8	3	9
" junctions	"	3	9	4	6
Gullies and gratings	"	16	6	18	0
Cast iron drains, and laying and jointing	F.R.	4	9	6	9
Extra, only for bends	Each	10	6	15	6

BRICKLAYER

		£	s.	d.
Brickwork, Flettonsi n lime mortar	Per Rod	27	10	0
" " in cement	"	28	15	0
" Stocks in cement	"	35	0	0
" Blues in cement	"	52	0	0
Extra only for circular on plan	"	2	0	0
" backing to masonry	"	1	10	0
" raising on old walls	"	2	0	0
" underpinning	"	5	10	0½
Fair Face and pointing internally	F.S.			1½
Extra over fletton brickwork for picked stock facings and pointing	"			8
" " " red brick facings and pointing	"			11
" " " blue brick facing and pointing	"	1	4	
" " " glazed brick facings and pointing	"		3	6
Tuck pointing	"			7½
Weather pointing in cement	"			3
Slate dampcourse	"			10
Vertical dampcourse	"	1	1	

ASPHALTER

		s.	d.
½" Horizontal dampcourse	Y.S.	4	6
½" Vertical dampcourse	"	6	9
½" paving or flat	"	4	0
1" paving or flat	"	5	6
1" × 6" skirting	F.R.	1	6
Angle fillet	"		2
Rounded angle	"		2
Cesspools	Each	5	0

MASON

		s.	d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17	9
Bath stone and do., all as last	"	13	6
Artificial stone and do.	"	13	0
York stone templates, fixed complete	"	10	6
" thresholds	"	13	6
" sills	"	1	0	6

SLATER AND TILER

		£	s.	d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr.	3	10	0
Do., 18" × 9"	"	3	7	0
Do., 24" × 12"	"	3	17	0
Westmorland slating, laid with diminished courses	"	6	0	0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3	0	0
Do., all as last, but of machine-made tiles	"	2	16	0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	"	4	6	0
" " " " " " (green)	"	4	15	0

CARPENTER AND JOINER

		£	s.	d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2	5	0
Shuttering to sides and soffits of beams	F.S.			8
" to stanchions	"			8
" to staircases	"		1	8
Fir and fixing in wall plates, lintols, etc.	F.C.		3	9
Fir framed in floors	"		4	6
" " roofs	"		6	6
" " trusses	"		7	6
" " partitions	"		8	6
½" deal sawn boarding and fixing to joists	Sqr.	1	14	6
1" " " " "	"	1	17	6
1½" " " " "	"	2	3	0
½" × 2" fir battening for Countess slating	"		9	6
Do. for 4" gauge tiling	"		12	0
Stout feather-edged tilting fillet	F.R.			4½
Patent inodorous felt, 1 ply	Y.S.		2	3
" " " 2 "	"		2	9
" " " 3 "	"		3	3
Stout herringbone strutting to 9" joists	F.R.			10½
1" deal gutter boards and bearers	F.S.		1	2
1½" " " "	"		1	6
2" deal wrought rounded roll	F.R.			8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2	1	0
1¼" do.	"	2	10	0
1½" do.	"	2	17	0
1" deal moulded skirting, fixed on, and including grounds plugge to wall	F.S.		1	6
1¼" do.	"		1	9

CARPENTER AND JOINER—*continued*

		s.	d.
1½" deal moulded sashes of average size	F.S.	1	9½
2" " " " "	"	1	11½
1½" deal cased frames double hung, of 6" × 3" oak sills, 1½" pulley stiles, 1¼" heads, 1" inside and outside linings, ⅝" parting beads, and with brass faced axle pulleys, etc., fixed complete	"	3	7
2" " " " "	"	3	10
Extra only for " moulded horns	Each		6
1½" deal four-panel square, both sides, door	F.S.	2	0
2" " " " "	"	2	8
1½" " but moulded both sides	"	2	4
2" " " " "	"	3	0
4" × 3" deal, rebated and moulded frames	F.R.	1	0
4½" × 3½" " " "	"	1	4
1¼" deal tongued and moulded window board, on and including deal bearers	F.S.	1	9
1¼" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2	6
1½" deal moulded wall strings	"	2	1
1½" " outer strings	"	2	4
Ends of treads and risers housed to string	Each	1	9
3" × 2" deal moulded handrail	F.R.	1	3
1" × 1" deal balusters and housing each end	Each	2	0
1½" × 1½" " " "	"	2	9
3" × 3" deal wrought framed newels	F.R.	1	3
Extra only for newel caps	Each	6	0
Do., pendants	"	6	0

SMITH AND FOUNDER

		£	s.	d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.		15	6
Riveted plate or compound girders, and hoisting and fixing in position	"		19	6
Do. stanchions with riveted caps and bases and do.	"		19	0
Mild steel bar reinforcement, ¼" and up, bent and fixed complete	"		17	6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.			11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1	10	0

PLUMBER

		£	s.	d.
Milled lead and labour in flats	cwt.	1	12	0
Do. in flashings	"	1	15	6
Do. in covering to turrets	"	2	3	0
Do. in soakers	"	1	7	6
Labour to welted edge	F.R.			3½
Open copper nailing	"			3
Close " "	"			4

		½" s.	d.	¾" s.	d.	1" s.	d.	1½" s.	d.	2" s.	d.	4" s.	d.
Lead service pipe and fixing with pipe hooks	F.R.	10		1	0	1	3	2	0	2	10	—	
Do. soil pipe and fixing with cast lead tacks		—		—		—		—		—		5	6
Extra, only to bends	Each	—		—		—		—		2	0	6	9
Do. to stop ends	"	6½		8		9		11		1	0	—	
Boiler screws and unions	"	3	3	3	9	5	0	8	0	—		—	
Lead traps	"	—		—		—		6	3	8	9	—	
Screw down bib valves	"	6	9	9	6	11	0	—		—		—	
Do. stop cocks	"	7	0	9	6	12	6	—		—		—	

		£	s.	d.
4" cast-iron ½-rd. gutter and fixing	F.R.		1	0
Extra, only stop ends	Each		1	0
Do. angles	"		1	6
Do. outlets	"		2	9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.		1	2
Extra, only for shoes	Each		1	3
Do. for plain heads	"		5	6

PLASTERER AND TILING

		s.	d.
Expanded metal lathing, small mesh	Y.S.	2	0
Do. in n/w to beams, stanchions, etc.	"	2	9
Lathing with sawn laths to ceilings	"	1	3
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	"	1	5
Do. vertical	"	1	7
Rough render on walls	"	1	2½
Render, float and set in lime and hair	"	1	9
Render and set in Sirapite	"	1	11
Render, backing in cement and sand, and set in Keene's cement	"	2	9
Extra, only if on lathing	"		4
Keene's cement, angle and arris	F.R.		6
Arris	"		1½
Rounded angle, small	"		3
Plain cornices in plaster, including dubbing out, per 1" girth	"		1½
1" granolithic pavings	Y.S.	3	6
1½" " "	"	4	6
6" × 6" white glazed wall tiling and fixing on prepared screed	"	17	6
9" × 3" " " " "	"	1	2	6
Extra, only for small quadrant angle	F.R.			8

GLAZIER

		s.	d.
21 oz. sheet glass and glazing with putty	F.S.		7½
26 oz. do and do.	"		8½
Flemish, Arctic Figured (white) and glazing with putty	"	1	1
Cathedral glass and do.	"	1	2
Glazing only, British polished plate	"		7
Extra, only if in beads	"		2
Washleather	F.R.		4

PAINTER

		s.	d.
Clearcolle and whiten ceilings	Y.S.		6
Do. and distemper walls	"		9
Do. with washable distemper	"	1	1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	"	3	3
Do. on woodwork	"	3	6
Do. on steelwork	"	3	0
Do. and brush grain and twice varnish	"	5	6
Stain and twice varnish woodwork	"	1	11
Stain and wax-polish woodwork	"	4	6
French polishing	F.S.	1	2
Stripping off old paper	Piece	2	0
Hanging ordinary paper from	"	2	9

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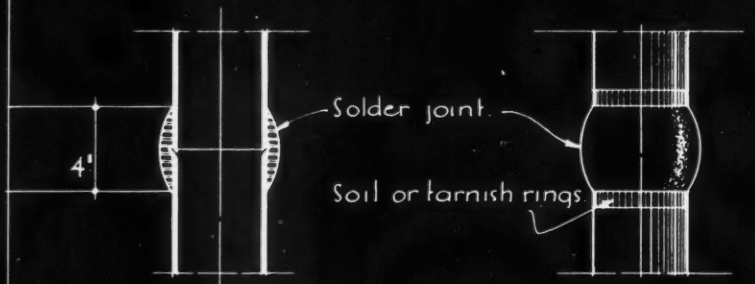
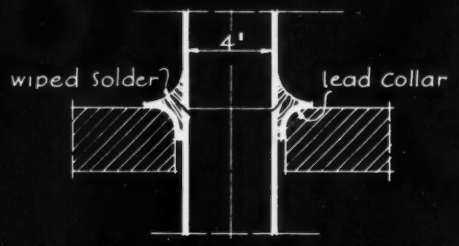
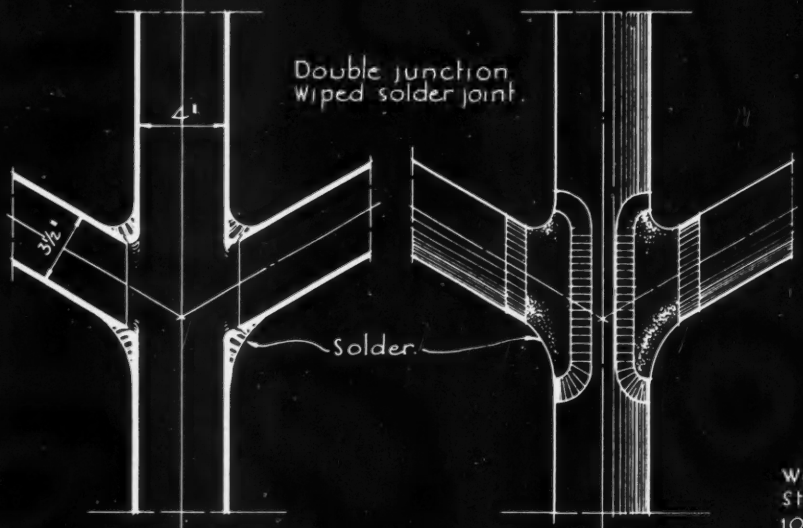
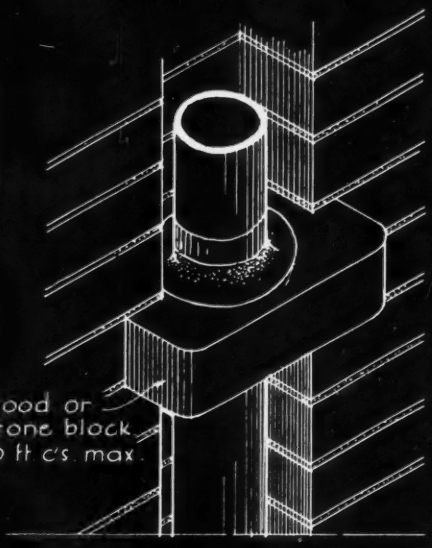
TYPES OF JOINTS FOR LEAD PIPES.



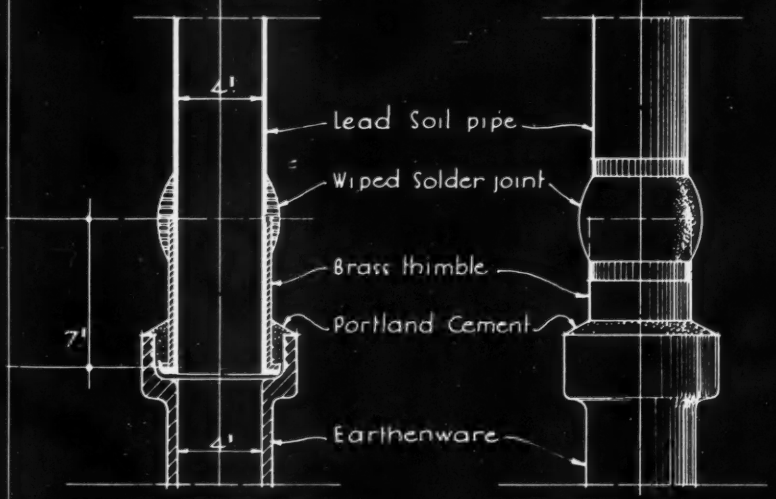


Section & Isometric sketch of block-supporting joints for heavy lead pipes at floor levels, etc.



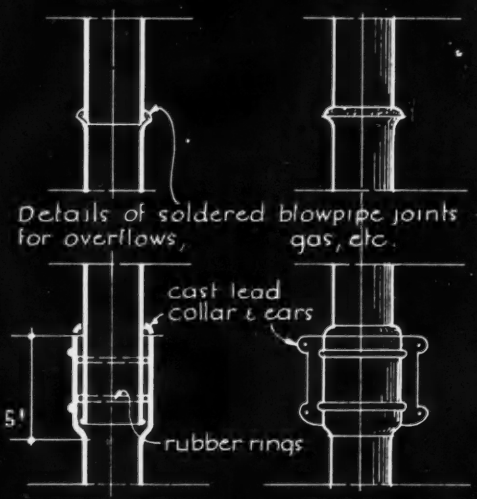


TYPICAL JOINTS & CONNECTIONS TO A LARGE LEAD STACK.



· SECTION · · ELEVATION ·

DETAILS OF STIFFENING AT BASE OF STACK WHEN CONNECTING TO EARTHENWARE DRAINPIPE.



· SECTION · · ELEVATION ·

DETAIL OF RUBBER-RING EXPANSION JOINTS BETWEEN LENGTHS OF LARGE, OR HOT LAVATORY WASTES.

Information from the Lead Sheet & Pipe Development Council.

INFORMATION SHEET: THE USE OF LEAD IN BUILDING CONSTRUCTION 3

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON. WC1

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INFORMATION SHEET
• 157 •
LEAD IN BUILDING CONSTRUCTION

Type of Product : Lead

This is the third of the series of Information Sheets dealing with the uses of Lead in Building Construction. It illustrates some of the more common methods for jointing lead pipes.

Lead pipes transmitting supplies of water under pressure must have joints at least as strong as the pipes ; this is especially necessary for cold water services which, in towns, may be subjected to an internal pressure of 25 to 100 lb. per square inch or more.

It is usual to make all junctions in hot and cold service pipes by "wiped joints." The ends of the pipes for a longitudinal joint are prepared by scraping them clean for a length of at least one diameter from the ends, tapering one pipe and widening and shaping the other to receive it as shown. A ring of black soil is then painted around each pipe to define the extent of the joint and prevent adhesion ; the pieces are then assembled and a coating of semi-molten plumbers' solder wiped around to the required shape with a tallowed moleskin pad. Branch joints may be made in a similar way and may be either at right angles or curved in the direction of the flow. The method of fitting the branch pipe into the continuous one is shown, and consists of cutting a hole in the side of the latter and expanding it to fit the splayed end of the former. When assembled, the angle is coated with solder and wiped to an outline similar to the detail. The extent of the wiping is determined by the soil margins. Especial care should be taken to avoid obstruction at the joints from protruding edges or by inward leakage of the solder.

When lengths of pipe, which will not be subjected to much internal pressure or to considerable stress due to their own weight or to great changes of temperature, are to be connected, the joints can be made by the "taft" or "blowpipe" methods as shown. One end of the pipe is expanded to a bell shape while the other is rasped to fit conically within it. The expanded end is then filled with solder by using a hot copper bit for small pipes or a blowpipe flame for larger joints. This type of joint is suitable only for overflows or gas tubing and the like.

Soil and other lead pipes, 3 in. diameter and over, require, because of their weight, a very solid support, and this is often provided at a joint at floor levels if the piping is internal. A chase is provided in the wall, 9 in. by 4½ in. deep, and at intervals across this chase holed blocks of hardwood or stone 3 in. thick are inserted. The blocks need to be spaced at a little under 5 ft. centres for piping supplied in 10 ft. lengths ; for 12 ft. lengths at a little under 6 ft.

To provide support, the upper edges of the block are rounded and a sheet-lead collar, 1½ in. or 2 in. wide, dressed down upon it. The lower length of pipe is then inserted from below the block and its edges tafted out to prevent withdrawal. The upper length of pipe is then fitted into the expanded end by slightly tapering and, lastly, the joint surface "soiled," scraped clean and wiped to the form shown, leaving narrow soil margins to define the joint. The three pieces of lead at the joint are well united and the solder forms a firm ring of metal to support the pipe upon the block. These joints occur at intervals of 10 ft.—the pipe being fitted with soldered collars on the intermediary blocks to afford adequate support. Alternatively, these latter can be replaced by ordinary soldered tacks.

Lead wastes to lavatory basins, etc., suffer by considerable expansion and contraction of the pipes where quantities of hot water are passed through them. Unless properly fixed, the large changes of temperature so caused rag the joints, cause bulging of the lengths and so disfigure and damage the wastes.

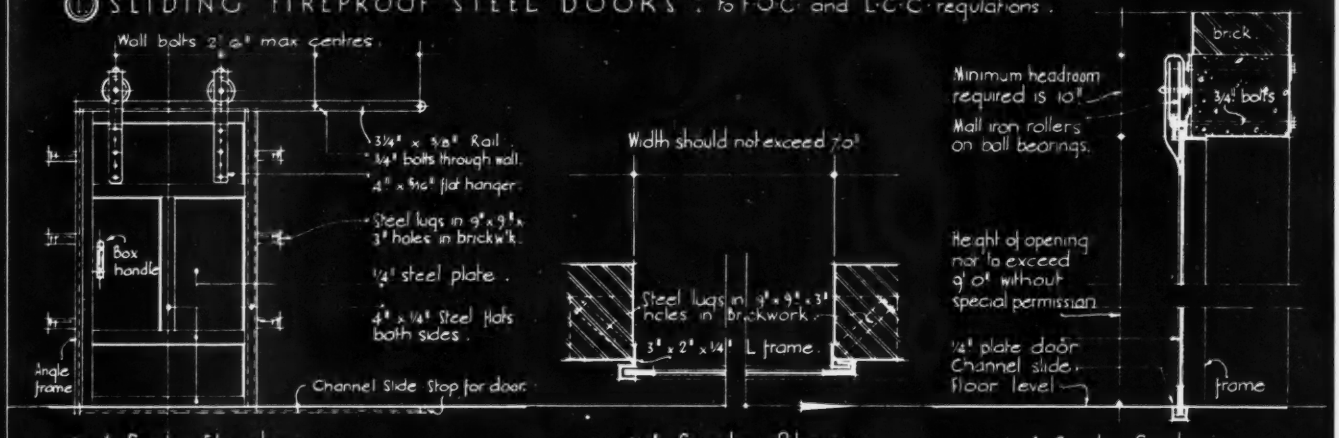
A form of expanding junction for use at the joint is shown. For this purpose, special socketted pipes are required, with strong cast lead ears soldered on. The socket and beaded rings can be prepared by the plumber from the ordinary 12 ft. lengths of pipe, and should be spaced to occur at intervals of 5 ft. 6 in. A clearance of ¼ in. is given within the socket and two pure rubber rings are forced into position as shown, the top end of the socket being loosely closed by a cast lead ring which moves up and down with the pipe as it changes in length. If properly fitted, these joints avoid all buckling of the pipes and their only drawback is the necessity for overhauling and renewal, at intervals, of the perishable rubber rings.

Previous Sheets of this series, Nos. 148 and 149, dealt with the use of sheet lead for flat roofs and parapet gutters.

Source of Information : The Lead Sheet and Pipe Development Council
Address : Golden Cross House, Charing Cross, W.C.2
Telephone : Whitehall 7264

THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION.

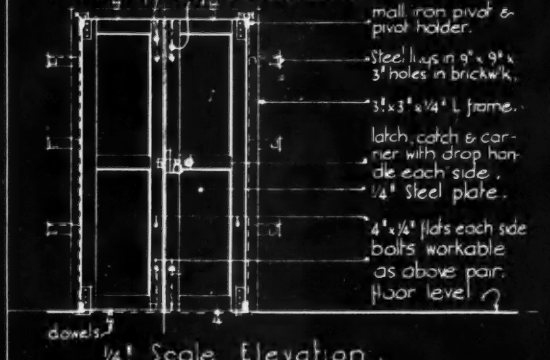
① SLIDING FIREPROOF STEEL DOORS : to F.O.C. and L.C.C. regulations.



¼" Scale Elevation. ½" Scale Plan ½" Scale Section

② HINGED FOLDING DOORS : SINGLE- OR DOUBLE-LEAF :

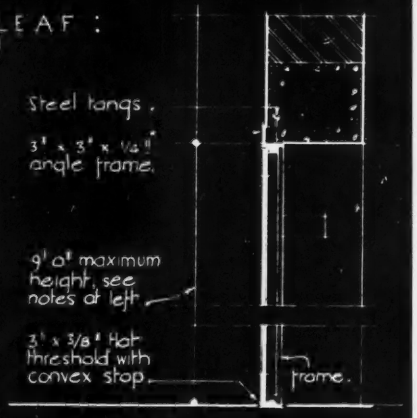
(to F.O.C. and L.C.C. regulations)



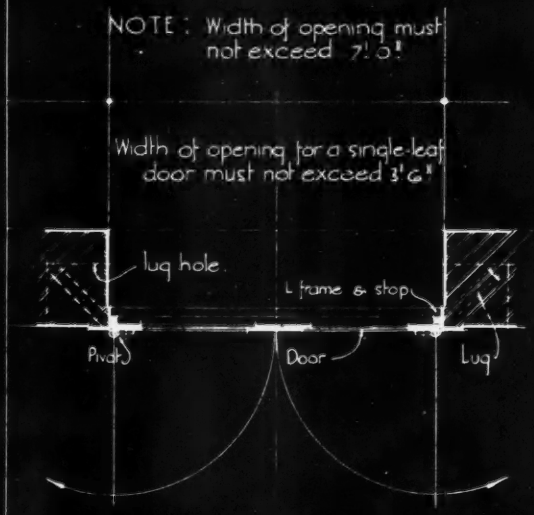
¼" Scale Elevation.

Notes on height, width, etc.

The opening must not exceed 56 superficial feet in area, nor be more than 7 feet in width nor 9 feet in height. The cill, jambs and head must be formed of brick, stone or cement concrete, but the cill may be protected by an iron or steel plate and iron or steel lintols are also allowed provided they be protected by brickwork or by at least 1 inch of cement concrete reinforced with metal.



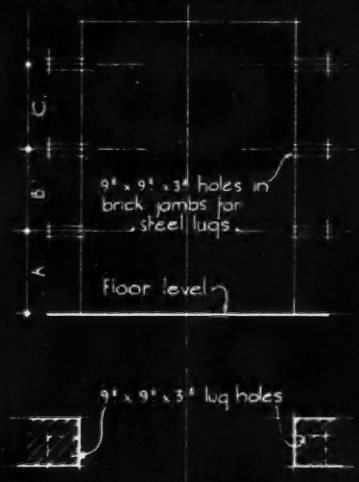
½" Scale Section.



Each leaf has a swing of 180°

½" Scale typical plan of Jambs for both single and double leaf types.

DETAILS OF CUTTING TO BRICKW'K.



Plan & Elevation of brick opening.

TABLE GIVING CENTRES OF LUG HOLES.

Height of opening	A.	B.	C.
6' 0"	2' 0"	1' 6"	1' 6"
6' 3"	2' 0"	1' 9"	1' 6"
6' 6"	2' 0"	1' 9"	1' 9"
6' 9"	2' 0"	2' 0"	1' 9"
7' 0"	2' 0"	2' 0"	2' 0"
7' 3"	2' 0"	2' 3"	2' 0"
7' 6"	2' 0"	2' 3"	2' 3"
7' 9"	2' 0"	2' 6"	2' 3"
8' 0"	2' 0"	2' 6"	2' 6"
8' 3"	2' 6"	2' 6"	2' 3"
8' 6"	2' 6"	2' 6"	2' 6"
8' 9"	2' 0"	2' 0"	2' 0"
9' 0"	2' 0"	2' 0"	2' 0"

Note for heights of 8' 9" & 9' 0" an extra lug hole is required.

Information from John Booth & Sons (Bolton) Ltd.

INFORMATION SHEET: SLIDING & HINGED FIREPROOF STEEL DOORS.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1

THE ARCHITECTS' JOURNAL
LIBRARY OF PLANNED INFORMATION

INFORMATION SHEET

• 158 •

FIREPROOF STEEL DOORS

Type of Product: Fireproof Doors

Fireproof doors should be fitted to both sides of all division wall openings and to one side of all other openings.

If preferred, division wall openings may be protected by a fireproof door on one side and a fireproof rolling shutter on the other as detailed on Information Sheet No. 145.

Openings should not exceed 56 sq. ft., but, where it is absolutely necessary that they should be larger, the F.O.C. are prepared to give special consideration to such openings when fitted with "Sure Shield" steel fireproof doors.

The opening details on the reverse side are also applicable to "Streamline" patent fireproof doors and "Dreadnought" fireproof doors, but for these types the openings must not exceed 45 sq. ft.

Name of Manufacturers: John Booth & Sons (Bolton), Ltd.

Addresses: Hulton Steel Works, Bolton
Telephone: Bolton 1195

Marsden Road Ironworks, Bolton
Telephone: Bolton 2766

London Office: 36 Victoria Street, S.W.1
Telephone: Victoria 7162

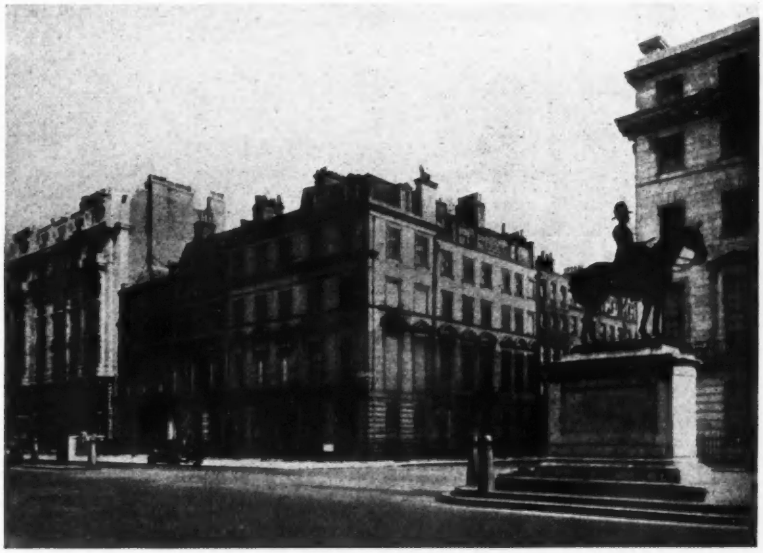
66 PORTLAND PLACE, W.1

1770 SUCCEEDED BY 1934

TODAY, November 8, H.M. the King, accompanied by H.M. the Queen, is officially to open the new R.I.B.A. Headquarters, in Portland Place, W.1.

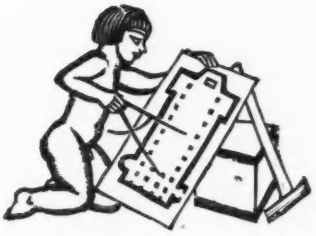
The architect for the building is Mr. G. Grey Wornum, F.R.I.B.A., whose design was placed first in a competition, open to architects in the British Empire, held in 1932. The competition attracted no fewer than 284 designs —64 from overseas architects—and the assessors were Sir Giles Gilbert Scott, R.A., P.R.I.B.A., Dr. Percy Worthington, F.R.I.B.A., and Messrs. Robert Atkinson, F.R.I.B.A., Charles Holden, F.R.I.B.A., and H. V. Lanchester, F.R.I.B.A.

The photographs on this page show : above, a general view of the exterior, and, right, the building, erected about 1770, which previously occupied the site. Further photographs and plans of the new building are given on pages 673-698.



RANK AND FILE

This is not a portrait of the architect of the new R.I.B.A. building, nor of any of the sculptors and decorative designers, nor of the builder, surveyor or engineer. It is a portrait of "Harry," the foreman ganger: one of the people who were on the job all the time, and saw the building grow inch by inch. He represents the backbone of the building trade, being one of the hundreds who have no say in the form the building shall take, but without whom it could never exist at all. Conditions in the industry may change but there is one immutable element—the rank and file—always to be relied on.



NOVEMBER 8, 1934

CENTENARIES are proverbially occasions for official felicitations and legitimate self-congratulation, when, as Sir Giles Gilbert Scott reminds us in his Foreword to the R.I.B.A.'s *Centenary History*, "optimism is in the air." But in the case of the R.I.B.A. optimism is engendered by something more dynamic than professional *esprit de corps*—by the consciousness of a balance of solid constructive accomplishments to its credit. For, as Sir Giles goes on to say, there is nothing which the R.I.B.A. has attempted in the course of the first century of its existence that it has not in time achieved. This, incidentally, would seem to prognosticate yet another ultimate victory for "dogged does it." That little matter of a hierarchy of hoods and gowns for Past-Presidents, Vice-Presidents, Members of Council, Fellows, Associates and Licentiates—which the *History* maliciously hints was prompted by envy of the velvet and white livery worn by the Institute's doorkeeper in the palmy days of the Roaring Forties—has barely been shelved ten years. Before ten more have passed we may have grown accustomed to receiving invitations to 66 Portland Place marked "Academic Dress" opposite R.S.V.P.

Chartered architects can hold up their heads, reassured by the knowledge that the history of the R.I.B.A. is the history of the British Empire in epitome, "muddling through" and all. It is the same old story of illogical compromises proving eminently workable, of expansion through devolution, of loose centrifugal affiliations without statutory definition, of unostentatious acceptance of increasing responsibilities and quiet tenacity of purpose in realizing them. For the first fifty years of its existence the Institute was a purely metropolitan society, exclusive as any other "good" London club. Yet by 1889 it had transformed itself into an active Imperial Parliament of Architects in which every member of the British Commonwealth of Nations is now duly represented. Nineteen allied societies in the Dominions and Crown Colonies (with a membership of close on 5,000) now adhere to it, and another forty-nine in Great Britain and Ireland. But the R.I.B.A. has not selfishly restricted its activities to perfecting machinery for the protection of its own members. It has protected the public by imposing a strict code of professional practice upon them, and requiring a definite standard of professional competence from all candidates for its diplomas by means of obligatory examinations. And finally through its control and co-ordination of architectural education it paved the way for, and then itself initiated and carried through Parliament, the great measure known as the Registration of Architects Act which posterity alone will profit by.

Thus the signal double honour which is being paid to the Institute this month—today's official opening of its new home by the King, and the presence of the Prince of Wales at its Centenary Banquet in the Guildhall a fortnight hence—may be regarded, not only as a royal tribute to its past public services to the peoples of the Empire, but also as a timely reminder to the nation of its paramount responsibility in the great work of rehousing the working classes. For although King Edward VII succeeded Queen Victoria, and King George V his father, as its Patron; this is the first occasion on which the Institute has been privileged to receive the sovereign. The nearest approach to a precedent was when the Prince Consort attended the annual general meeting and distribution of prizes at 16 Lower Grosvenor Street on April 3, 1843. "Transactions" for that year (which are quoted in the new *Centenary History*) inform us that after presiding at a session of the Council tactfully confined to formal business, the Prince conscientiously inspected the Institute's collection of casts and models. After this recreative interlude he resumed the chair while minutes were read, donations announced, and the Institute's foreign secretary communicated letters from honorary correspondents in Paris, Milan and Coblence in their several tongues. The prize-giving began with the award of the Soane Medallion to a Mr. Johnson for "a Princely Palace as Described by Bacon," the relevant passage from the great essayist being gravely declaimed by the other secretary. In spite of the fact that he had spent his whole life in princely palaces, His Royal Highness was not observed to evince any visible signs of professional interest in the subject. Mr. Johnson was succeeded by a Mr. Chamberlain of Leicester, who received the Institute's Medal from the royal hands for what we may be sure was a very stimulating essay on "Are Synchronism and Uniformity of Style Essential to Beauty and Propriety in Architecture?" The proceedings terminated with an arresting paper "On the modes usually adopted in forming foundations in the City of Venice." So far, doubtless to the grievous disappointment of members, the Prince Consort had not been heard to offer a single remark. Even when that inspiring word "propriety" was pronounced, his lips remained sealed. But in response to Sir (then Mr.) Charles Barry's loyal vote of thanks, he replied, not with the expected informative speech on the importance of architectural education, but by the brief *congé* of "Gentlemen, it gives me pleasure to have this opportunity of meeting you"; and therewith abruptly withdrew. Prince Albert never repeated his august visit, but it bore fruit three years later in the gift of an annual Royal Gold Medal, and again two decades subsequently in the bestowal of the coveted prefix "Royal" on the Institute's title.

The Architects' Journal
Westminster, S.W.1
Telephones: Victoria
9212-7
Telegrams:
Buildable
Parl
London

NOTES & TOPICS

THE OPENING

TODAY, at noon, the new building of the Royal Institute of British Architects is to be opened by the King.

*

At noon (in my own thoughts) His Majesty formally closes a volume in the R.I.B.A.'s history, and throws open the next one—at the title page.

*

A well-designed title page is more than an excuse for an attractive lay-out : it is a direct invitation to go further into the subject of the book. I have no doubt that the King will have some illuminating comments to make upon the contents, at least, and possibly upon the first chapter too.

*

Meanwhile THE ARCHITECT'S JOURNAL may well be proud to have its day of publication coincide with an occasion so full of architectural event and significance.

CONCERNING TITLE PAGES

The new building, in itself, may well be regarded as a sort of title page—as possessing that essential, elusive, æsthetic quality which distinguishes between a bad and a good, between an effective and an effete title page. On the title page is no special indication of the nature of the book which is to follow ; but that one page may, by its own acceptability, make the stodgiest book acceptable until the time when the dubious reader agrees to " follow the course," through sheer force of interest.

*

The policy of the R.I.B.A. has been tending towards a greater and greater appreciation of sociological problems ; there has been much less talk of " Architecture " (with so big an A that it would take too much room to print it on the page of a very full number of this JOURNAL) and much more consideration of practical matters such as Housing and Education.

*

While some people (whom I should call the " live " people) have been thus grasping the contemporary situations, others not only regret the present but deplore the prospects which the future holds in store. I can understand and sympathise with both points of view ; but the balance must favour the people who have to go on living in the world, architectural or other, and who have to make such a contribution to clear thought as was never asked or expected of their fathers.

*

And, in that connection, I think that neither side need have much to complain about in Mr. Wornum's building—out or in.

THE CENTENARY HISTORY

Talking of title pages, *The Growth and Work of the Royal Institute of British Architects* is the title of a book which has just found its way into my hands. I am sure that the R.I.B.A. must have had a more amusing life than that which I see depicted in it. I have not read it through and through—indeed I don't think I shall—but it seems to me to be a volume devoted to " history " in the very worst sense of the word.

*

It is all there—Registration, Education, Allied Societies Competitions, Professional Practice—and all treated as histories mostly have been treated ; the facts are almost certainly right, but nobody seems to draw inspiration from them.

*

I wonder when somebody will treat the R.I.B.A. less as an historical fact than as an historical person with an influence on the future? This book is a disappointment because it seems only to look back, and there is scant value in doing that if no message for the future emerges.

*

Only one article seems to be written with some awareness of the future, and that is the one by Mr. Goodhart-Rendel on the " Architecture of the Last Hundred Years." It should have been the first one in the book ; I can't imagine why it comes last, unless the solution to the problem may lie in the editor's stated refusal to accept responsibility for " opinions expressed."

*

It is a pity. However, if only one article looks forward, I suppose the end of the book is the right place for it.

TEN YEARS OF ARCHITECTURE

Following on the R.I.B.A. Conference is to come the Centenary Exhibition, whose title is " International Architecture, 1924-1934." It must have been hard to resist the temptation to make it representative of one hundred instead of ten years ; but I am confident that all is very well because of the sacrifice.

*

The general public will flock to see the new building, which expresses ably enough the present rather than the past. As every one knows, *getting* the public attention is what matters ; once that has been done much haranguing

Institute crockery: two pieces from the dinner service, designed by Messrs. Wedgwood, to be used in the new R.I.B.A. building.

can follow. It would be nauseating if, under such a golden opportunity, the Institute were shown to the world as worshipping the past rather than respecting the present and providing for the future.

*

The Exhibition will consist of photographs and models, and will represent foreign and colonial work as well as that carried out in this country. There will be eight sections treating of Health, Pleasure, Worship, Public Buildings, Housing, Industry and Commerce, Transport and "The Idea of Planning."

*

The whole affair has been thought out to influence the general public, and there should be meat for nearly every one amongst those subjects. The last title interests me particularly, because I observe that it is to show "what an architect does on a large building." If that section alone were given real prominence, and showed the architect as a man definitely trained to think ahead along logical lines, then I should say that the entire Exhibition had gone very far towards ultimate success.

AN OLD ADAGE

"A man," says the old adage, "who is his own architect has a fool for a client."

*

Well, now, what about Mr. Wornum?

*

I can imagine laymen—more, I *know* of laymen—trying to design houses for themselves; they know no better; they have nothing to go on. But imagine an architect taking on the job of building a house for, not *one* other architect (pretty thought) but a complete Institute full of them—and controlled by a committee of them at that.

*

The marvel to me is that Number 66 bears the least resemblance to anything known to man. All the same, I consider that Mr. Wornum has been lucky in his Building Committee. Think what might have happened. He has had the same people to deal with throughout, and their idea has been, as far as was humanly possible, not to "cramp his style." There has been the most laudable and devoted attention to his views and ideas—which leads one to suppose that a man who has an architect for a client has a wise man for an architect—or something like that.

A NEW AMUSEMENT

I have seen advance proofs of the pictorial summary of a hundred years of architecture that appears later in this issue. It struck me as providing an interesting new kind of parlour game; as the box-lids of the games of my childhood used to say, "both amusing and instructive."

*

The identification of photographs of sixty odd assorted buildings is a good test of architectural general knowledge. A large number of them, of course, are unmistakable—everyone knows the British Museum and the Forth Bridge and the Albert Memorial, but I must confess that several had me confused.

*

And if the names of the architects are also required, there is a real opportunity of showing off for the well-informed. I observe that a key to the pictures is printed on another page—convenient for those who confess their ignorance and useful for those who can only shine at after-dinner tests of knowledge by looking it all up beforehand.

BELISHA BEACONS

The middle of London is likely to become a paradise for boys with catapults. Deep as is my respect for Mr. Hore-Belisha as a man who gets something done, I cannot, even in my most optimistic moments, find much to respect about his beacons.

*

Assuming that their presence is going to solve or in some way affect the traffic problem, might they not have been "designed"?

*

I do not ask for the application of ferns in cast iron round the bases of the standards; heaven forbid that I should recommend uniformity with any known London lamp-posts; but surely . . . . ?

*

For whom are these beacons intended? Not for pedestrians, because the law still allows them to cross the street at points remote from "traffic lanes." Nor for the motorist, because to him they either mean nothing at all, or else they install a dangerous certainty that only where bundles of beacons occur are pedestrians to be found on the roadway.

*

The fact is, of course, that the Ministry of Transport by itself will never solve the problem of traffic congestion or of accidents either. The answer to both is to take a really broad view of what is going to happen during the next 100 years and to start catering for it now. (In which connection I am told, by people who know, that the Mersey Tunnel has already proved itself to be barely adequate to *present* needs. It was opened during September.)

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

Competitions: a new competition announced; and the result of another 666

The plans of the proposed new Government Buildings on the Calton site, Edinburgh, have been passed by the Royal Fine Art Commission for Scotland and by the Edinburgh Town Council 666

"It is rumoured that two floors of offices may even yet be added to the present building, but it may be hoped that such a thing will never happen" 669

"In the library there is shelf-space for a 40 per cent. increase without structural alteration" 690

"Æsthetics has its foundation in a mistake made by a German professor, Baumgarten, nearly two centuries ago" 718

R.I.B.A. BUILDING: OPENING CEREMONY

Following is the official announcement of the opening ceremony of the new R.I.B.A. Building, at noon today, November 8:

All guests must be in their seats by 11.30 a.m. Those arriving by car will be permitted to alight at the front entrance in Portland Place up to 11.20 a.m. Those arriving subsequently must alight elsewhere and the police will give information as to the parking of cars. At 11.15 a.m. the Band of the Royal Artillery will render a selection of music until the time of the arrival of Their Majesties.

The Minister in Attendance will be the Right Honourable W. G. A. Ormsby-Gore, P.C., M.P., the First Commissioner of Works.

At 12 noon Their Majesties will arrive at the new building. Their Majesties will be received on arrival at the entrance to the new building by the Lord Mayor of Marylebone and by the President of the R.I.B.A., Sir Giles Gilbert Scott, R.A., who will present to Their Majesties:

Mr. Maurice Everett Webb, D.S.O. (Vice-President, Chairman of the New Building Committee); Mr. Henry Martineau Fletcher, M.A. (Hon. Secretary); Mr. Grey Wornum (the Architect of the Building); and Sir Ian MacAlister, M.A. (Secretary).

Their Majesties will be conducted to the entrance hall, where the President will ask Her Majesty's permission for Miss Brigit Wornum, daughter of the Architect, to present a bouquet of flowers.

Their Majesties will then be conducted to the Dais in the Henry Florence Hall, where the Opening Ceremony will take place.

As Their Majesties enter the Hall, the National Anthem will be played.

The President will read and deliver an address to His Majesty, to which His Majesty will be graciously pleased to reply.

His Majesty will declare the building open.

The President will present to Their Majesties:

Sir Reginald Blomfield, R.A., PP.R.I.B.A.; Mr. J. Alfred Gotch, F.S.A., PP.R.I.B.A.; Mr. Walter Tapper, A.R.A., PP.R.I.B.A.; Sir Banister (Flight) Fletcher, F.S.A., PP.R.I.B.A.; Mr. E. Guy Dawber, A.R.A., PP.R.I.B.A.; Sir Raymond Unwin, PP.R.I.B.A.; Mr. W. H. Ansell, a Vice-President; Mr. John Begg, a Vice-President; Mr. H. S. Goodhart-Rendel, M.A., a Vice-President; Lt.-Col. P. A. HOPKINS, O.B.E., Honorary Treasurer; Mr. Arthur H. Moberly, M.A., Chairman of the Board of Architectural Education; Mr. A. B. Knapp-Fisher, Chairman of the Art Standing Committee; Mr. Martin S. Briggs, Chairman of the Literature Standing Committee; Mr. L. Sylvester Sullivan, Chairman of the Practice Standing Committee; Mr. S. Pointon Taylor, Chairman of the Science Standing Committee; Mr. Robert Atkinson, an Assessor in the Competition; Mr. Charles Holden, an Assessor in the Competition; Mr. Henry Vaughan Lanchester, an Assessor in the Competition; Dr. Percy Worthington, an Assessor in the Competition; Mr. L. Horner, the Contractor; Mr. H. S. Thornton, the Contractor; Mr. R. C. Long, the Clerk of Works; Mr. J. Pile, the General Foreman; Mr. H. W. Bush, the Foreman Mason; Mr. H. Izzard, the Foreman Bricklayer.

Their Majesties will leave the Hall and inspect certain parts of the building.

The President, accompanied by the Chairman of the New Building Committee, the Honorary Secretary and the Architect, will conduct Their Majesties through the Library, the Council Chamber, and the Meeting Room, and in the Library will ask His Majesty graciously to accept a volume of contemporary drawings of the Ball Room, the Supper Room and other apartments in Buckingham Palace designed by Sir James Pennethorne, F.R.I.B.A., in 1852, and a specially bound copy of the Centenary History of the Royal Institute of British Architects.

In the Reference Library the President will invite Their Majesties to sign the Visitors' Book.

Their Majesties will be conducted to the entrance, whence they will take their departure.

As Their Majesties leave the building the National Anthem will be played.

Guests are requested to remain in their seats in the Hall and Meeting Room until after the departure from the building of Their Majesties.

While Their Majesties are inspecting the Library, and other rooms, a selection of music will be rendered by the Band of the Royal Artillery.

After the departure of Their Majesties the guests are invited to inspect the building.

THE ARCHITECTS' DIARY

Thursday, November 8

R.I.B.A. *At 66 Portland Place. Opening of new Headquarters by H.M. the King.* 11.30 *for* 12 *noon*

INCORPORATED INSTITUTE OF BRITISH DECORATORS. *At Painters' Hall, Little Trinity Lane, E.C.4. "Can we do without patterned decoration in the Home?" By Arthur Wilcock, F.I.B.D.* 7.30 *p.m.*

INSTITUTION OF STRUCTURAL ENGINEERS. *At 10 Upper Belgrave Street, S.W.1. "Mortar tests as a guide to the strength of concrete." By Dr. W. H. Glanville and D. A. G. Reid.* 6.30 *p.m.*

ARCHITECTURAL ASSOCIATION. *At 36 Bedford Square, W.C.1. Annual Exhibition of Watercolours, Etchings and other Drawings by Members. Until November 17.*

THE GEFFRYE MUSEUM. *At Kingsland Road, Shoreditch, E.2. "Early Furniture; Materials, Methods and Makers." By E. R. Gribble.* 7.30 *p.m.*

Friday, November 9

SOCIETY OF INDUSTRIAL ARTISTS AND DESIGN AND INDUSTRIES ASSOCIATION. *At the London School of Hygiene and Tropical Medicine, Keppel Street, W.C.1. "Book Illustration and the Influence of Reproduction Processes on Style." By Rowland Hilder.* 8 *p.m.*

Monday, November 12

CHARTERED SURVEYORS' INSTITUTION. *At 12 Great George Street, S.W.1. Presidential Address by Alan Arnold.* 6.30 *p.m.*

Tuesday, November 13

THE ROYAL SANITARY INSTITUTE. *At 90 Buckingham Palace Road, S.W.1. "The Bed-bug as a Housing Problem." Discussion to be opened by A. W. McKenny Hughes, P.I.C., F.R.E.S.* 5.15 *p.m.*

Wednesday, November 14

INSTITUTION OF STRUCTURAL ENGINEERS (*Lancashire and Cheshire Branch*). *At the College of Technology, Manchester. "Piling Foundations." By Gower B. R. Pimm.* 7 *p.m.*

ROYAL SOCIETY OF ARTS. *At John Street, Adelphi, W.C.2. "Furniture Design—Fashions and Essentials." By H. P. Shapland, A.R.I.B.A.* 8 *p.m.*

L.C.C. CENTRAL SCHOOL OF ARTS AND CRAFTS. *At Southampton Row, W.C.1. "Italian Renaissance, 5. Palaces and Churches of Venice." By Sir Banister Fletcher, M.Arch., F.S.A., PP.R.I.B.A.*

KITCHENS

On Monday, November 12, at 20 Regent Street, London, the Marchioness of Reading will open an exhibition of full-size models of working-class kitchens in and around the Metropolis. The exhibits will include a kitchen from the Crown Estate at Cumberland Market, another from Bermondsey, a third from Stepney, a fourth from West Ham.

The exhibition has been organized by the Electrical Association for Women, and will be open until November 20.

STOCKHOLM'S NEW BUILDING CENTRE

Stockholm is the latest city to open a Building Centre based on the example set by the Building Centre in London. The new venture, known as the Byggtjanst, has been organized by the official Architectural Association in Stockholm in conjunction with the Builders' Association, property owners, and various other technical associations who have representatives on the board of directors.

At the opening ceremony, on October 23, Mr. F. R. Yerbury delivered a lecture on the Building Centre in Bond Street, W.1, of which he is the director.

Arrangements have been made for close collaboration between the two Centres in

order to interchange information on market prospects for goods manufactured in either country.

BUILDING INDUSTRIES NATIONAL COUNCIL

The half-yearly meeting of the Building Industries National Council was held at the Chartered Surveyors' Institution on October 31, the chair being taken by Mr. Sydney Tatchell, F.R.I.B.A.

The General Purposes Committee reported that further representative bodies have become attached to the Council since the annual meeting in April, and the bodies now so attached were as follows :—R.I.B.A., Chartered Surveyors' Institution ; National Federation of Building Trades Employers ; National Federation of Building Trades' Operatives ; Building Materials Manufacturers' and Suppliers' Committee ; Reinforced Concrete Association ; British Electrical and Allied Manufacturers' Association ; British Tube Association ; Plate and Sheet Glass Manufacturers' Association ; and the National Gas Council.

HANTS. AND ISLE OF WIGHT ARCHITECTURAL ASSOCIATION

The first general meeting of the session of the Hampshire and Isle of Wight Architectural Association was held last month at Winchester, Lt.-Col. R. F. Gutteridge, F.R.I.B.A. (President), occupied the chair.

In his presidential address Lt.-Col. Gutteridge discussed the panel system. He said that "the way in which the services of a Voluntary Panel of Architects strengthen the position of a planning authority in the event of an appeal to the Minister is not understood so generally as it ought to be. In this connection I would refer to an appeal case in Winchester, in which the evidence of our architects led to the Authority winning the appeal. In a recent case in Andover, where an appeal was threatened, the report of our panel led to the architect concerned revising his scheme so as to remove certain undesirable features, instead of advising his client to proceed with the appeal which he had lodged with the Minister. Again, our 'Voluntary Appeal Panel'—composed of noted architects—from which our local panels can get an independent opinion in cases of necessity upon their reports to local authorities, is another tower of strength to the authorities concerned when appeals to the Minister are threatened."

Other speakers included Alderman J. S. Furley and Messrs. C. Lovett Gill, W. J. Lansdell, H. Collins, Mr. Ingalton Sanders, A. S. Gulliford and M. Widgery.

BUILDING ENGLAND : THE SMALL TOWN

Mr. E. R. Jarrett, A.R.I.B.A., in delivering the third of a series of public lectures on "Building England," at the Architectural Association, on November 3, dealt with "the small town."

The lecturer pointed out that "this age is developing faster than any before, and, unless we take a long view, what we do today may be hopelessly out of date in a few years. But there are many examples of good and well-considered schemes around us, and for a Londoner no better

An earlier landmark : Lord Howard de Walden, owner of the land on which the new R.I.B.A. building stands, is seen laying the foundation stone on June 28, 1933. In the background are Sir Raymond Unwin, Sir Giles Gilbert Scott, Mr. Maurice Webb and Mr. H. Goodhart-Rendel. The stone is now incorporated in the wall of the foyer to the Meeting Room.

exists than Welwyn Garden City, which from the beginning has been designed as a whole. Starting from zero, consideration has been given to contours, aspect and natural amenities ; areas have been devoted to or provided for civic buildings, shopping centres, amusements and outdoor recreation, residential areas, factory sites and workmen's dwellings, and so on. Breadth and elasticity is the keynote, and however much expansion may take place, control and co-ordination will still hold good. It is proof of the high regard in which the town is held that no foreign architect visits London without going to see it, and few come back disappointed or unimpressed. If it impresses them it should cheer us, but we must recognize that we cannot afford to stand still ; we must keep moving, and, above all, we must plan for the future."

THE INCORPORATED INSTITUTE OF BRITISH DECORATORS

The above Institute announces that a travelling scholarship of 100 guineas will be awarded, by competition, in 1935.

Entries must reach the Secretary, Painters' Hall, Little Trinity Lane, E.C., not later than March 30, 1935, and completed work should be delivered at Painters' Hall by December 31, 1935.

Particulars and entry forms are obtainable from the Secretary on application. The winning candidate will also be entitled to the Silver Medal of the Institute, and the Bronze Medal will be awarded to the candidate whose work is, in the opinion of the Council, next in order of merit.

ARCHITECTS' BENEVOLENT SOCIETY

The Architects' Benevolent Society has had the use of office and committee rooms in the old premises of the R.I.B.A. practically since the foundation of the Society, and they have now been allotted two rooms by the Institute as office accommodation in their new building in Portland Place. The use of the rooms is given in addition to the grant which the Institute makes the Society annually, and the Council of the Benevolent Society have asked us to express their keen appreciation of the Institute's generosity and their pleasure in the accommodation which has been given them.

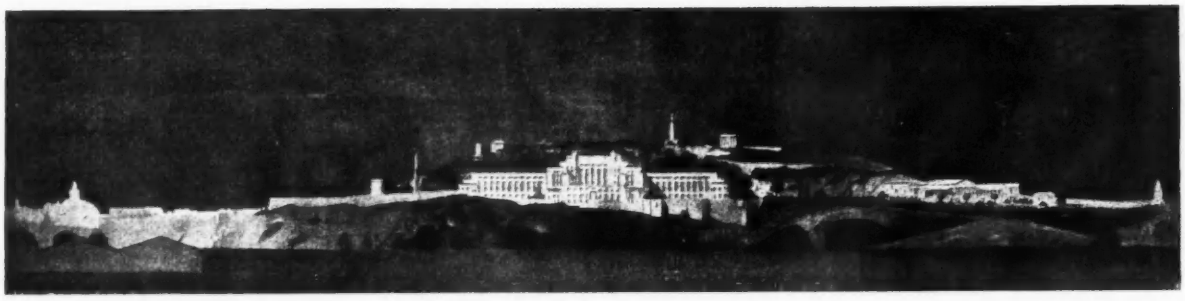
NATIONAL HOUSING AND TOWN PLANNING CONFERENCE

Following is the programme of the National Housing and Town Planning Conference, to be held at Southport on Friday, November 23, to Sunday, November 25.

FRIDAY, NOVEMBER 23.—Meetings at the Floral Hall, Promenade, Southport. Evening session (4.30 p.m. to 7.30 p.m.). Subject : "The Administration of the Town and Country Planning Act, 1932." Papers will be submitted as follows : "The Future Economic Development of Lancashire," by Mr. Hugh Quigley, M.A. ; "The Town Planning of Southport," by Mr. A. E. Jackson, M.INST.C.E., Borough Engineer, Southport. The speakers will include Mr. T. Alwyn Lloyd, F.R.I.B.A., P.P.T.P.I. ; Mr. H. H. Humphries, C.B.E., M.INST.C.E. ; Mr. Frank M. Elgood, C.B.E., F.R.I.B.A. ; and Mr. Thomas Somers, M.INST.C.E.

SATURDAY, NOVEMBER 24.—Meetings at the Floral Hall, Promenade, Southport. The delegates will be welcomed at 10 a.m. by the Mayor of Southport (Councillor A. A. Ashton, J.P.). Papers will be submitted as follows : "The Present Housing Situation in England and Wales and The Progress of the Anti-Slum Campaign and the Main Features of the Housing Act, 1930," by Mr. John G. Martin ; "The Present Position of Housing in Scotland," by Sir William E. Whyte. The speakers will include Alderman Sir Miles E. Mitchell, Councillor Mrs. Jean Mann, Mr. John Atkinson and Mr. Thomas Barron.

MORNING SESSION (10 a.m. to 1 p.m.).—



A sketch of the proposed new Government Buildings on the Calton site, Edinburgh, for which T. S. Tait is the architect. The plans have been passed by the Royal Fine Art Commission for Scotland and by the Edinburgh Town Council.

Subjects: "The General Housing Situation and the Administration of the Housing (Financial Provisions) Act, 1933"; and "The Slum Problem and the Administration of the Housing Act, 1930." AFTERNOON SESSION (2.30 p.m. to 5 p.m.).—Subject: "Overcrowding and the New Housing Bill," by Sir Hilton Young, M.P. (Minister of Health). 5.45 p.m., joint meeting at the Prince of Wales Hotel of the Executive and General Committees of the National Council.

SUNDAY, NOVEMBER 25.—1.30 p.m. to 5 p.m.: Motor coach excursion to the Southport Corporation Housing Estates and to the Liverpool Corporation Housing Estates, Mersey Tunnel, etc. (By kind invitation of the Corporations of Southport and Liverpool.) 5.45 p.m. to 7 p.m.: A lantern lecture on "Housing and Rehousing in Liverpool" will be given at the Prince of Wales Hotel, by Mr. L. H. Keay, O.B.E., F.R.I.B.A., Director of Housing, Liverpool. 8.30 p.m.: Concert at the Prince of Wales Hotel.

IN PARLIAMENT

In the House of Commons last week Mr. McEntee asked the Minister of Health whether he had any information to give the House on the position of slum clearance.

Sir Hilton Young said that at September 30 last, the latest date for which figures were available, the position was that 60,242 houses in clearance areas were included in Clearance or Compulsory Purchase Orders submitted for confirmation or in agreements for purchase. The total number of new dwellings approved for rehousing was 54,994, of which 26,926 had been completed and a further 19,301 were under construction.

In answer to Mr. Mitcheson, Mr. Shakespeare said that the number of houses completed and under construction with State assistance in England and Wales during the six months ended September 20, 1934, was 39,755. The returns relating to the provision of houses without State assistance during the six months were not yet complete, and figures would not be available until about November 20.

Mr. Ormsby-Gore, the First Commissioner of Works, in reply to Mr. Hicks, said that the Government were not yet in a position to reach a decision whether or not to proceed with the building of new Government offices in Whitehall, as the sketch plans were not completed, and some time must necessarily elapse before the various consultations which he undertook to institute could be effected.

Sir Samuel Chapman asked the First Commissioner of Works if he was in a position to make any statement regarding the proposed new Government buildings in Edinburgh.

Mr. Ormsby-Gore said that the Government had decided in principle to proceed with the scheme for the proposed new Government buildings in Edinburgh. The design prepared by Mr. Thomas S. Tait, the architect appointed for the purpose, had been approved by the Royal Fine Art Commission for Scotland, and was about to be submitted to the Edinburgh Corporation for approval, in accordance with the terms of transfer of the site to the Government. He hoped to be in a position shortly to instruct Mr. Tait to proceed with the necessary preliminaries so as to enable building operations to be commenced within the course of the next financial year. (Since the above statement was made by Mr. Ormsby-Gore in the House of Commons, the plans for the Government buildings in Edinburgh have been approved by the Edinburgh Town Council. A drawing of the proposed scheme is reproduced on this page.)

OBITUARY

SIR ALFRED GILBERT, R.A.

We regret to record the death of Sir Alfred Gilbert, R.A., which took place in a London nursing home on November 4.

He was born in London in 1854, and was educated at Aldenham Grammar School, the Royal Academy Schools, and the Ecole des Beaux-Arts in Paris. After three years in Paris he went to Rome. On his return to London, in 1880, Gilbert studied under Edgar Boehm. He was elected A.R.A. in 1887; full R.A. in 1892; and, in 1900, he was appointed Professor of Sculpture at the Royal Academy. Gilbert's best known work is the Shaftesbury Memorial Fountain, surmounted by a figure of Eros, in Piccadilly Circus.

Gilbert designed the fountain, for which he received between £3,000 and £4,000, with playing, interlacing jets of water flowing over its surfaces, but this, to his great disappointment, was found to be impracticable.

Disappointment over the fountain, including financial loss—it is said that he spent about £7,000 on the work—was, it is believed, mainly responsible for his resignation from the Royal Academy in 1908, his abandonment of commissions, actual and impending, and his retirement to Bruges.

In 1926, Gilbert was asked by the King to return to London in order to complete the Duke of Clarence Memorial at Windsor. In the same year he was awarded the gold medal of the Royal Society of British Sculptors, and also executed the memorial to Queen Alexandra, which occupies a recess in Marlborough House. Shortly after the King conferred upon Gilbert the honour of knighthood; and, at the same period, he accepted the invitation of the General Assembly of Academicians to resume the membership which he had resigned in 1908.

SIR ROBERT MCALPINE

We regret to announce the death of Sir Robert McAlpine, Bt., at his home at Oxshott, Surrey, on Saturday, November 3. He was 87 years old, and was the founder and head of Sir Robert McAlpine and Sons.

Born at Newarthill, Lanarkshire, on February 13, 1847, he was left an orphan at the age of three, and his successful business was the result entirely of his own enterprise and determination. He worked first as a bricklayer, but became a contractor on his own account in Glasgow at the age of twenty. By the time he was 27 he had built and owned almost the whole of Burnbank, now part of the town of Hamilton. Soon the business developed into railway and factory construction, in which reinforced concrete and the McAlpine system of tunnelling in ferro-concrete segments were widely used. Among the contracts carried out by the firm are the Wembley Exhibition and Empire Stadium, the Singer works at Glasgow and elsewhere, British Dyes, Ltd., Huddersfield, the Spondon factories and housing schemes for the British Cellulose Co., Takoradi harbour and railway terminus in Africa, Tilbury Docks and the Dorchester Hotel.

COMPETITION NEWS

WORKING CLASS FLATS

The Cement Marketing Company propose to hold an open competition with the object of securing designs of five-storey blocks of working-men's flats suitable for construction

in reinforced concrete. Three premiums of £300, £200 and £100 are offered, and the assessors are Messrs. Joseph Emberton, F.R.I.B.A., Burnard Geen, M.INST.C.E. and L. H. Keay, O.B.E., F.R.I.B.A.

The competitors are provided with a site of an area of approximately 4 acres, and will be required to lay out upon it the necessary buildings (the density of the flats not to exceed 50 per net acre), playgrounds and open spaces for recreative purposes. In addition to the site plan, detail drawings of one block are to be submitted, and also a perspective sketch.

The designs, state the promoters, will be judged from the engineering standpoint as well as from the architectural, with due regard to practicability, fire resistance, acoustics and durability, and, to encourage collaboration between the architectural and engineering professions, joint entries from architects and engineers are invited.

The competition closes on January 19, 1935.

Copies of the conditions will be forwarded on application to the Publicity Department, the Cement Marketing Co., Portland House House, Tothill Street, S.W.1.

Competition Result

As we go to press we learn that Mr. E. Berry Webber, F.R.I.B.A., the assessor in the competition for a proposed Civic Centre, Tunbridge Wells, has made his award as follows :—

DESIGN PLACED FIRST (£300) : Messrs. Percy Thomas, O.B.E., F.R.I.B.A., of 6 and 7 St. John's Street, Cardiff ; and Ernest Prestwich, M.A., F.R.I.B.A., of Bradshawgate Chambers, Leigh, Lancs.

DESIGN PLACED SECOND (£200) : Mr. D. Carr and W. F. Howard, AA.R.I.B.A., of 55 Millbank, Westminster, S.W.1.

DESIGN PLACED THIRD (£100) : Messrs. C. Clare Nauheim, B.A., and W. Naseby Adams, A.R.I.B.A., of 28 Albemarle Street, W.1.

DESIGN PLACED FOURTH (£75) : Mr. H. T. Wright, F.R.I.B.A., of 66 Northumberland Street, Newcastle-on-Tyne.

Competitions Open

Dec. 22.—Proposed Public Offices, Bridge Road, Welwyn Garden City, for the Welwyn Garden City U.D.C. (open to architects of British nationality). Assessor : C. H. James, F.R.I.B.A. Premiums : £75, £35 and £25, for designs placed first, second and third, respectively. Conditions, etc., obtainable from B. H. Deamer, Clerk to the Council, Council Offices, Bridge Road, Welwyn Garden City (deposit £1 1s.).

April 30, 1935.—The Croydon Corporation invite the submission of designs for laying out an area in Central Croydon which is to provide an extension of the Civic Centre of the Borough and to improve central means of communication. Assessor : Dr. Thomas Adams, F.R.I.B.A., F.S.I., M.T.I. Premiums : £500 for the design placed first ; £350 to be divided (in proportions to be determined by the Assessor) for not more than three designs placed next in order of merit. A copy of the conditions is obtainable on application to the Town Clerk, Town Hall, Croydon (deposit of one guinea). Designs are to be submitted not alter than April 30, 1935.

LETTERS FROM READERS

J. CHRISTOPHER HEAL
HOWARD ROBERTSON, F.R.I.B.A.
G. T.
THE WATCHER
A. SEYMOUR REEVES (Secretary, the Association of Architects, Surveyors and Technical Assistants)
SIR GILES GILBERT SCOTT, R.A., P.R.I.B.A., A. B. KNAPP-FISHER, F.R.I.B.A., AND S. POINTON TAYLOR, F.R.I.B.A.
C. W. GLOVER AND PARTNERS
ARTHUR WELFORD, A.R.I.B.A.

Dorland Hall

SIR,—May I congratulate you on your article on the Dorland Hall affair, which mentioned one or two of the Exhibition's shortcomings. The Exhibition grieved me from the moment when, entering, I was confronted by the hindquarters of a horse more than life size (a good horse incidentally, but the dangerous end) till I fled from the five cocktail " cautions " on the second floor. There are many good things there, but one is more conscious of the diseased portion than of the healthy parts of any body.

Great harm may be done by this Exhibition to the cause of industrial design, especially as it is organised from within the ranks. It shows, alas, that (as in politics) as soon as a left-wing party attains to any power it becomes indistinguishable from the right.

J. CHRISTOPHER HEAL
Beaconsfield

SIR,—I note a criticism of the floor covering of the bathroom which I designed for the Dorland Hall Exhibition by Mr. A. E. Frost, in which he states that the floor covering, which is in black linoleum with a single centre white spot, is impractical, as evidenced from the markings of numerous visitors to the stand.

I feel justified in mentioning that the bathroom of this type in a private house is not subjected to traffic by hundreds of dirty boots, and that black, and even white, linoleum has been used by me with success as a bathroom floor covering on several occasions.

HOWARD ROBERTSON
London

The R.I.B.A. and Planning for the Future

SIR,—" Crying for the moon " is properly the sport of babes. Are you not in danger of usurping the infants' prerogatives in wanting " to establish the building industry, and therefore the architectural profession, on a planned basis " ? Surely you will not suggest that this can be done without governmental control of industrial production. Even the production of children must be controlled before we can organize on a " planned " basis. With the Sedition Bill still a possibility, I fear you are taking grave risks in embarking on a policy of advocating a kind of U.S.S.G.B.

Without wishing to throw the wet blanket which you mention over the only suggestion that one can get from your somewhat vague words, I would submit that your attempt to incite the R.I.B.A. to political-economic activity is doomed to failure. I am not sure whether this is a criticism of you or the R.I.B.A.

G. T.
London

SIR,—As you so acutely observe in your editorial column last week, the past hundred years have been a period of remarkable change. No less remarkable is the picture of a highly respectable body of architects living on " the dignity of aristocratic assurance," but, getting a little tired of it, descending to the " rootless extravagance of commercial success."

But " the wheel has turned full circle" and we are back again, about to live once more on the aristocratic stuff, and besides we have " cast off the irresponsible dictatorship of wealth."

Nevertheless, we still have our awkward little problems, that, for instance, of " trying our best to survive under conditions of absolute chaos."

So we must " organize the future," " accept responsibilities," " plan adequately," " establish the architectural profession on a planned basis."

Now what does all this mean ? To organize for the future there must be a scheme, a plan if you like, and for that there must be control. Lacking control all these planning notions are so much vapour.

How can the R.I.B.A. become the " administrator of a national service " so long as we have a host of individual architects in one big dog fight, snatching jobs for this and that wherever they can be had under this mad individualist competitive economic system in which anyone who gets the whim and has the money does his own odd spot of building.

Tell us that, and your editorial may be to some purpose. Is the measure of your eloquence the measure also of your ideas ?

May I, in conclusion, suggest a small but eloquent committee which could devote itself to visualizing, organizing,

rationalizing and planning the p oblems of economic depression ?

THE WATCHER
London

Salaries of Registered Architects

SIR,—I shall be glad if you will allow me to draw attention to a recent advertisement in the Press which stated that the Bedfordshire County Council desired the temporary services of a Registered Architect at a salary of £250 p.a.

A letter has been sent to the Clerk of the Council referred to, pointing out that the salary offered is not in accordance with the qualification, and requesting reconsideration. It is understood that the matter is receiving attention.

Unless inadequate salaries for qualified architects are to be accepted without hesitation (which will mean a persistent decline in the standard of remuneration), it behoves all architects in salaried employment to realize the need for unity.—Yours, etc.,

A. SEYMOUR REEVES
Secretary, A.A.S.T.A.

Multiple Storey Flats: Balconies for Infants

SIR,—The importance of including at least a small private balcony to working-class and middle-class flats, large enough to take a cot for infants up to two years, has been brought to the notice of the R.I.B.A.

After careful consideration it was felt that the matter was one of first importance to architects and others who are responsible for the planning of such flats. Moreover, it was felt that it was the duty of the profession, without whose co-operation little could be done, to call attention to the matter, supported by medical opinion.

With this in view both medical and architectural evidence was sought, and the following memorandum was prepared and submitted to the Minister of Health who suggests that its publication may be the best means of bringing the matter before those concerned.

The subject divides itself broadly into three headings, viz :—

1. The medical and health aspect.
2. The economic aspect.
3. Planning and construction.

1. *The Medical and Health Aspect.*

The baby is essentially an out-of-door creature. It is important that it should start an out-of-door life at once to fit it for a partially indoor life.

The critical years are from birth to two years. Fresh air is one of the first and essential preventives against colds, bronchitis, pneumonia, tuberculosis, rickets, etc. Rickets is a disease which occurs in the first two years of life and its prevention is rendered more difficult in flats without balcony accommodation. A flat without a private balcony is considered by some as incomplete as a flat without a bathroom.

A small private balcony large enough to take a basket or cradle within easy reach of the mother is what is wanted as a minimum.

Quiet is necessary.

The roof and ground are of little or no use if the baby is out of sight and the mother worried. The mother must be in reach of the baby and able to see it if possible.

The south is the best aspect, but east or west and even north nearly as good.

Direct sunlight is not essential and is sometimes too strong. Reflected skylight is as good.

High solid balconies are not desirable. Open wrought iron balconies on a small plinth are best. There need be no fear from draught.

Some protection from cats and inclement weather is needed.

Noisy common approach or connecting balconies are not desirable for the purpose, and even a family balcony does not give the same quiet.

A recessed balcony does not meet the case as a projecting balcony does, as there is not the same direct sky reflection.

2. *Economic Aspect.*

There is ample evidence to show that the provision of a small private balcony is quite feasible even in the lowest priced flats and that it would be true to say that its inclusion adds only negligibly to the cost.

The cheapest form of balcony is one that can be provided as a complete unit in cheap materials, and reinforced concrete for floor and curb is generally considered the most economic material for the purpose.

3. *Planning and Construction.*

There is no real difficulty here.

The chief problems in connection with such buildings are access, overshadowing, safety, aspect, cleansing.

The committee investigating the matter were unanimously of the opinion that as a minimum a projecting balcony, of a size sufficient to take a cot, was an essential part of the accommodation of a dwelling flat.

It was realized that while most competent architects and many housing authorities were alive to the needs of such balconies and were including them in the schemes under their supervision there was evidence to show that little or no attention was being paid to the question in many quarters.

The fact that some mothers do not and would not use such balconies for the purpose was not considered to be an argument against them.

Opinion was voiced that attempts to check preventable diseases during the first two years of a child's life would be rendered extremely difficult if the majority of babies were to be left indoors for hours together in the flats which are likely to be erected all over the country during the next few years ; and that, alternatively, the provision of such balconies, if properly used, must and would have a great beneficial effect on the health of future generations.

GILES GILBERT SCOTT
(President, R.I.B.A.)
A. B. KNAPP-FISHER
(Chairman, Art Standing Committee, R.I.B.A.)
S. POINTON TAYLOR
(Chairman, Science Standing Committee, R.I.B.A.)

Standardized Information

SIR,—May we, through the medium of your columns, make an earnest plea for the standardisation of technical and commercial data circulated by manufacturers and merchants. We are quite sure that architects and contractors would welcome such an arrangement.

The high proportion of circulars which at present finds its way direct into the wastepaper-basket would be materially reduced were manufacturers, in their own interests, to agree to some standard size for pamphlets, brochures, catalogues, etc.

It is no exaggeration to state that 30 per cent. of the mail one receives contains such a heterogeneous collection of papers of all sizes as almost to defy the most conscientious endeavours to file them away conveniently for reference.

C. W. GLOVER AND PARTNERS
London.

Economics and the Architect

SIR,—If you will allow me to do so, I would like to say " Thank you " for publishing the correspondence on the subject of money which has been appearing in the JOURNAL for some months past. It is with regret that I see that it is now ended, or so it appears, because it was reaching a very interesting stage.

I have been reading *English Journey*, by J. B. Priestley. Chapter 2, page 36 and onward, gives a description of the town of Swindon. I suppose this town is a fair sample of what fifty years or so of industry under the existing monetary monopoly can do. Priestley's description shows the inhumanity of it, but hints at the possibilities latent in it. He is right, but does not appear to hold the key which would open out those possibilities. C. H. Douglas, an engineer who would appreciate fully what Priestley writes, has found the key. One would like to see the JOURNAL writing more about his system of financing the plenty with which we are being suffocated rather than fed.

ARTHUR WELFORD
Saxmundham

THE R.I.B.A. BUILDING

AN APPRECIATION OF

THE EXTERIOR

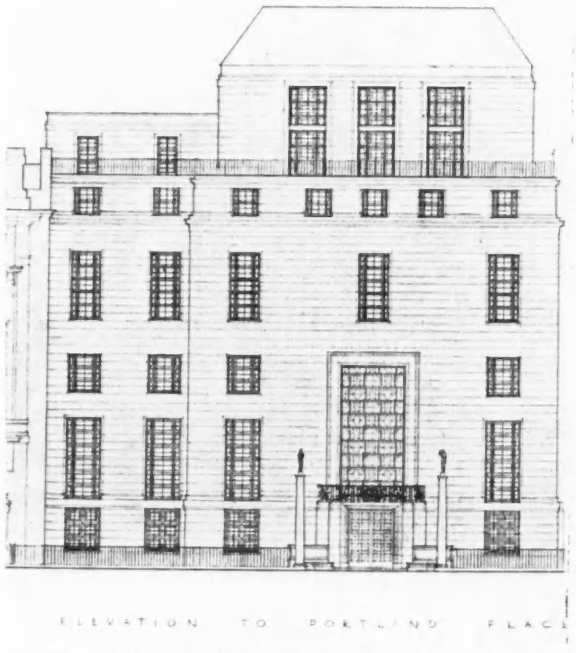
[*By A. TRYSTAN EDWARDS, A.R.I.B.A.*]

MR. GREY WORNUM has made certain important changes in his design since the date of the competition. The R.I.B.A. decided to reduce the cost of the building, but the two principal alterations which were made with this object of economy, so far from being injurious to the design, have fortunately resulted in greater compactness and unity. It has been found that by confining the site of the building to No. 66 Portland Place only, without including Nos. 67-68, as was originally intended, the external appearance of the building has not been in the least sacrificed, while the other change in the "programme," the omission of the floors of offices which were to surmount the building is an unmixed blessing. Those who entered for the competition still remember how harassing and how seemingly impossible was the task of incorporating these office storeys in a building which was supposed to give peculiar expression to the dignity of the R.I.B.A. itself. It is rumoured that two floors of offices may even yet be added to the present building, but it may be hoped that such a thing will never happen. It would be derogatory to the status of the Institute to become a proprietor of office premises, which would be an extraneous element within its own building. Surely it is not so poor that it must earn a little extra income in this manner?

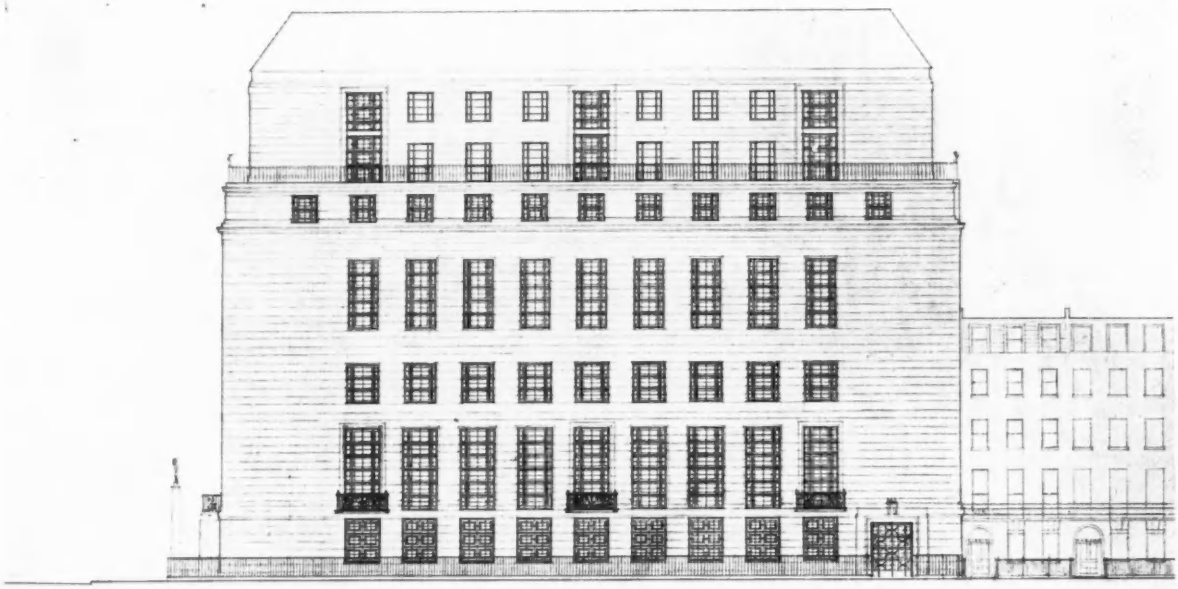
Other institutions may, if they are so minded, have storeys of flats above them, a billiard hall on the top floor and a cinema in the basement, but let it not be said that the R.I.B.A. lent its authority even in the slightest degree to this nefarious modern practice of erecting *composite* buildings. For it is a matter of vital importance to the logical and, indeed, the artistic development of civic architecture that as far as possible, the functions of building should be separate and easily definable. The average citizen, "the man in the street," should be able to recognize their various purposes, and thus acquire an intelligent interest in the architectural expression of the various functions, and in their harmonious interrelationship within the unit of the city. So let the R.I.B.A. building remain exactly as it is without storeys of offices above it.

After this digression (not entirely unnecessary) I may return to the subject of the plan. A comparison between the competition design and the one finally adopted shows that the essential quality by virtue of which the scheme was awarded first place in the competition has been retained; this is notable in the screen of glass in front of the assembly hall, which gives to the interior its aspect of transparency and delightful spaciousness.

Let us consider the exterior of the building, for this is what ultimately determines its status in the eyes of the public. I believe Mr. Grey Wornum's design is a work of genius. Its major virtues are obviously impressive, yet the task of analysing them is not altogether easy. In attempting to do so, one cannot do better than apply well-established critical standards. Is the building functional? And here I would make a distinction between the sense of this word as generally used by the modernist and the more comprehensive meaning which ought to be attached to it. To the modernist a building has already earned its title to be called functional when it adequately *performs* its function. But something more is demanded of a building if it is to rank as architecture—it must *express* its function, and for this an element of symbolism is usually required, because it has been found that the mere performance of function does not completely express function in its social aspect. If I am arrested by a policeman, the act may be quite efficiently performed, but I do not recognize its validity unless the policeman is in uniform. If the "functionalists" would go more often to the art of dress for their arguments and learn from the subtle social implications of this art rather than prostrate themselves before the engineers, they would have a better understanding of the true meaning of function. The first question I ask of the R.I.B.A. building is: has it an appropriate uniform; is it dressed up to look like the headquarters of a learned and professional society? That it is functional in the crude modernist sense I am prepared



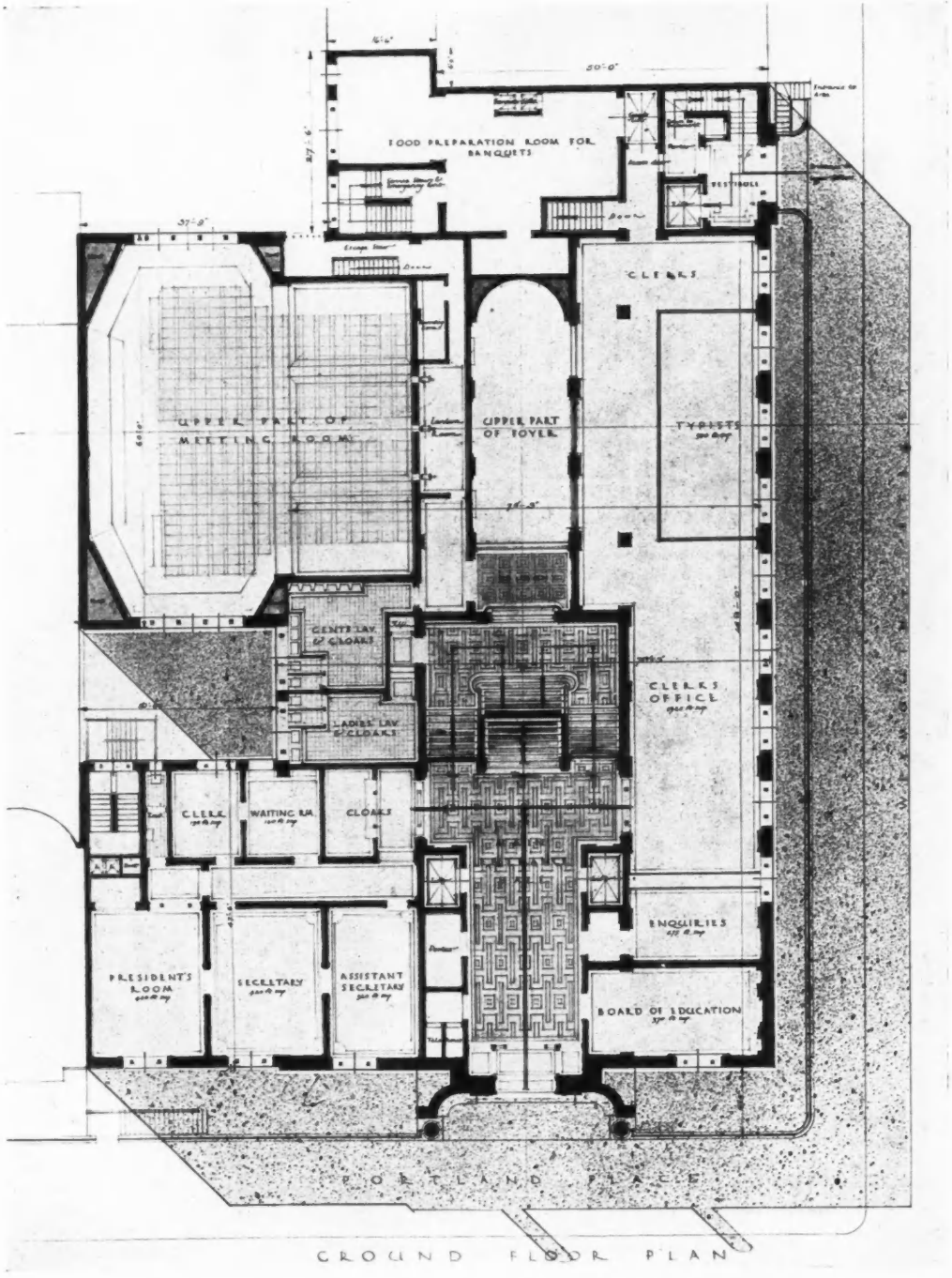
The main (Portland Place) elevation of G. Grey Wornum's original design in the R.I.B.A. Competition.



ELEVATION TO WEYMOUTH STREET

LONG SECTION THROUGH CENTRE

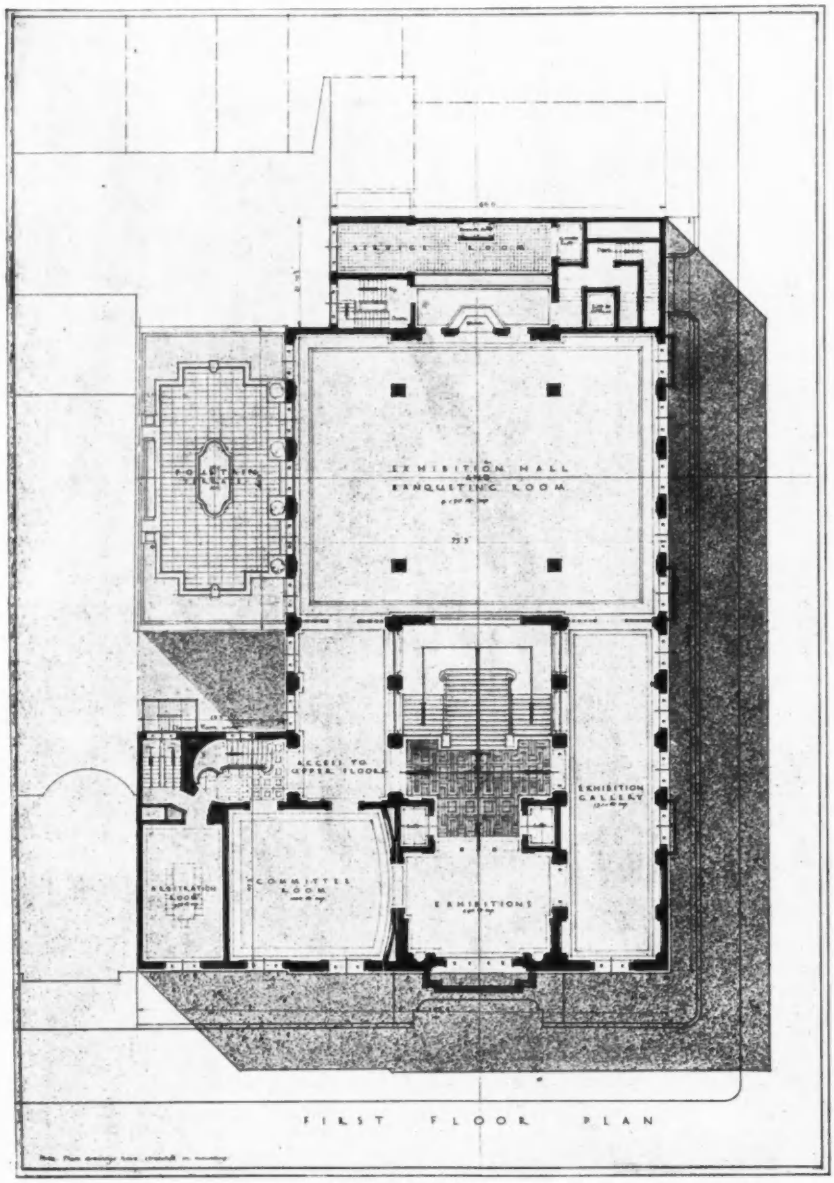
Elevation to Weymouth Street and longitudinal section of G. Grey Wornum's winning design in the R.I.B.A. Competition. The author of the accompanying article points out that "One of the changes from the original design is the omission of the floors of offices which were to surmount the building. Those who entered for the competition still remember how harassing and how seemingly impossible was the task of incorporating these office storeys in a building which was supposed to give peculiar expression to the dignity of the R.I.B.A. itself. It is rumoured that two floors of offices may even yet be added to the present building, but it may be hoped that such a thing will never happen."



Ground floor plan of G. Grey Wornum's original design in the R.I.B.A. Competition.

to take for granted, although this point may be considered in detail later.

As this matter of uniform has a social aspect, it cannot be considered without reference to the street in which the building is situated. Two separate concepts need defined expression in the exterior of this building; in the first place, the building must look like a home of a learned and professional society, and, secondly, it must be harmoniously associated with one of the few fine streets which are still left to us from an age in which the essentials of street architecture were extraordinarily well understood. The new R.I.B.A. is essentially an *English* building, and in using this term I mean to convey that it has some of the qualities of the best English buildings at the best period of English architecture. Surely the supreme and peculiar architectural genius of the English lay in their capacity to design beautiful *streets*, and until we regain this capacity, our architecture does not really deserve to be described as English. It is the first and most obvious merit of the new R.I.B.A. that it is every inch a street building, and its honourable indepen-



First floor plan of G. Grey Wornum's original design in the R.I.B.A. Competition.

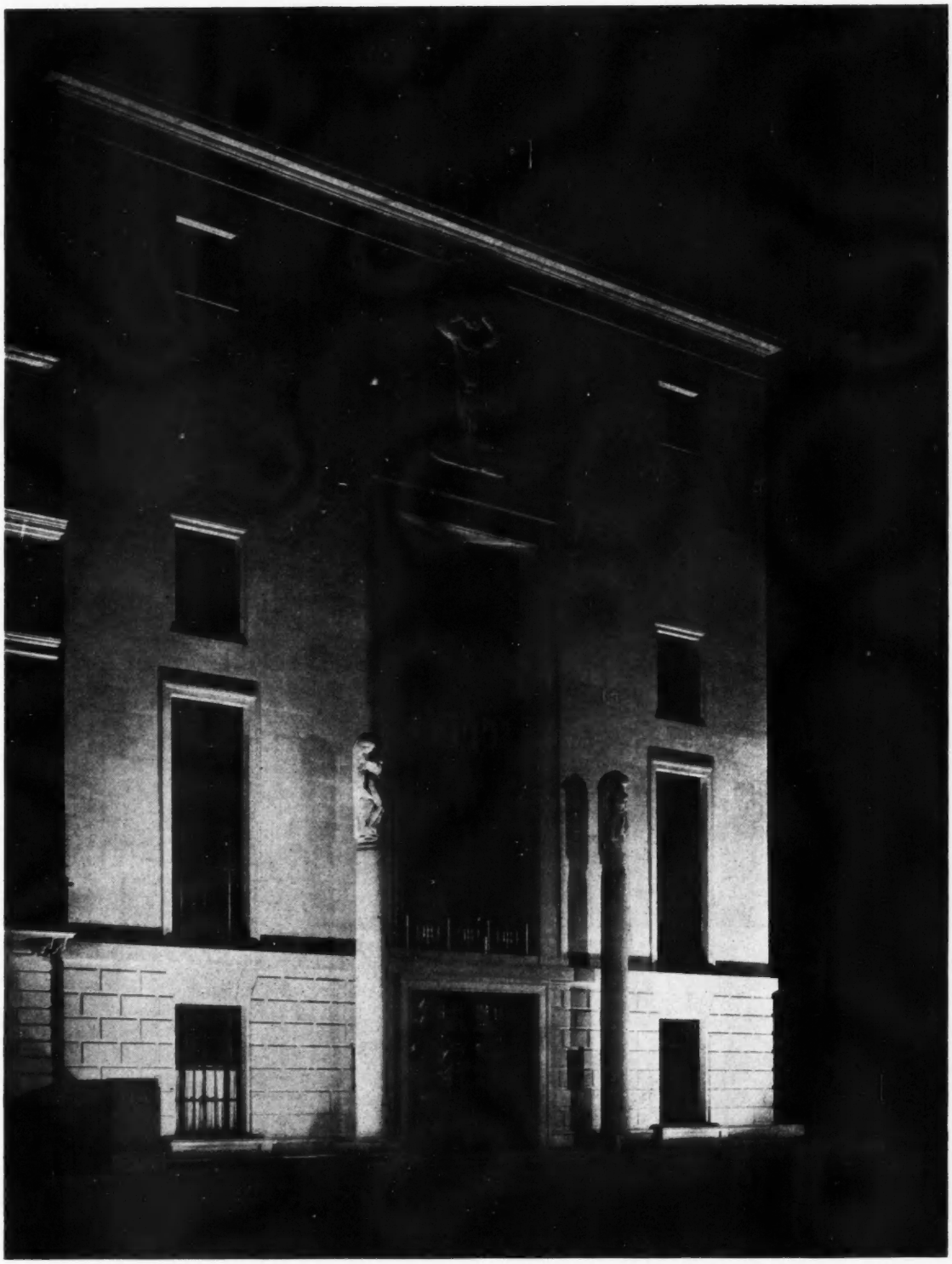
dence and particularity of design, by virtue of which it expresses its separate function, has not been attained at the expense of its neighbourliness and its subordination to the street. Had the building been on an isolated site it would have been possible to give a more complete external expression to the various important chambers within it; but, situated at the corner of a street, good sense and good manners alike decree that it should have a plain, box-like shape. Such considerations show how superficial and misleading is the doctrine still vociferously upheld in certain quarters, that the right way to design a building is from the inside outwards. The very contrary is the case. First you should decide on grounds of civic propriety what the general shape of the building should be; and then, within that shape—assuming, of course, that it is the requisite size—you plan the accommodation which is required. This correct course was obviously taken by the architect of the R.I.B.A. building with the most happy results.

Considerations of street architecture, however, not only determined the shape of the box but also had a formative influence upon the fenestration. So in this regard also there was a certain restraint upon the free expression of function. The harmony of street architecture depends upon the maintenance of a certain rhythm in the window pattern, and while this rhythm admits of significant variations, it cannot survive a rude and violent departure from itself. Conscious of this condition, the architect has established on the long façade towards Weymouth Street four tiers of plain rectangular windows in repetitive formation. Yet there is a pleasing variation between the windows in the several storeys. The windows on the ground floor mark the position of the General Office, the taller windows on the first floor reflect the scale of Memorial Hall and Grand Staircase, while the row of windows above with the balcony strike a more domestic note appropriate to the Members' Clubroom. The blank wall space above that is a fitting expression of the stock room of the Library, while the fourth floor windows, of comparatively small scale, belong to the Periodicals Room.

In the narrower but principal façade towards Portland Place the most discussed feature is the large window over the entrance. Admittedly a window unit of these dimensions is not functional in the narrow sense of this word, because it does not belong to a single tall chamber but is divided by the floor between the Reception Room and the principal Committee Room above. Yet it has a symbolic justification by virtue of which it seems to express the structure of the plan as a whole. It prepares one for the screen of glass in front of the central Memorial Hall and provides, in fact, a by no means too emphatic external expression of the main characteristic of the plan. Its unique quality of transparency and openness is immediately evident as soon as one enters the building. The window indicates that even if there is not an enormous room *immediately* behind it, a little distance further back there exists a noble spaciousness appropriate to an important institution. When this window and the decorative pylons on either side of the entrance doorway are read in conjunction, they appear to produce just the right degree of architectural ceremony which the occasion demands, and the effect of these two features is enhanced by the generous amount of plain wall-surface which surrounds them. How grateful we ought to be to Mr. Grey Wornum for providing so much of this plain wallage on both elevations, for it adds to this serenity of the composition and gives to the building its proper character of being an enclosure. That, after all, is one of the essential qualities of a work of architecture. What the façades enclose, the group of important rooms harmoniously arranged in what seems to be a perfect plan, is, I understand, described elsewhere in this issue.

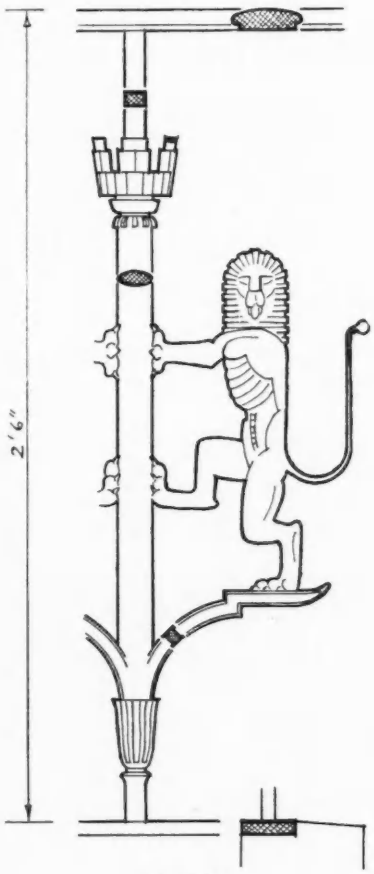
R.I.B.A. BUILDING

DESIGNED BY G. GREY WORNUM

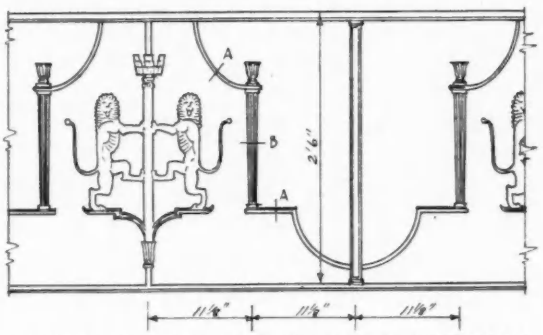


On this and the following twenty-five pages are reproduced photographs, plans, sections, working drawings and a description of the new R.I.B.A. Building, which is to be opened today by H.M. the King.

The exterior is faced with Portland stone, with sculptures in the same materials. The main (Portland Place) front, of which a photograph is reproduced above, is floodlit by four projector units at ground level.



DETAIL



ELEVATION OF THE BRONZE RAILINGS

SECTION A

SECTION B

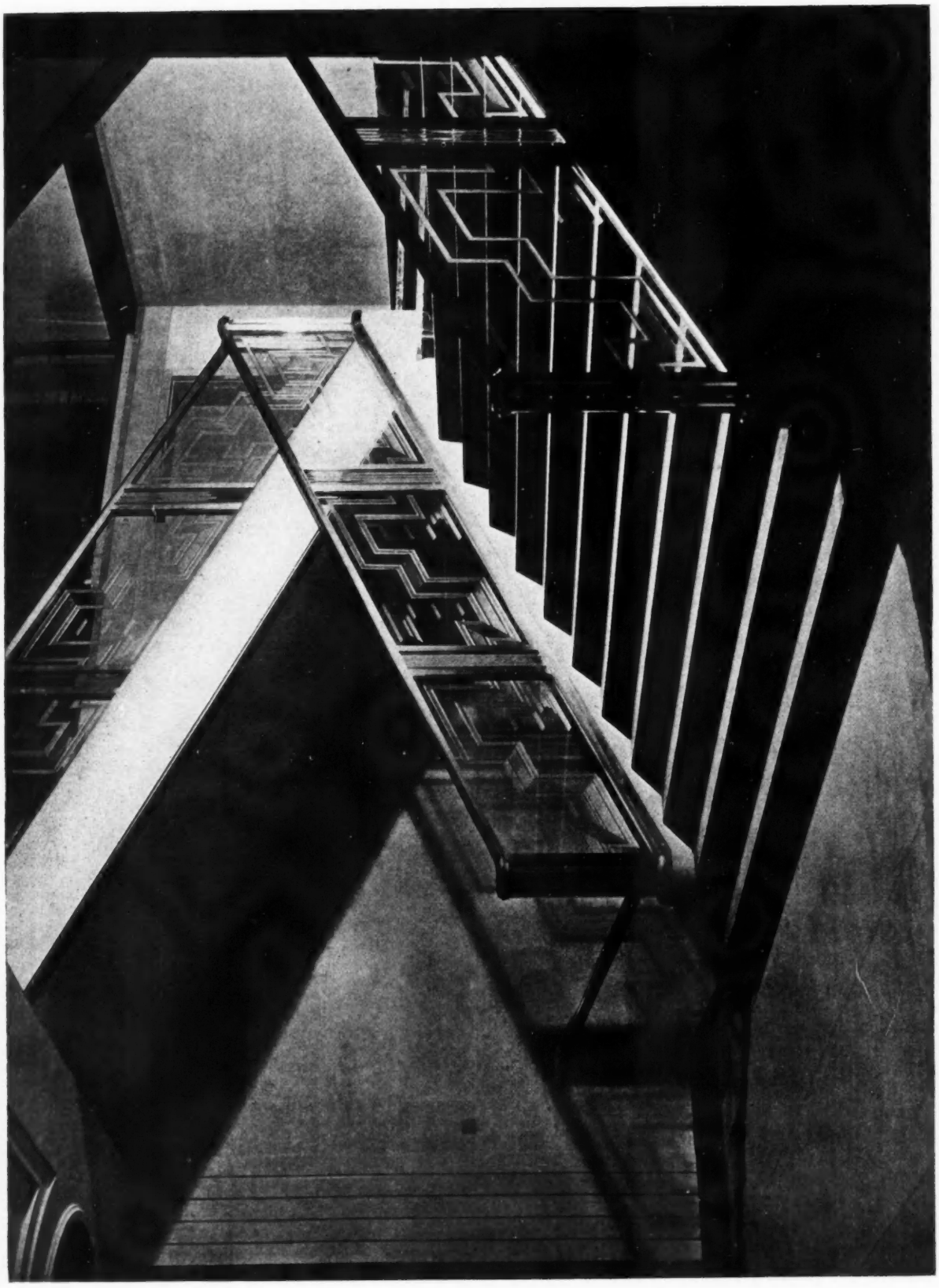
A worm's-eye view of the main front. The three Portland stone sculptures on this front—the relief by Bainbridge Copnall and the figures on the columns by James Woodford —symbolise the spirit of man as creative forces aspiring to architecture. The relief represents architecture. The bronze railings to the centre window bear the lions of the R.I.B.A. Badge and are the work of Seton White. Drawings of these railings are shown on the right.

Elevation to Weymouth Street. The five relief figures represent: in the centre, Sir Christopher Wren, typifying the architect, flanked by the Painter and the Sculptor and, at the ends, the Mechanic and the Artisan.

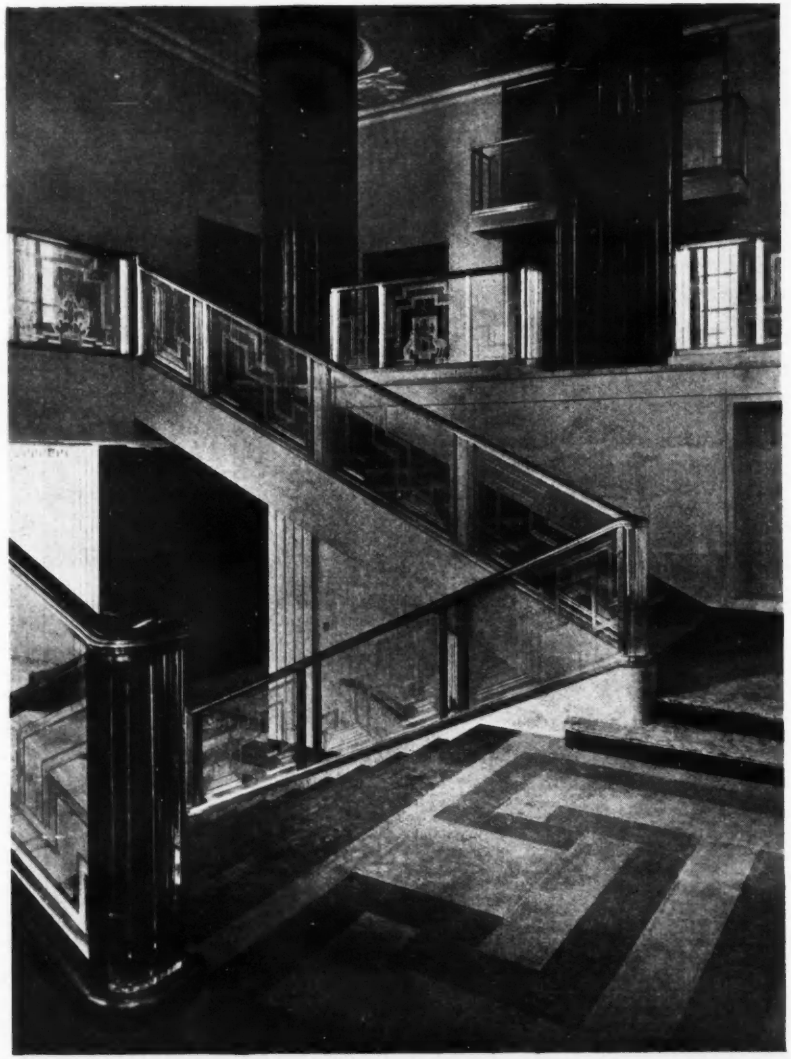
The bronze entrance doors, modelled by James Woodford, tell the story of London's river and its buildings. These include St. Paul's Cathedral, St. James's Palace, Stafford House, an L.C.C. tenement, the Horse Guards, the Guildhall, the Houses of Parliament, the old R.I.B.A. building, a tube station and the Zoo. Spanning the river are Waterloo Bridge and Charing Cross Bridge. The doors are 12 ft. 6 ins. high, and each leaf weighs 1½ tons. The letter-box, shown on the right, is of aluminium bronze.

river and its buildings. These include St. Paul's Cathedral, [illegible] House, an L.C.C. tenement, the Horse Guards, the Guildhall, the Houses of Parliament, 1½ tons. The letter-box, shown on the right, is of [illegible]

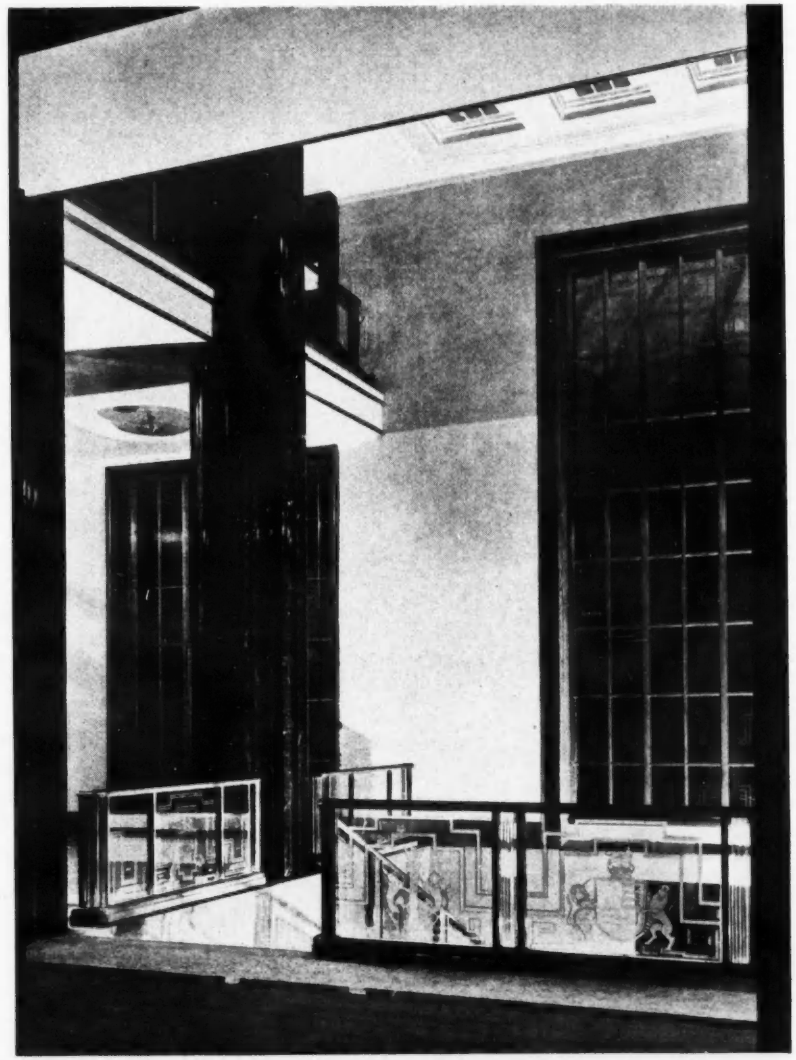
Looking across the entrance hall towards the main entrance doors. The walls are lined with polished Perrycot stone, in which are incised the names of Past Presidents and Royal Gold Medallists. In the floor are three panels of telephones, typewriters and inkwells, executed in Derbyshire marble by Bainbridge Copnall.



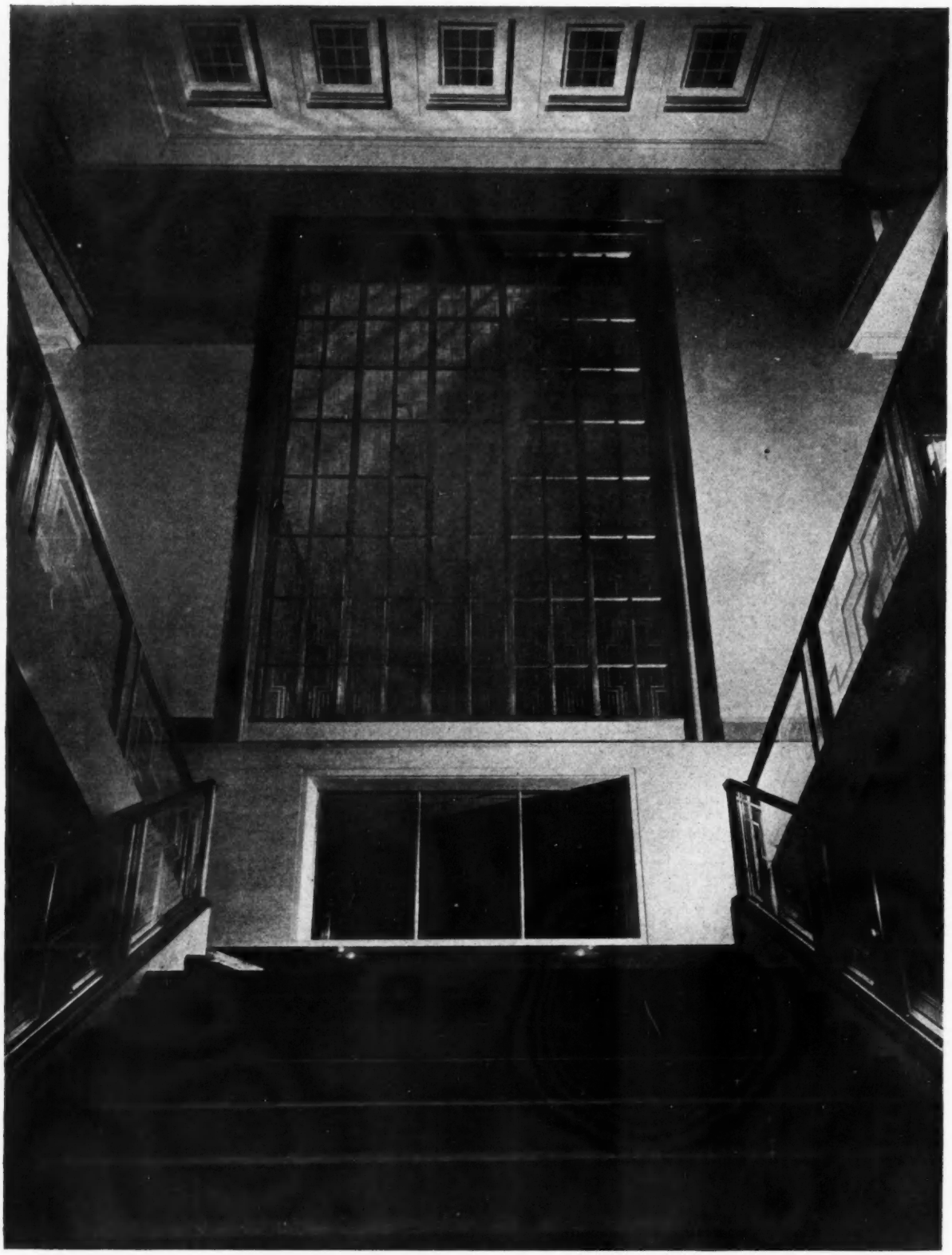
The main staircase as seen from the entrance hall. The treads of the stairs are of Blue African (Denmara) marble, and the risers of black Derbyshire marble. The balustrades are of silver bronze and etched glass and are the work of Jan Juta. Concealed tubular lights in the bases of the balustrades illuminate the glass in its thickness.



A view on the half-landing, looking down on the main entrance hall. The four steel columns at the sides of the stair well are cased in Ashburton (Devonshire) marble.

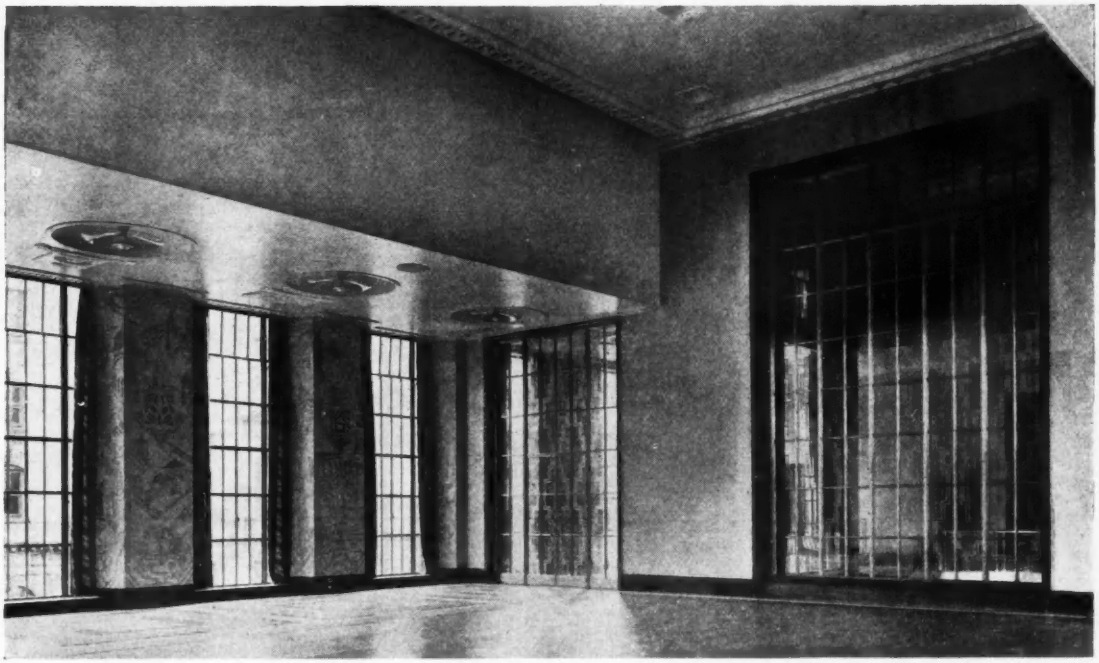


On the first floor, looking towards the Henry Florence Memorial Hall. The landing floor is of teak, with a surround of Derbyshire marble containing heating panels.

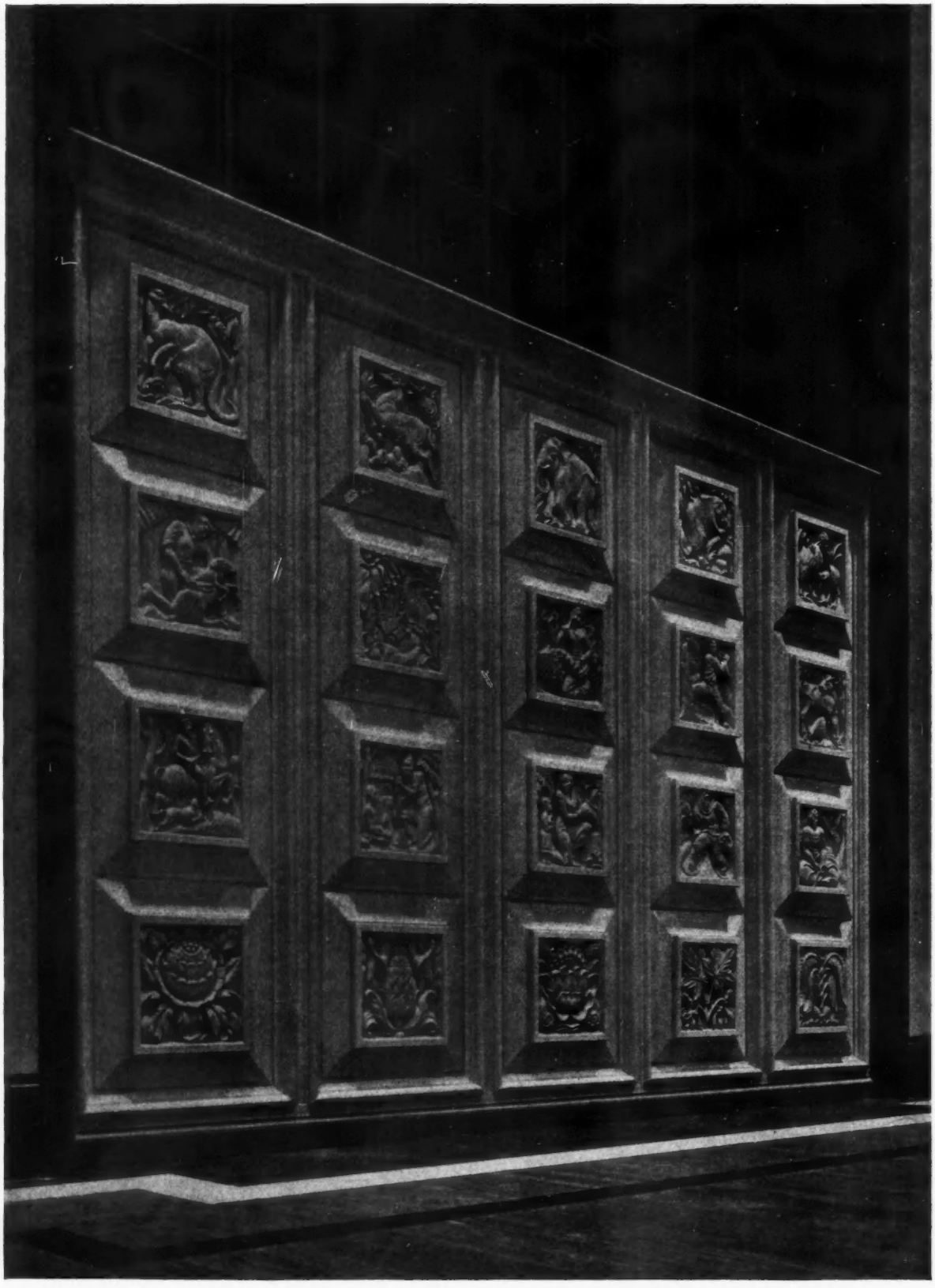


Looking up the main staircase towards the window of the Henry Florence Memorial Hall.

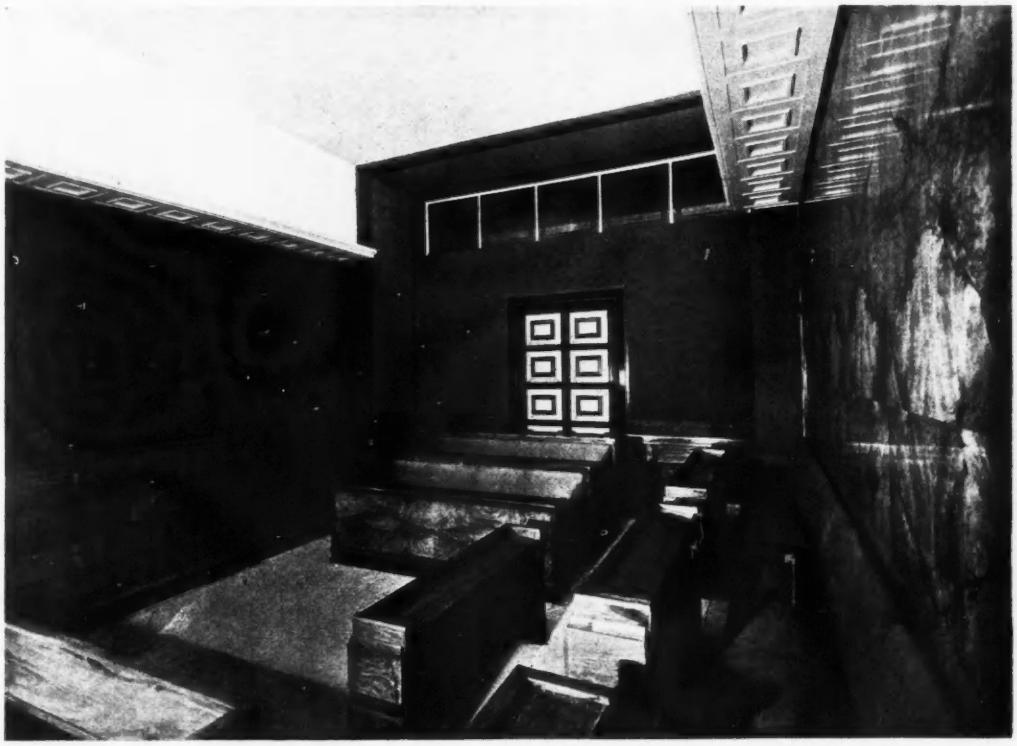
On the first-floor landing the main source of light to the staircase is the ceiling of pressed glass units. Bowl lights in saucer domes, similar to those in the hall, light the landings. On the landing ceilings are six modelled plaster figures by James Woodford, representing the Periods of English Architecture.



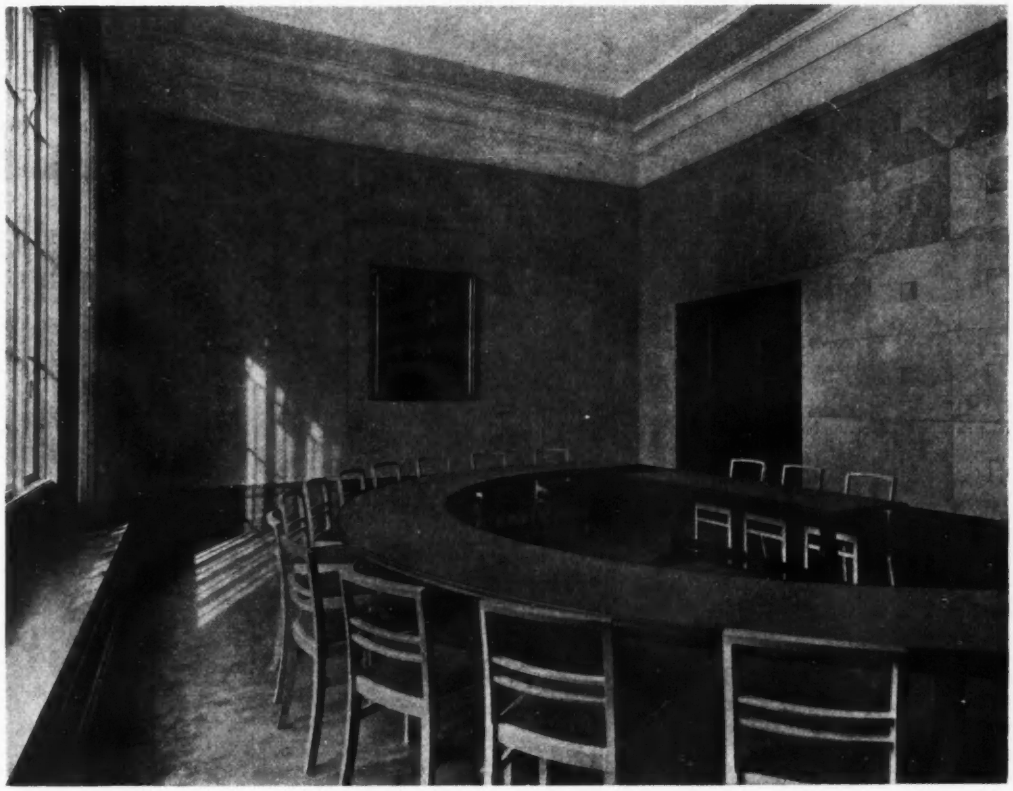
The principal apartment in the Reception Suite, the Henry Florence Memorial Hall, which is to be used, in addition to receptions, for large exhibitions, dances and examinations. The walls are lined with polished Perrycot stone, carved in low relief to illustrate "Man and his building through the ages." The work was designed by Bainbridge Copnall and executed by stone-masons from his full-sized cartoons. The plaster ceiling reliefs, modelled by James Woodford, represent the trades of the building industry, and are in some cases portraits of men who worked on the building. The sides of the floor are patterned in English marbles and Empire woods, the dance floor in the centre being of Indian silver greywood.



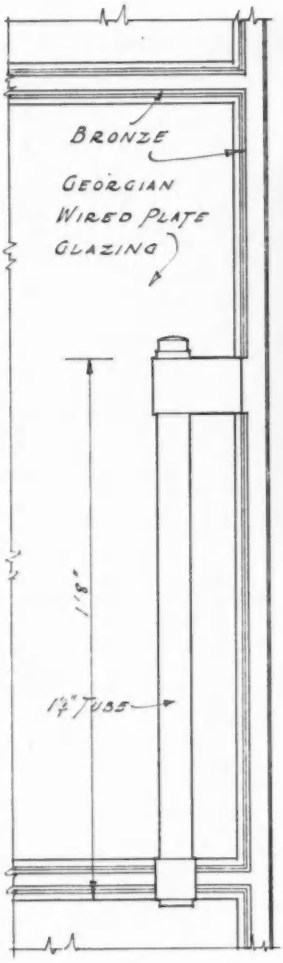
In the Henry Florence Memorial Hall: a screen carved in Quebec pine from clay models by Dennis Dunlop. The panels represent the peoples, industries, flora and fauna of Canada, Australia, India, South Africa and New Zealand.

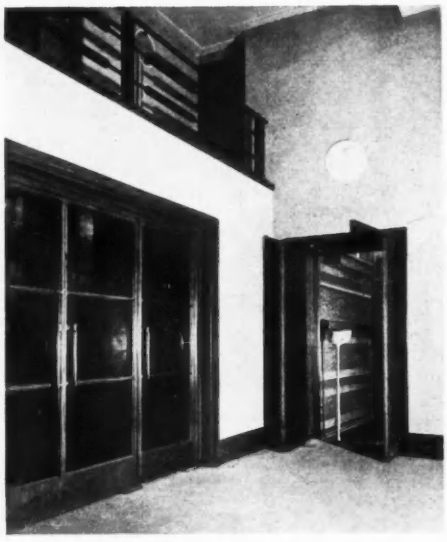


The Council Room on the fourth floor is panelled in English swirl walnut and the doors and furniture are principally of English and Australian walnut, with a little figured Canadian maple. Lighting is obtained from two high clerestories opening on to the roof.

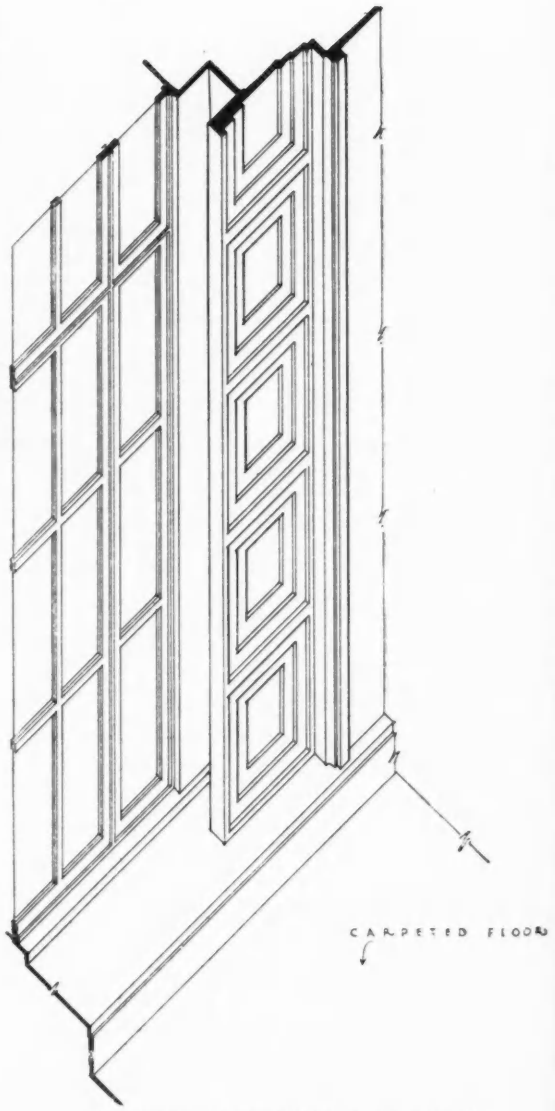


The principal committee room—named after the late Sir Aston Webb, PP.R.I.B.A.—is on the second floor. It is lined with leather, and the woodwork is of Indian laurel wood and the chairs of English beech. On the far wall is a portrait of the late Sir Aston Webb.

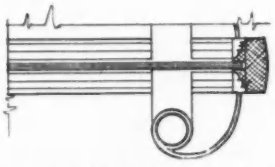




The foyer to the Henry Jarvis Memorial Hall.

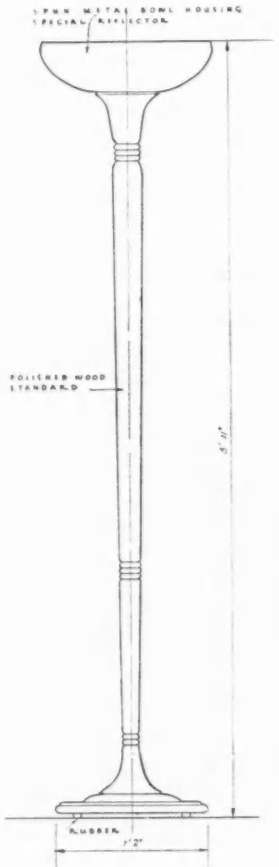


ARCHITRAVE AND CURTAIN RECESS TO MEMBERS' ROOM



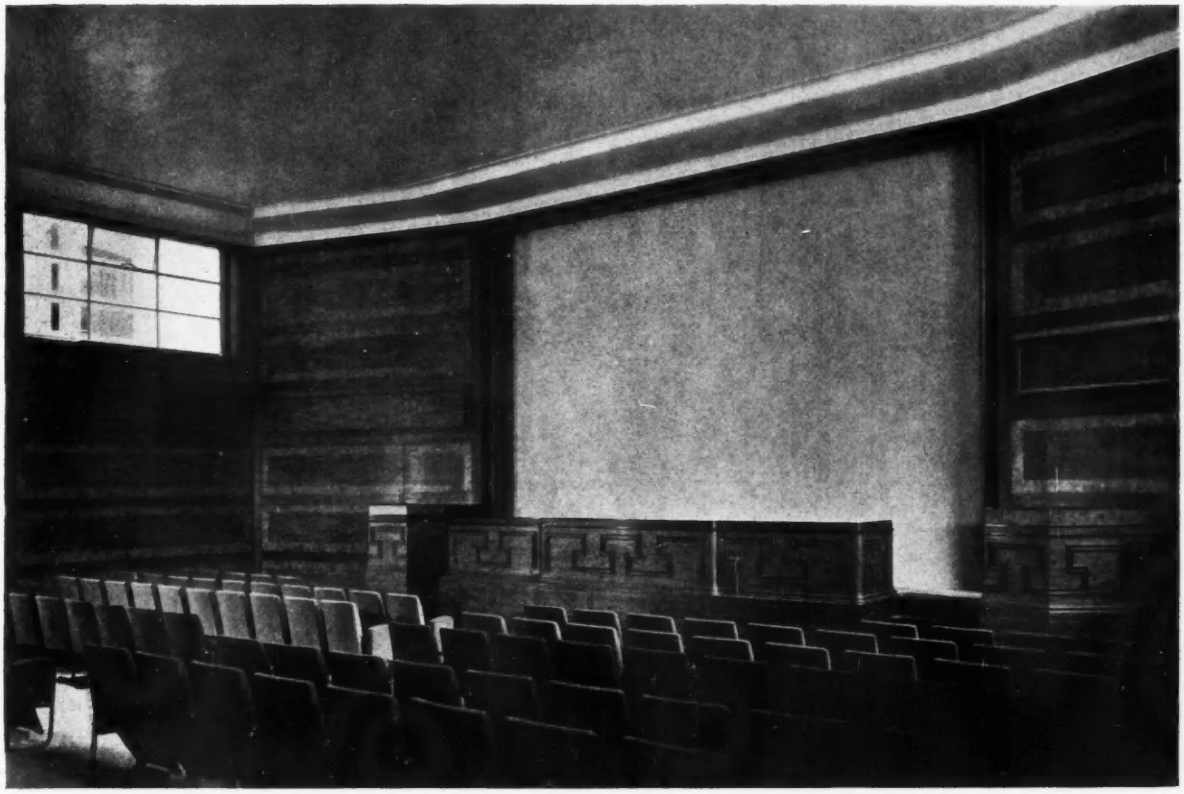
ELEVATION AND PLAN OF HANDLES TO DOORS OF FOYER TO THE HENRY JARVIS MEMORIAL HALL

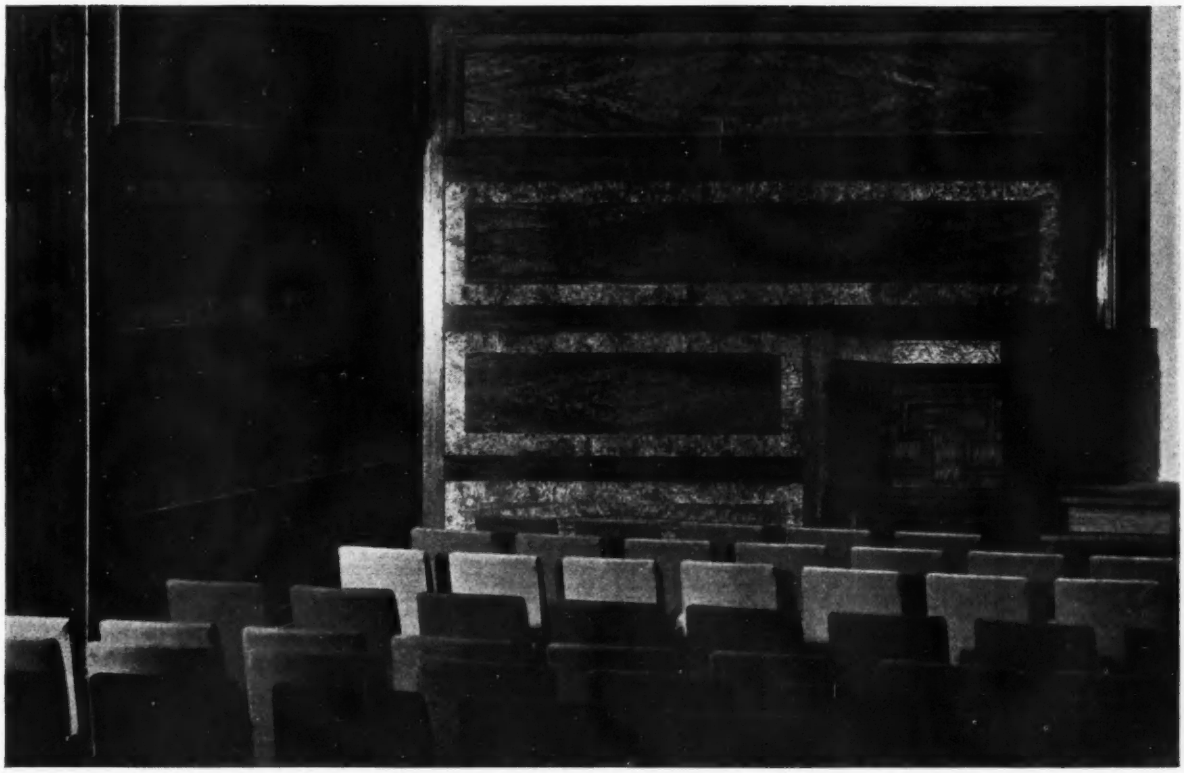
On this page are reproduced photographs of the foyer to the Henry Jarvis Memorial Hall and the members' room on the second floor; also sketches of the handles to the doors shown in the upper photograph, the architrave and curtain recess in the members' room, and the indirect lighting standards in the committee rooms. A similar standard is shown in the photograph on the right.



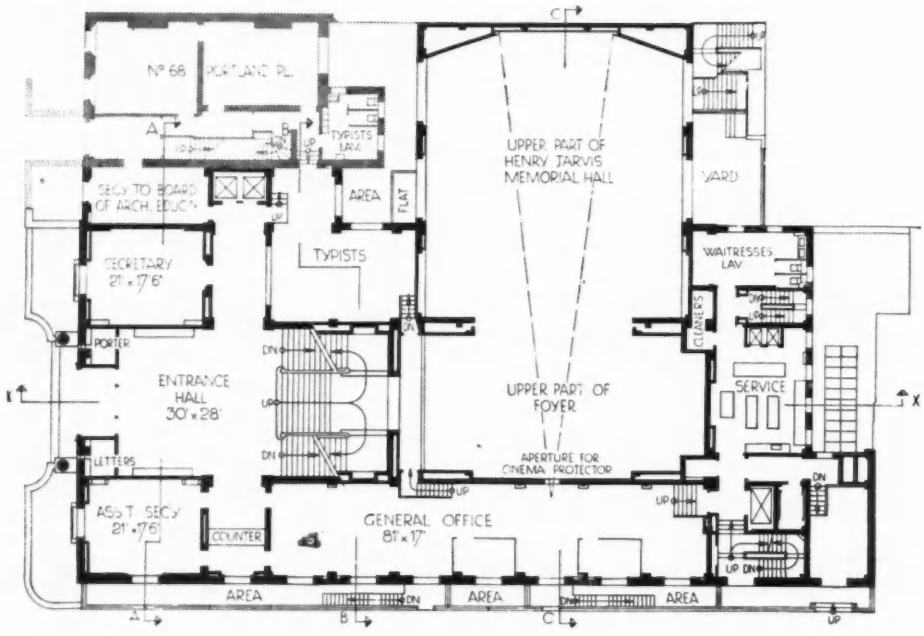
INDIRECT LIGHTING STANDARDS IN THE COMMITTEE ROOMS

Members' room on the second floor.

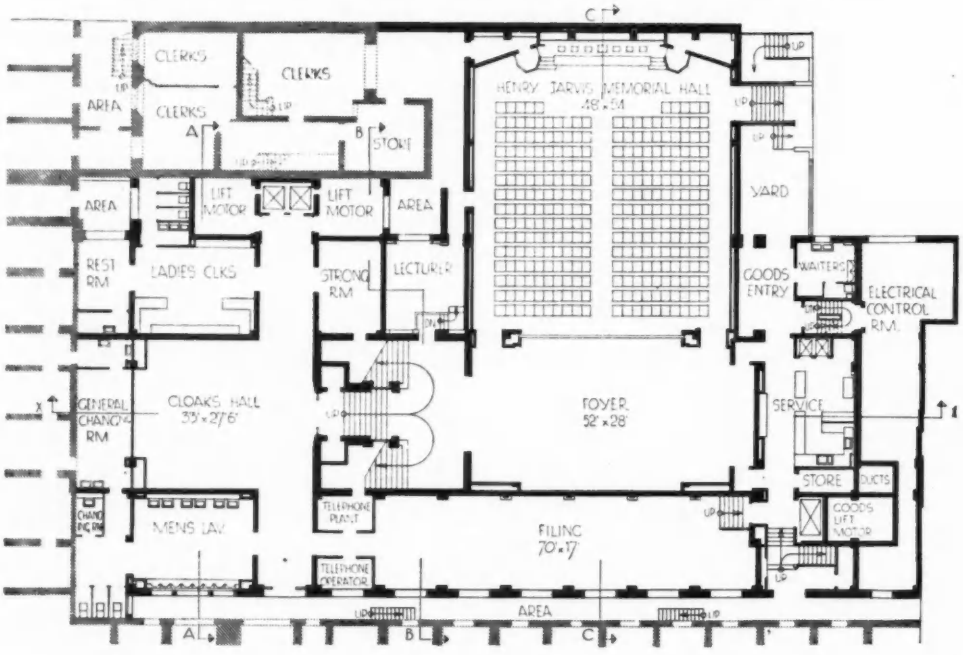




Two views of the meeting room, named after the late Henry Jarvis: above, looking towards the dais and lantern screen; below, a detail showing the panelling, which is executed in figured teak, olive, ash and black bean. The ceiling is of white, hard plaster; and the lighting is controlled by dimmers from concealed sources at the sides of the room. Immediately in front of the dais the floor is covered with Rhodesian teak. The room holds 350 persons, but the "disappearing wall" can be made to descend into the basement, allowing 150 extra seats to be provided in the foyer.



GROUND FLOOR PLAN



BASEMENT PLAN

DESCRIPTION OF THE BUILDING

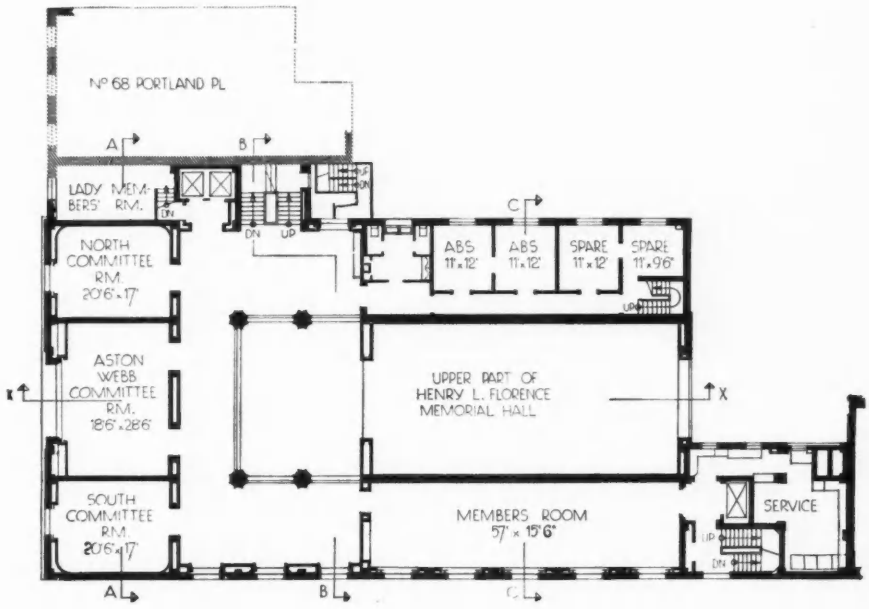
Following is a description of the construction, and notes on the materials used.

THE EXTERIOR.—This is faced with Portland stone with sculptures in the same material. The composition of the three figures on the Portland Place front, the relief by Mr. Bainbridge Copnall and the figures on the columns by Mr. James Woodford—symbolizes the spirit of man and woman as creative forces aspiring to architecture. On the Weymouth Street front are five other relief figures representing, in the centre, Sir Christopher Wren, typifying the architect, flanked by the painter and the sculptor, and at the ends the mechanic and the artisan.

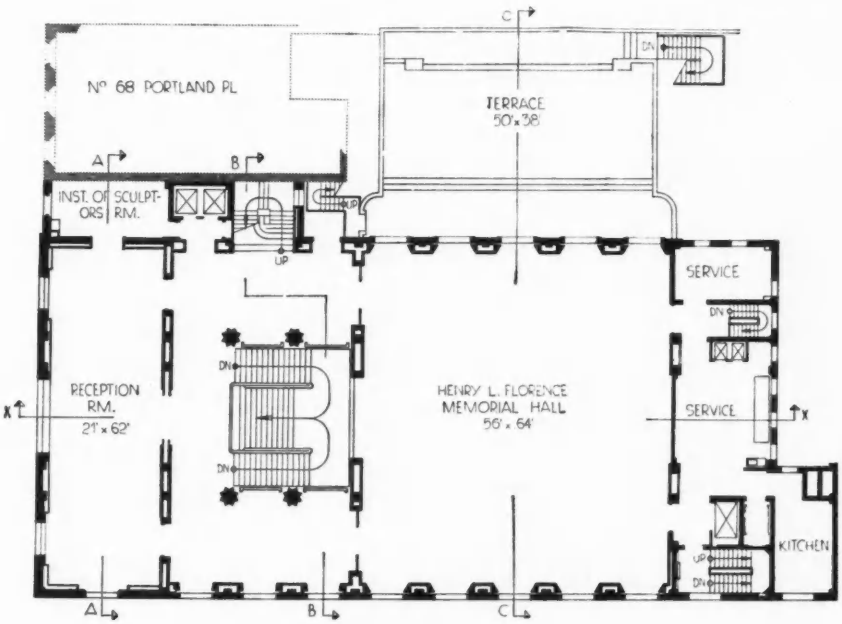
The bronze doors, each leaf weighing 1½ tons, have been modelled by Mr. James Woodford. They tell the story of London's river and its buildings. These include St. Paul's Cathedral, St. James's Palace, Stafford House, an L.C.C. tenement, the Horse Guards the Guildhall, the Houses of Parliament, the old R.I.B.A. building, a tube station and the Zoo. Spanning the river are Waterloo Bridge and Charing Cross railway bridges.

The Portland Place front is floodlit from behind flat glass slabs, set in the stone surround. The letter-box, in aluminium bronze, bearing the figure of Mercury, is the work of Mr. Seton White, who has also modelled the bronze railings, reproducing the lions of the R.I.B.A. badge, over the main entrance.

SECOND FLOOR PLAN



FIRST FLOOR PLAN



STRUCTURE.—The building is of steel-framed construction. The chief difficulty of the structural engineers was to carry the load of the library and the two floors of offices which will, in the future, be placed over the library, above the large halls below, without using intermediate columns. Two girders, each 60 ft long, 12 ft. deep and weighing 30 tons make this possible.

The foundations are a watertight tank of reinforced concrete sunk in the ground. The floors are of hollow tiles and reinforced concrete. The flat roofs are surfaced so that they can be used as promenades.

HEATING, VENTILATION AND MECHANICAL EQUIPMENT.—The heating and ventilating plant are housed in a large sub-basement. The working is almost entirely automatic, only occasional control by one man being required. The fuel for heating is electricity, which is purchased at "off-peak" hours during the night, and is switched on and off by a time switch. The current heats large quantities of water which is circulated round the building, automatic control by thermostats giving an even temperature throughout the hours when the building is in use. Separate electric boilers provide hot water. In addition to the air-conditioning plant providing washed and warmed air to the Hall, the meeting room and the Council Chamber, concealed panels built into ceilings, walls and floors give the interior of the whole building a gentle and even warmth.

There is a "distant" thermometer in the control room which enables the attendant to discover instantly the actual air temperature in any of the principal rooms.

The building also contains a system of electric clocks operating on a new principle. These are driven from the alternating current mains, but should the current fail, the system is instantaneously switched over to batteries which are kept charged by a "trickle" charger.

THE HENRY FLORENCE MEMORIAL HALL.—Named after Mr. Henry L. Florence, at one time vice-president of the R.I.B.A., in whose memory a large donation was made to the New Building Fund by Mr. H. S. E. Vanderpant. The room is the principal apartment in the reception suite, which includes the grand staircase and the reception room. In addition to receptions it is to be used for large exhibitions, dances and examinations. The roof terrace over the meeting room is an extension of the suite for use in the summer.

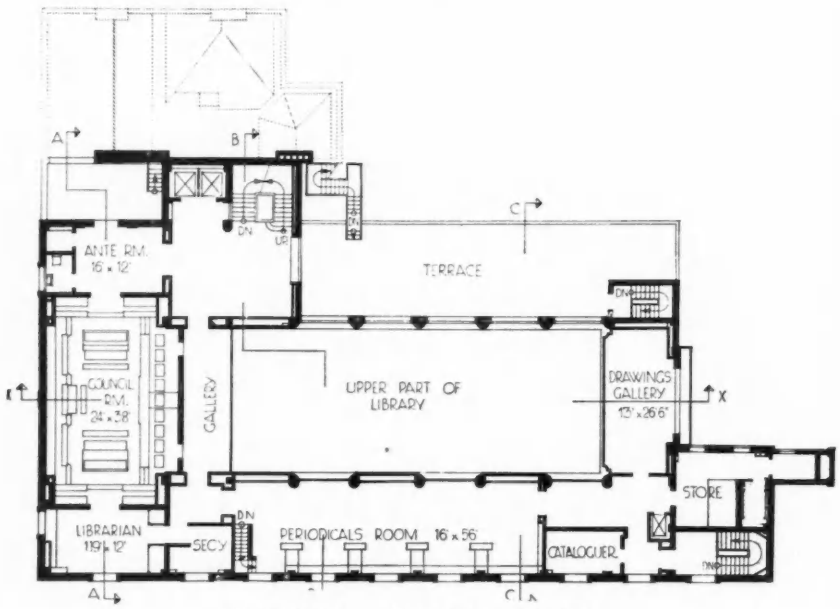
The walls are lined with polished Perrycot stone, carved in low relief to illustrate "Man and his building through the ages." The work was designed by Mr. Bainbridge Copnall and executed by stone-masons from his full-sized cartoons. The plaster ceiling reliefs, modelled by Mr. James Woodford, represent the trades of the building industry and are in some cases portraits of men who worked on the building. Mr. Woodford has taken his fellow-artist, Mr. Jan Juta, as his model for the "Glass-cutter" and his "Electrician" is a self portrait. At the east end is a screen carved in Quebec pine, from clay models by Mr. Dennis Dunlop. The panels represent the peoples, industries, flora and fauna of the Dominions of Canada, Australia, India, South Africa and New Zealand.

The hall has two separate systems of lighting. In the centre are powerful lights recessed in the ceiling for use during examinations. The more decorative lighting consists of pairs of daylight gas tubes in slots in the high part of the ceiling, twelve glass bowls in saucer domes at the sides of the room and illuminated steps at the window cills, casting light up the curtain. The room is warmed and ventilated by an air-conditioning plant and by concealed panels in the patterned marble floor.

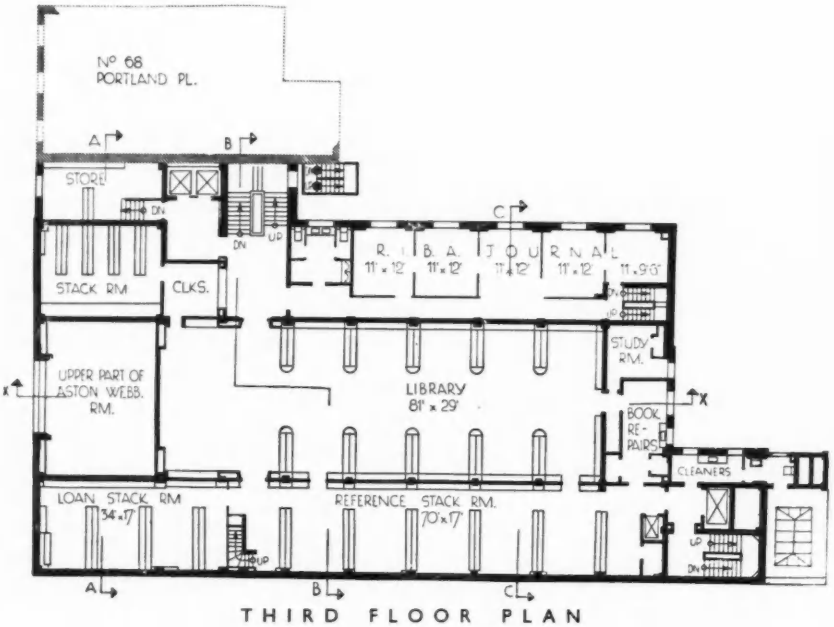
The sides of the floor are patterned in English marbles and empire woods, the dance floor in the centre being of Indian silver greywood. Acoustics have been carefully considered to permit good hearing of speeches at banquets and meetings. The end walls are covered with acoustic tiles and the higher part of the ceiling is also a sound-absorbing surface.

The room has been given a "soft-speaker" service for use at banquets and similar functions. The "speakers" are placed in the ceilings and reinforce the direct voice of the orator in a natural and inconspicuous manner. The same apparatus can be used for relaying speeches to and from the Meeting Room in the basement, for the playing of gramophone records and for radio reception.

Two doors at the east end lead from the banquet service rooms which are fully equipped with service lifts, waiters' room, etc., and approached from Williams Mews.



FOURTH FLOOR PLAN



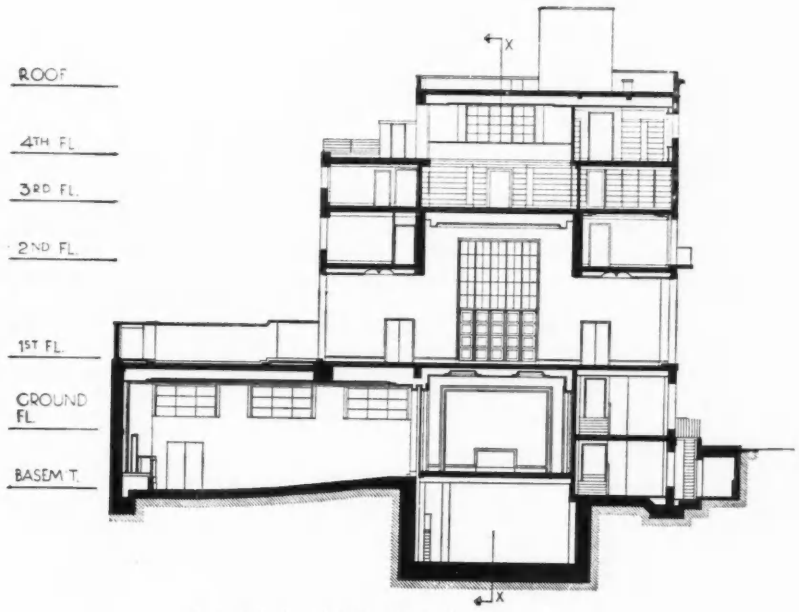
THIRD FLOOR PLAN

THE RECEPTION ROOM.—This is to be used, in addition to receptions, for the many small exhibitions which the Institute is accustomed to hold. The walls are covered in cellulosed cork, which gives a good surface to which drawings can be securely pinned.

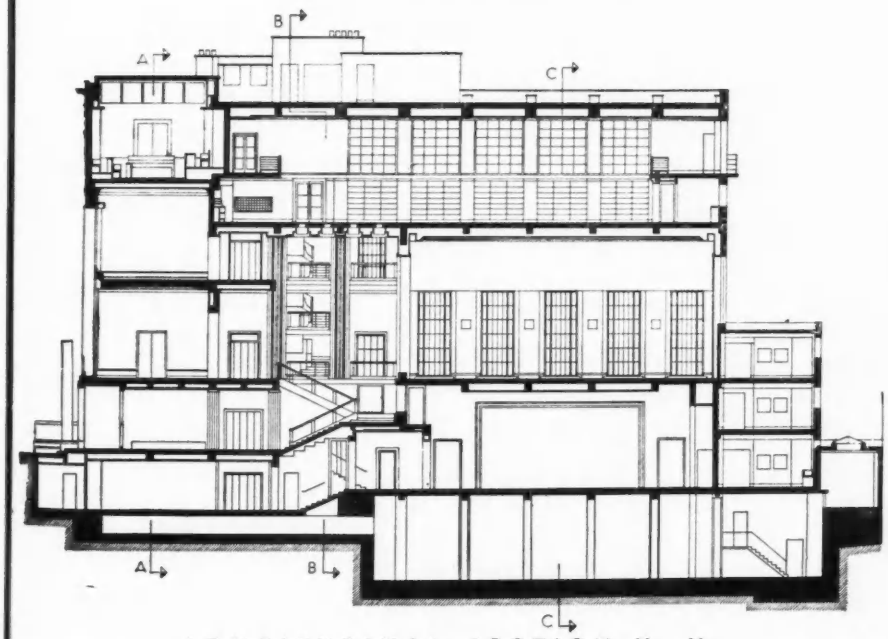
The great panelled ceremonial doors are of Australian walnut. Indian laurelwood and rosewood. The silver bronze handles reproduce the lions from the R.I.B.A. badge. The floor is of teak, with a marble surround. Under the large window is an inlaid panel, by Mr. Bainbridge Copnall, similar to those in the entrance hall.

Heating is by concealed panels in the ceiling and the lighting is by four large torchères flooding the ceiling, which acts as a reflector.

ENTRANCE HALL AND MAIN STAIRCASE.—The entrance hall gives access up the main stair to the reception floor and down to the meeting room. On the right is the general office, with its enquiry counter, and on the left the lifts; when going to the lifts members



CROSS SECTION C—C



LONGITUDINAL SECTION X—X

will pass an illuminated notice board.

The walls of the entrance hall are lined with polished Perrycot stone ; in this are incised the names of Past Presidents and Royal Gold Medallists. In the floor are three panels of compositions of telephones, typewriters and inkwells cut in Derbyshire marble ; this is the work of Mr. Bainbridge Copnall.

The four great steel stanchions at the sides of the staircase well are cased in Ashburton (Devonshire) marble. The treads of the stairs are of blue African (Denmara) marble, the risers of black Derbyshire marble.

The balustrades are of silver bronze and etched glass. The principal panels carry the Royal Arms, the Arms of the Dominions and the badge of the R.I.B.A. Concealed tubular lights in the bases of the balustrades illuminate the glass in its thickness, bringing out green and silver lights in it. Looking up the stairs from the main entrance hall, it is possible to obtain a view of the interior of the Henry Florence Memorial Hall through great screens of silver bronze and etched glass. The decorative glass throughout the building is the work of Mr. Jan Juta.

The main source of light to the staircase is the ceiling of pressed glass units. Bowl lights in saucer domes, similar to those in the hall light the landings. On the landing ceilings are six modelled plaster figures by Mr. James Woodford representing the Periods of English Architecture.

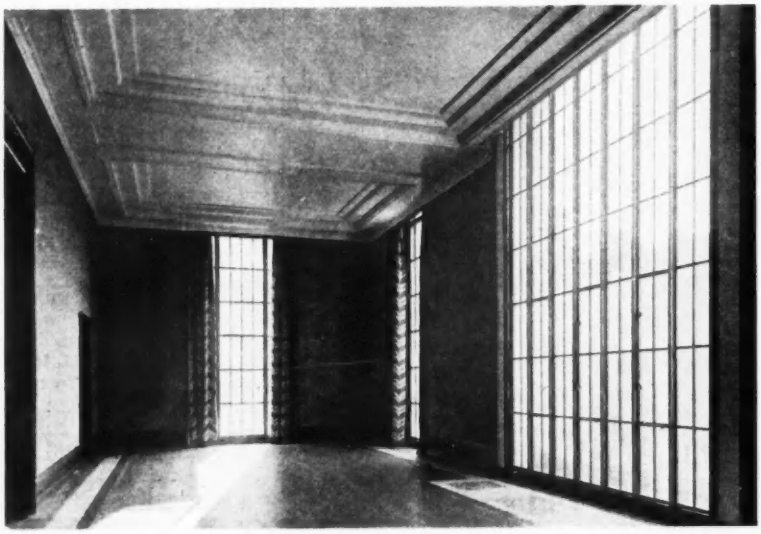
The landing floor is of teak, with a surround of Derbyshire marble containing heating panels.

THE HENRY JARVIS MEMORIAL HALL.—This room and its foyer are to be used for the general meetings. The meeting room holds 350, but the wall between it and the foyer can be made to descend into the sub-basement, allowing 150 extra seats to be provided in the foyer. This disappearing wall weighs 3 tons, but is so counterbalanced that it can be moved up and down with a simple hand-operated mechanism by one person.

On the meeting room side of the walls is a mural painting 30 feet by 16 feet, painted by Mr. Bainbridge Copnall and his assistant, Mr. Nicholas Harris. It shows in the centre a "robot" R.I.B.A. Council surrounded by the peoples of the British Empire and their buildings, thus reflecting the Empire-wide scope of the Royal Institute. The painting also acts as an absorbent of sound to cut out the possibility of echo along the length of the room. To make this efficient the painting is backed by acoustic felt, and has been pricked all over with minute holes. Two small acoustic panels over the doors have been painted by Mr. Bainbridge Copnall with compositions of books, papers, drawing boards and tee-squares.

The meeting room is panelled in figured teak, olive ash and black bean ; part of the floor is covered with Rhodesian teak left bare to act as a sound reflector in front of the dais. The ceiling is a combined light and sound reflector, being of white, hard plaster. Illumination, which is controlled by dimmers, is from concealed sources at the sides of the room. A modern theatre system of air-conditioning has been installed which draws used air and tobacco smoke downwards to extract ducts under the floor. The seating is of modern tubular theatre type with sponge-like rubber upholstery. Provision has been made for cinema projection.

The foyer is normally used for light refreshments and conversation after general meetings, and has therefore access by two doors from the service wing. Here is the foundation stone with carved badge and inscription by Mr. Ernest Gillick. The walls are faced



The Reception Room on the first floor. The walls are covered in cellulosed cork, and the floor is of teak, with a marble surround. Under the large window is an inlaid panel, by Bainbridge Copnall, similar to those in the entrance hall. Heating is by concealed panels in the ceiling and the lighting is by four large torchères flooding the ceiling, which acts as a reflector. The panelled ceremonial doors are of Australian walnut, Indian laurel wood and rosewood.

with cork. Lighting is by two large floor standards flooding the ceiling.

The " soft speaker " system, described in the notes on the Henry Florence Hall, can also be used here to make certain that the lecturer's voice will be heard by that part of an audience occupying the foyer when the " disappearing wall " is down. Speeches can also be relayed from the Henry Florence Hall.

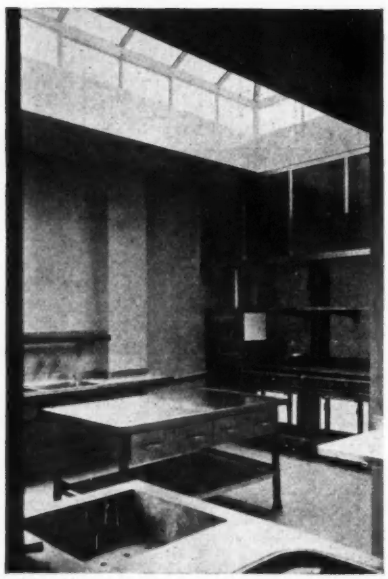
CLOAKS HALL.—The ladies' retiring room has been decorated by Miriam Wornum, depicting " Make-up and fashions through the ages." Changing rooms have been provided. At the foot of the stairs is a public telephone.

LIFTS.—The lifts are of the push-button type, operated by the passengers. The gates are self-closing. The speed is 400 feet per minute, the lift travelling from the basement to the top floor in nine seconds. The cars are lined wth rich English swirl walnut veneer, with a base of Macassar ebony.

COUNCIL ROOM.—The top lift and stair landing, giving access to the council room and upper library level, has some decorative plaster ceiling panels modelled by Morris Wiedman. They represent informal arrangements of figures, various matters connected with the building, such as architects in conference, study in the library, building work in progress, etc. A balustrade panel in bronze reproduces the lions rampant of the R.I.B.A. badge ; this was modelled by Mr. Seton White.

The council room has no window to the street, but obtains its light from two high clerestories. By this means all traffic noise from the street is excluded. The panelling and furniture are an unusually fine example of English craftsmanship. The main wall panelling is in English swirl walnut of oyster tint. The furniture and doors are principally of English and Australian walnut with a little figured Canadian maple. The leather upholstery is a brick red.

The tapestried ends are acoustic absorbents, while the ceiling is both a sound and light reflector. The cornice conceals the light units and the conditioned air inlets ; used air is drawn downwards and extracted under the seats. There are also heating panels concealed in the floor and ceiling.



The Kitchen, adjoining the members' room.

LIBRARY.—The Institute library contains 40,000 books and several thousand prints and drawings. It is arranged on the " open access " system, and its equipment has been planned by the architect and the librarian (Mr. E. J. Carter). There is shelf space for a 40 per cent. increase without structural alteration.

The plan consists of a central reference library hall with a stack room along one side and the accessory departments arranged in a gallery. The periodical room is in the south gallery, where members can consult the current architectural periodicals of the world, some 60 in number. Bound volumes of these periodicals are on adjacent shelves. The drawings gallery is at the east end, amply lit by a large window.

Inside the main doors is the issuing desk. Round the clerk are the card indexes sunk into the wall.

The shelving is all of steel in pleasant colours ; the rounded metal ends of the bookcases are radiators insulated from the books behind them by thick cork slabs. Lighting is by means of floods from the tops of the cases shining on to the smooth ceiling. The floor is of cork.

An additional large increase in stack space can be made by using for this purpose the space at present housing the offices of the R.I.B.A. *Journal*, which are situated on the north side of the library.

Grouped round the head of the great staircase well are a suite of rooms for the numerous Institute Committees. The principal one is the Aston Webb Committee Room, named after the late Sir Aston Webb, Past President of the Institute.

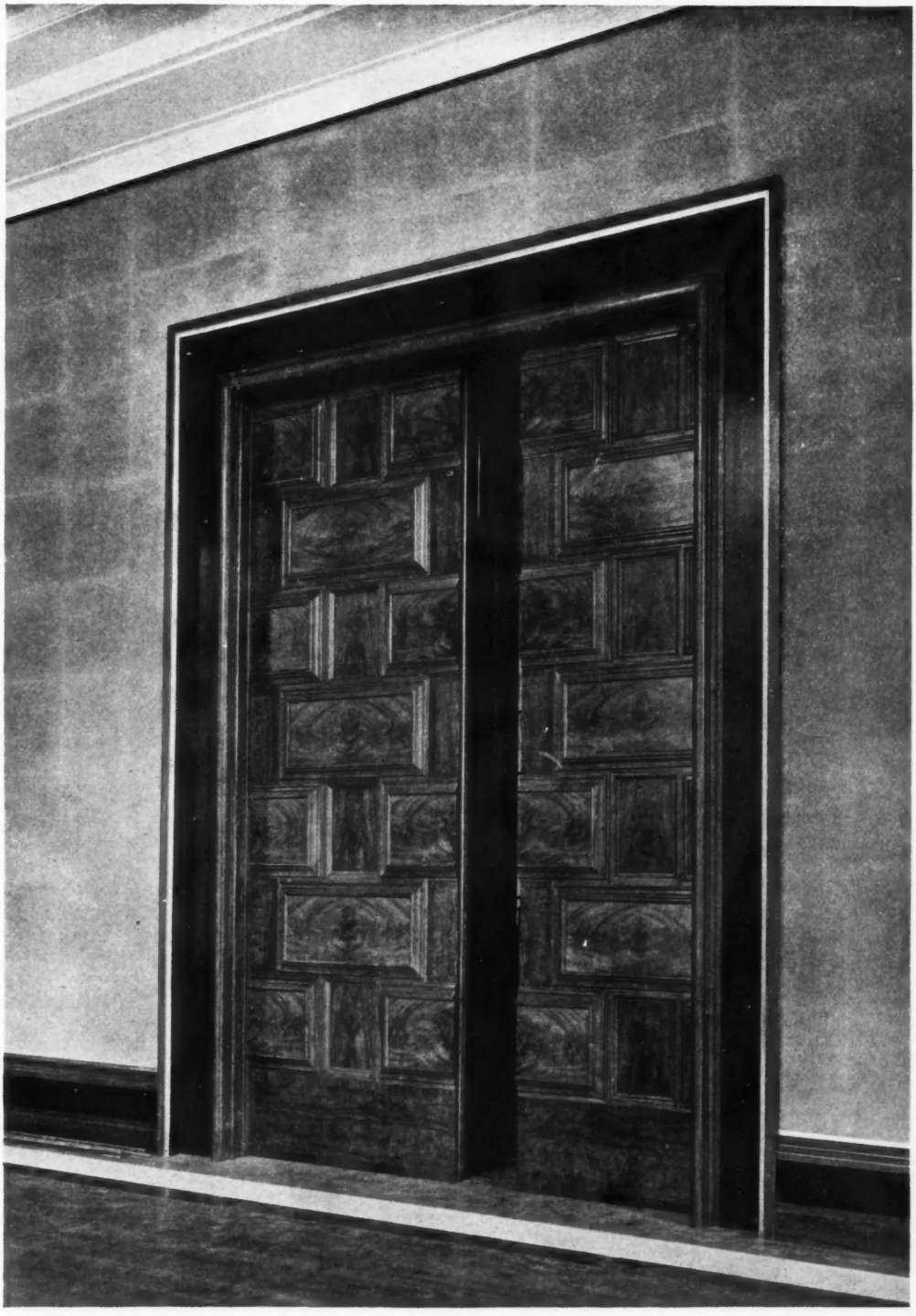
The walls are lined with leather, a material very rarely employed for mural decoration, and never before used as here, namely, in a pattern of squares. The woodwork is in Indian laurel wood, and the chairs in English beech. The portrait of Sir Aston Webb is lit by concealed spot lights.

Along the south side is the members' room, a pleasant apartment with low window cills giving access to a balcony. Here are lounge chairs and writing desks. A refreshment service is provided for members. The bright colour decoration has been designed and supervised by Miriam Wornum.

On general meeting nights it is the custom of the Council Dinner Club to entertain the lecturer and chief guests to dinner. This will be one of the functions of this room. Through the service door at the far end is a kitchen.

WORKING DETAILS : 149

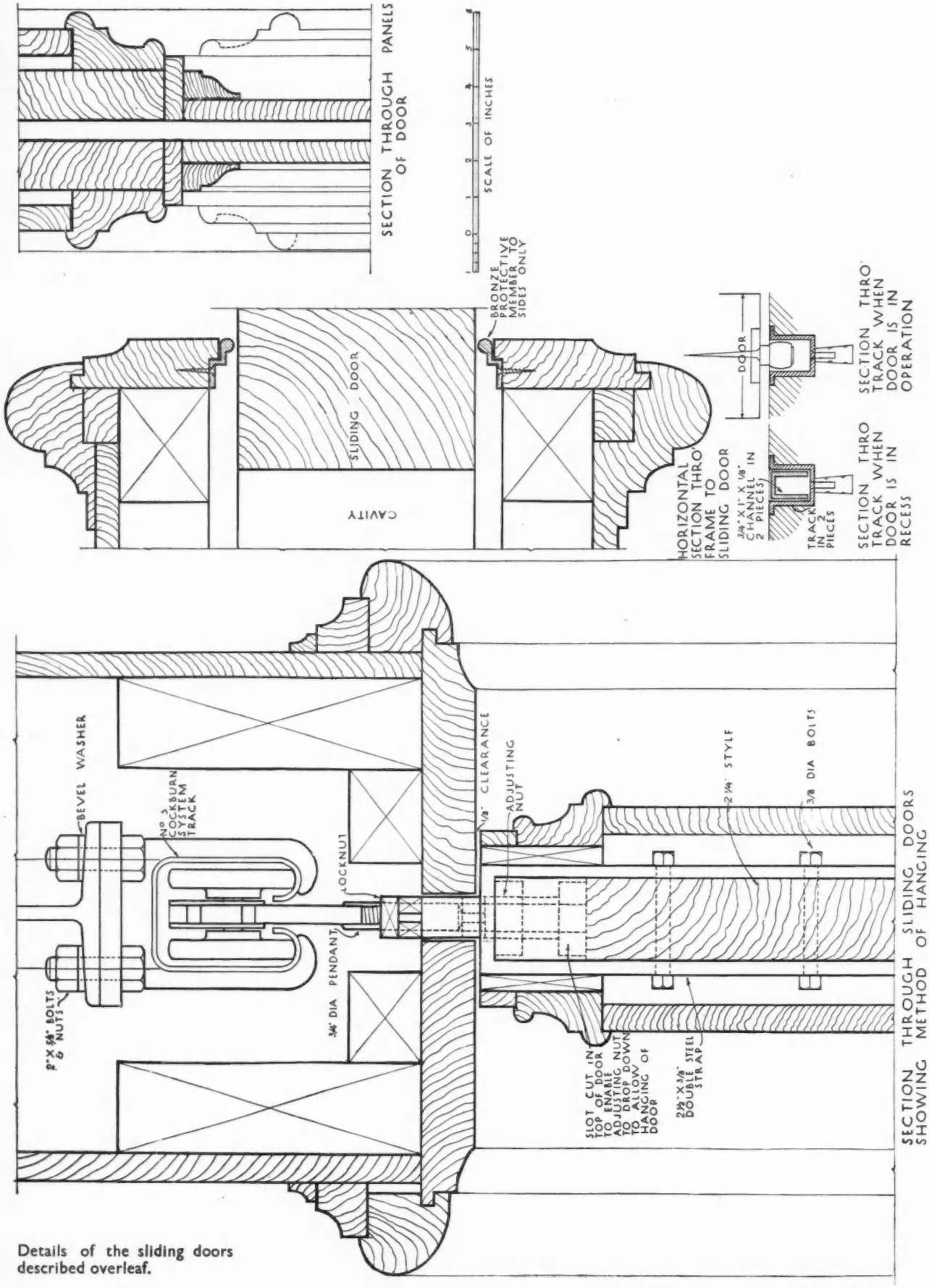
SLIDING DOORS • R.I.B.A. BUILDING, PORTLAND PLACE, W. • G. GREY WORNUM



These doors, which give access to the first floor Reception Room and Exhibition Room, are panelled in Australian walnut Indian laurel and rosewood. The drawings overleaf show how the doors are suspended from their track, the sliding gear being so efficient that only light pressure is necessary.

WORKING DETAILS : 150

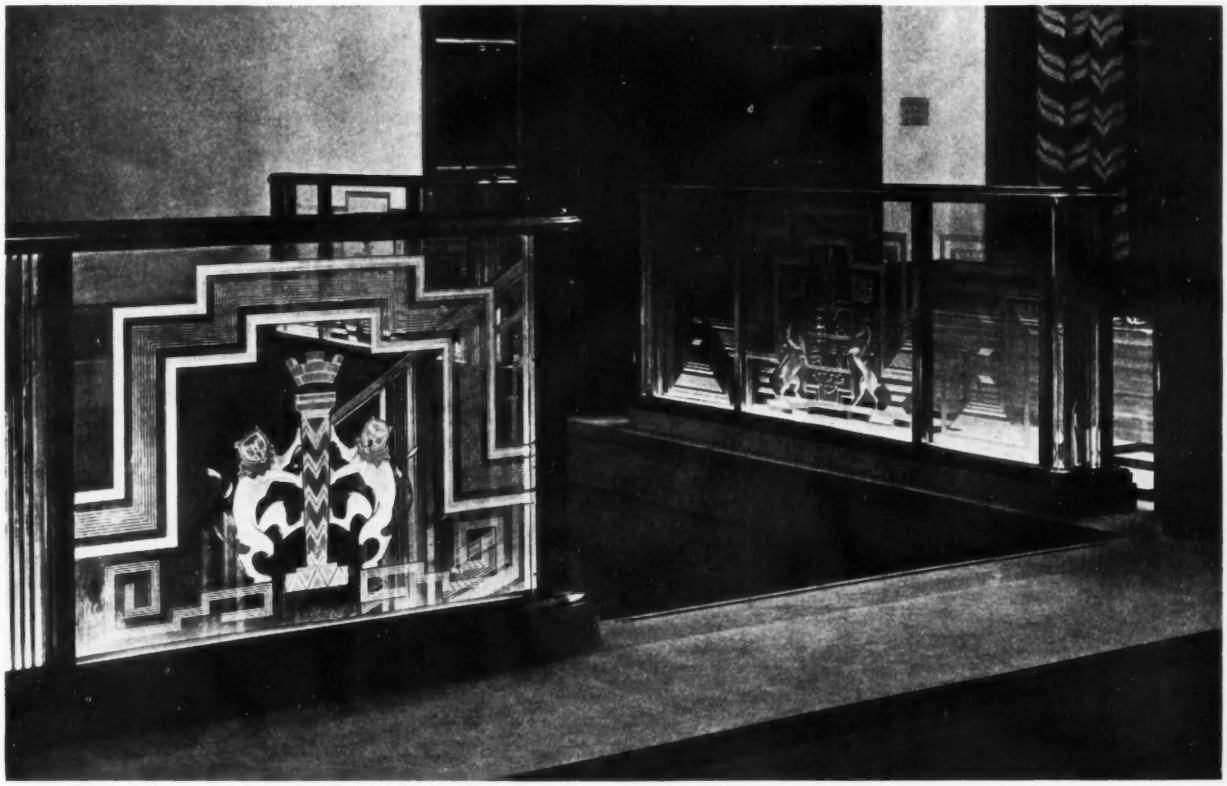
SLIDING DOORS • R.I.B.A. BUILDING, PORTLAND PLACE, W. • G. GREY WORNUM

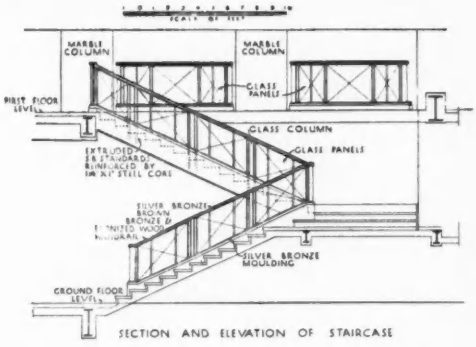


Details of the sliding doors described overleaf.

WORKING DETAILS : 151

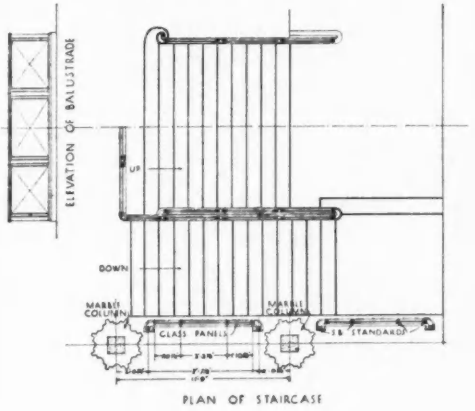
STAIRCASE • R.I.B.A. BUILDING, PORTLAND PLACE, W. • G. GREY WORNUM





SECTION AND ELEVATION OF STAIRCASE

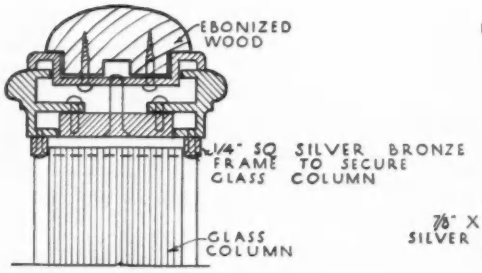
The balustrades of these stairs are silver bronze, with etched glass panels bearing the Royal Arms, the Arms of the Dominions, and the badge of the R.I.B.A. Concealed tubular lights in the bases of the balustrades illuminate the glass in its thickness, bringing out the green and silver lights in it. The glass panels are the work of Mr. Jan Juta. Ashburton (Devonshire) marble is used for the casing of the four stanchions, the treads of the staircase are blue African, with black Derbyshire risers.



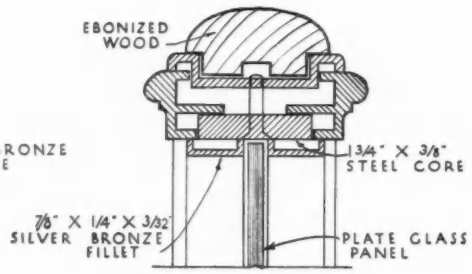
PLAN OF STAIRCASE

WORKING DETAILS : 152

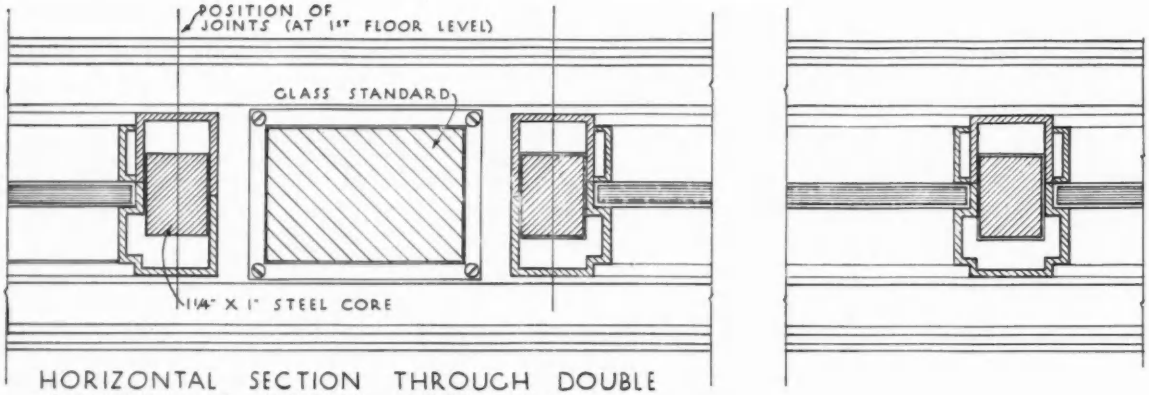
STAIRCASE • R.I.B.A. BUILDING, PORTLAND PLACE, W. • G. GREY WORNUM



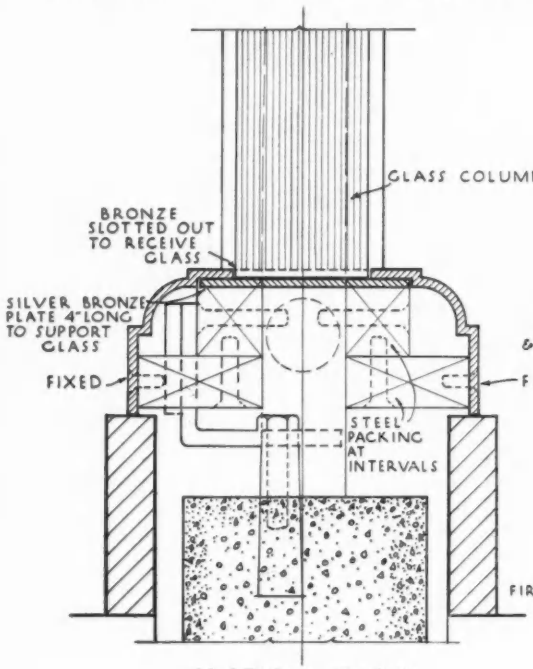
SECTION THRO' HANDRAIL



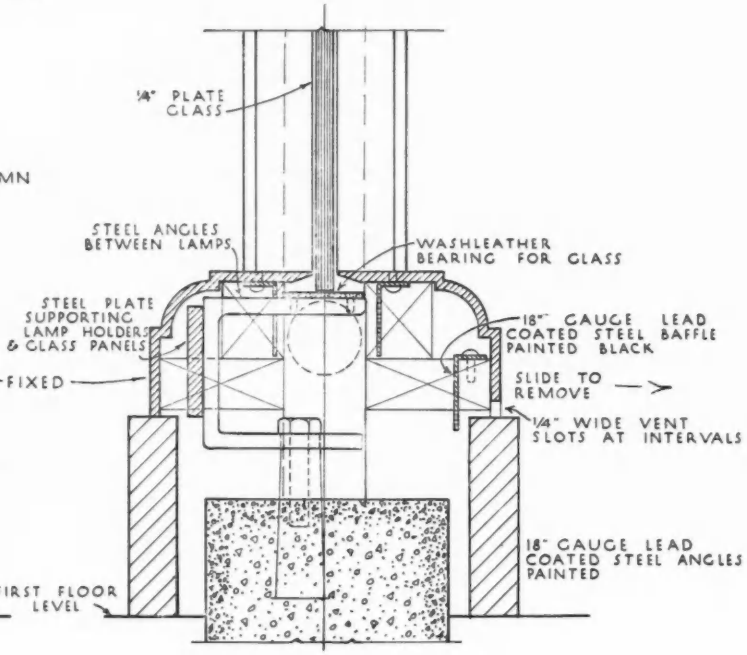
SECTION THRO' PLATE GLASS PANEL



HORIZONTAL SECTION THROUGH DOUBLE COLUMN AT SECOND FLOOR LEVEL



SECTION THRO' BASE OF GLASS COLUMN

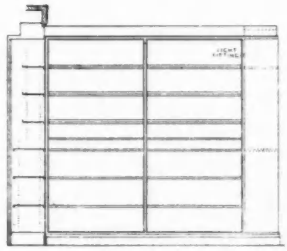


SECTION THRO' BASE OF GLASS PANELS

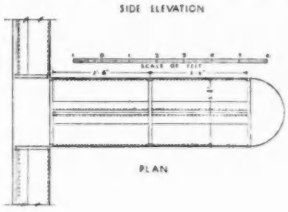
Details of the balustrade illustrated overleaf.

WORKING DETAILS : 153

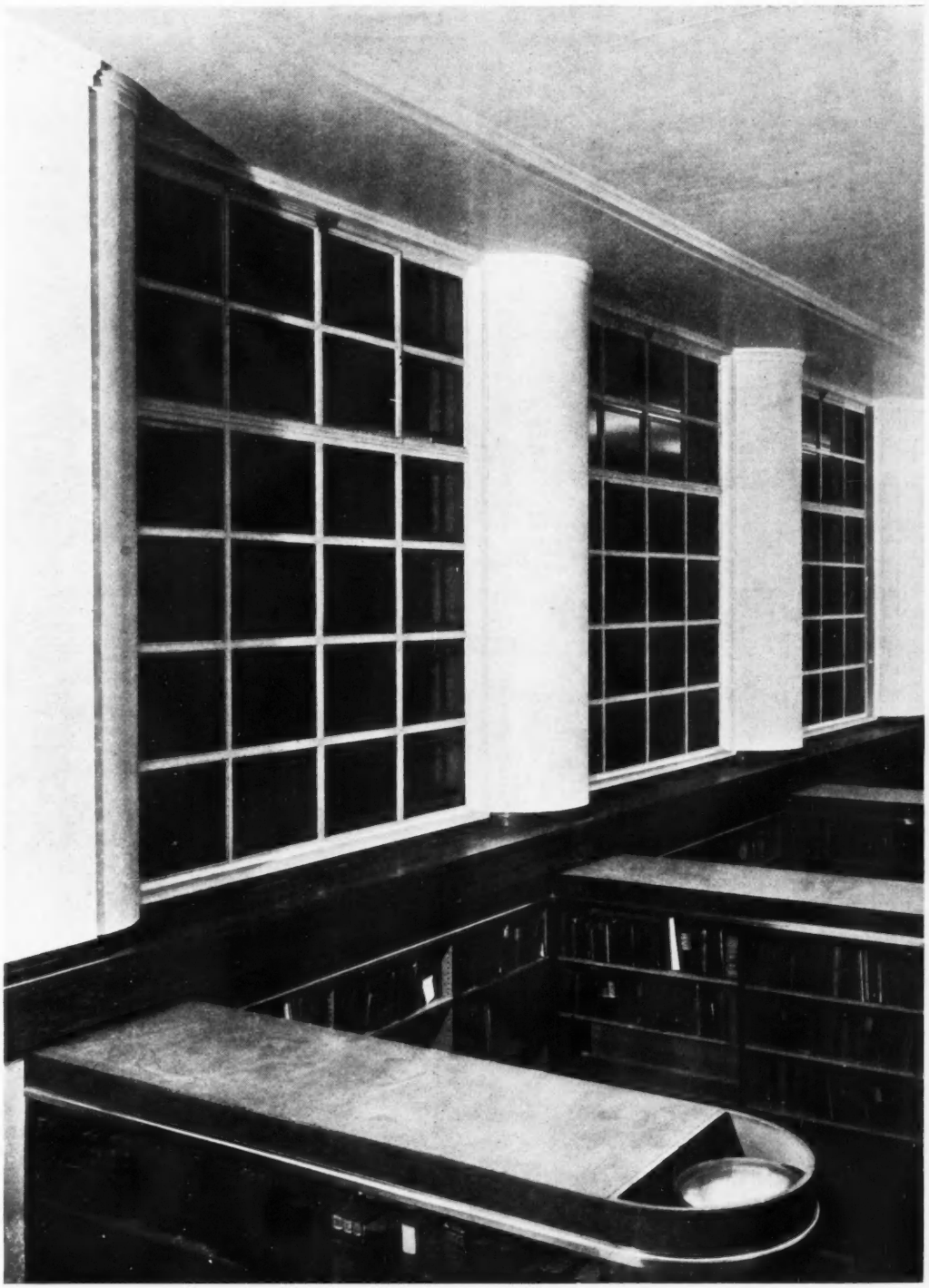
LIBRARY BOOKSTACKS • R.I.B.A. BUILDING, PORTLAND PLACE, W. • G. GREY WORNUM



SIDE ELEVATION



PLAN

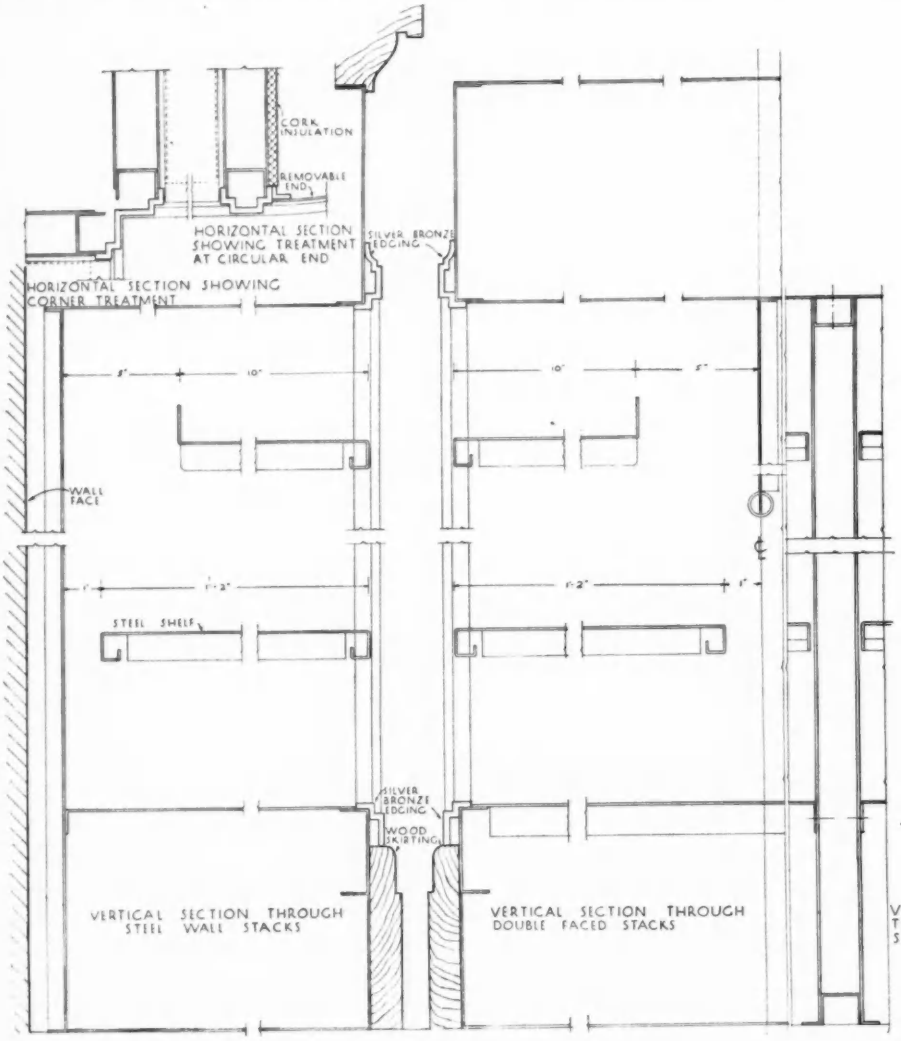


These steel bookshelves have semi-circular ends containing radiators (insulated from the books by means of cork slabs) and floodlights. Detail drawings are shown overleaf.

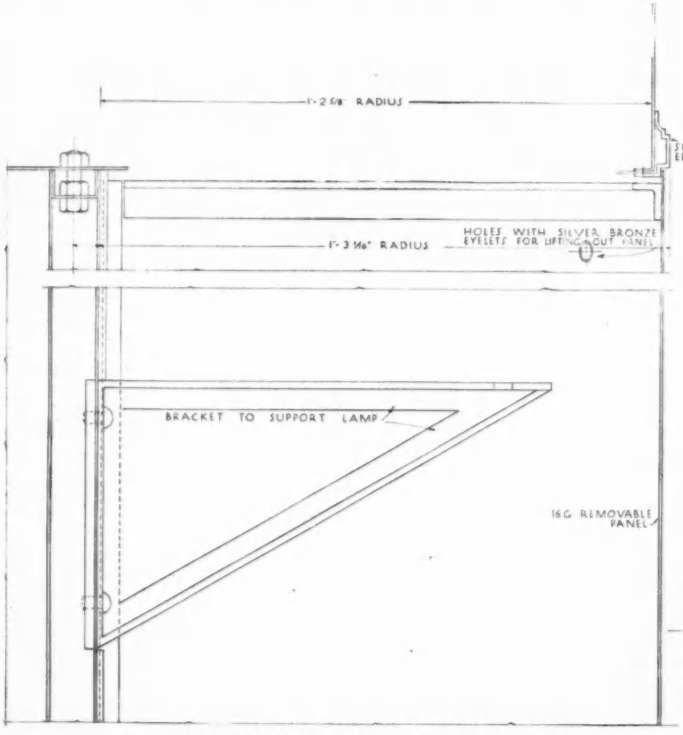
FILING REFERENCE:

WORKING DETAILS : 154

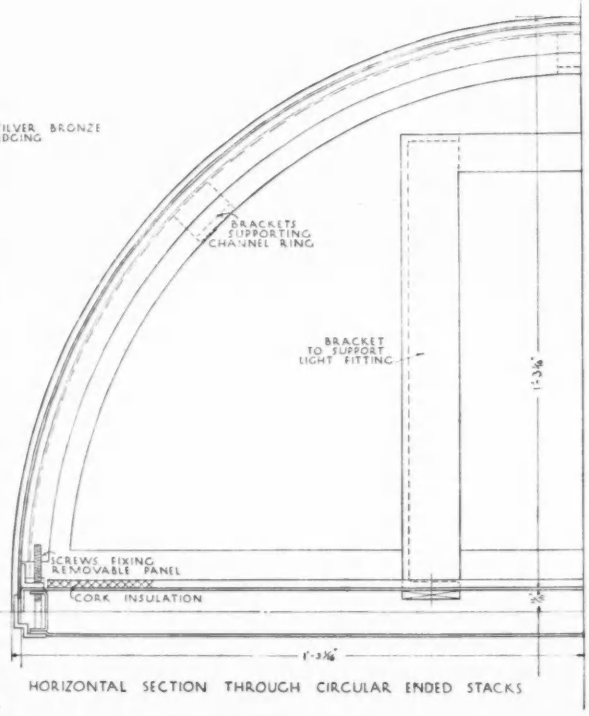
LIBRARY BOOKSTACKS • R.I.B.A. BUILDING, PORTLAND PLACE, W. • G. GREY WORNUM



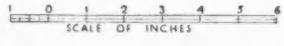
Details of the book shelves illustrated overleaf.



VERTICAL SECTION THROUGH UPPER PART OF CIRCULAR ENDED STEEL BOOK STACKS

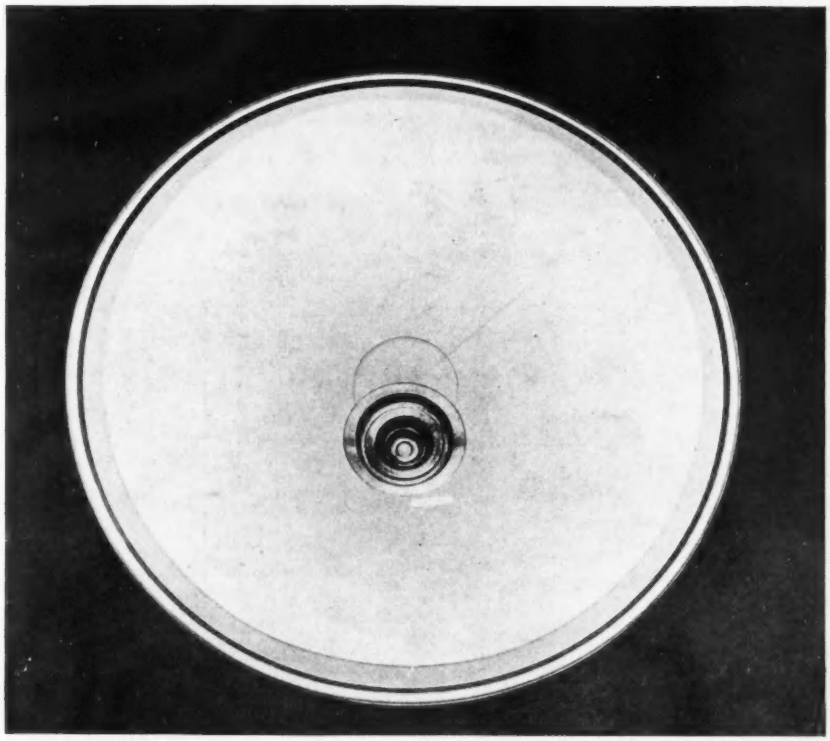


HORIZONTAL SECTION THROUGH CIRCULAR ENDED STACKS



WORKING DETAILS : 155

LIGHTING FITTINGS • R.I.B.A. BUILDING, PORTLAND PLACE, W. • G. GREY WORNUM

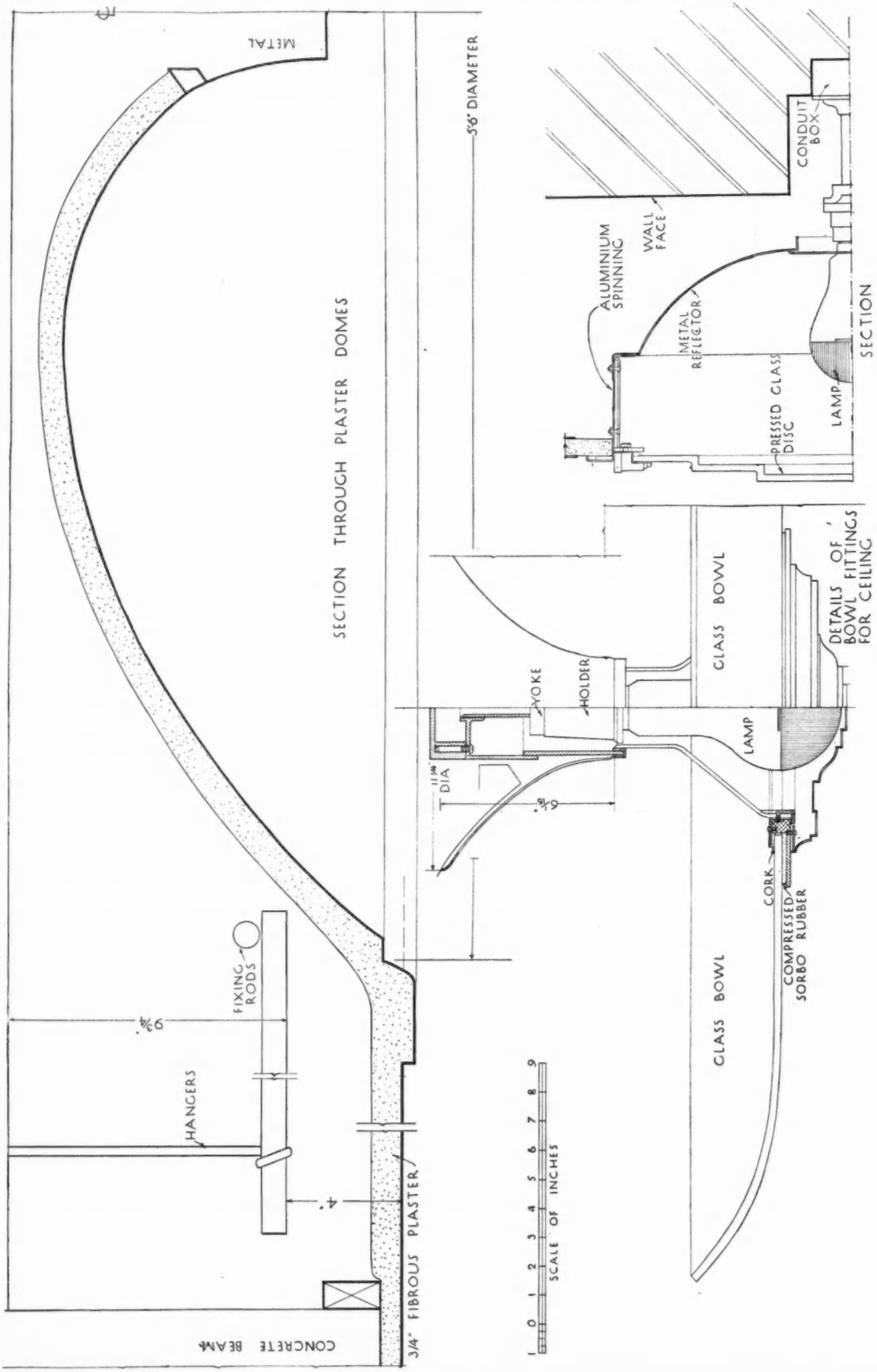


Two lighting fittings: top, from the Henry Florence Memorial Hall; bottom, a wall or ceiling fitting used in staircases and vestibules. Detail drawings are shown overleaf.

FILING REFERENCE:

WORKING DETAILS : 156

LIGHTING FITTINGS • R.I.B.A. BUILDING, PORTLAND PLACE, W. • G. GREY WORNUM



Details of the lighting fittings illustrated overleaf.

ARCHITECTS, CONSULTANTS, BUILDERS, CRAFTSMEN

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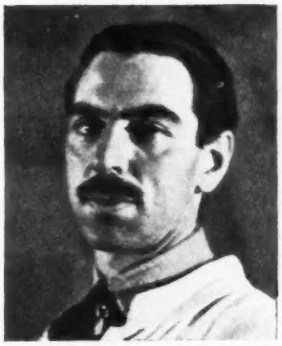

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On this page are reproduced portraits of some of those who contributed to the finished R.I.B.A. Building : 1, G. Grey Wornum, F.R.I.B.A., Architect ; 2, Leonard Horner, of Ashby and Horner, General Contractors ; 3, Walter W. Nobbs, Heating and Ventilating Consultant ; 4, Bainbridge Copnall, Sculptor ; 5, Joseph Pile, General Foreman ; 6, R. T. James, of R. T. James and Partners, Structural Engineers ; 7, R. C. Long, Clerk of Works ; 8, James Woodford, Sculptor ; 9, Jan Juta, Painter and Decorative Designer ; 10, Waldo Maitland, Lighting Consultant ; 11, Dennis Dunlop, Sculptor ; 12, James Young, Chief Architectural Assistant.

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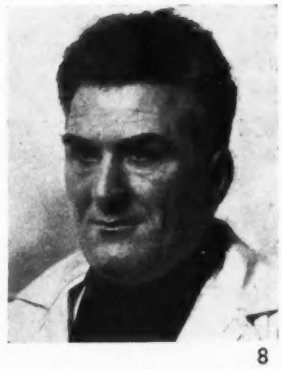

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HISTORY CONDENSED : THE ORIGINS OF

A TABLE OF INFLUENTIAL OCCURRENCES

[*COMPILED BY J. M. RICHARDS*]

The chronological table that follows attempts to set out in a concise form those events of every year since 1834 that have had most effect on the subsequent development of architecture in England. It cannot, of course, claim to be exhaustive ; nor is the introduction of each occurrence explained in all cases by analysis of its influence, though the effects of influence can often be seen in the actual buildings mentioned, which can be considered to be the concrete expression of specific tendencies as well as a formative influence in themselves. The table must be taken merely as a suggestion for useful lines of research—a kind of terminus from which to start numerous trains of association, bringing the study of architectural development into the œcological and away from the eclectic field ; demonstrating the growth of architecture as conditioned chiefly by changing social habits and opportunities.

One or two explanations are needed : when a building is mentioned, either because of its individual contribution to design or construction or as the outstanding example of some phase or period, it is the date of completion that is given ; people, except when mentioned in connection with a particular occurrence, are listed for reasons of convenience according to the date of their death.

It is impossible to make any but general acknowledgment of references, assistance, etc. For any errors, omissions, misinterpretations of influence or obscurity of reference apology is made in advance. The author will welcome suggestions sent to the editor of the JOURNAL *that would add completeness and interest to the table.*

1834 Foundation of the R.I.B.A.
The Oxford Movement : one of the major influences behind the Gothic Revival.
Death of Thomas Telford.
The Tolpuddle Martyrs : the birth struggles of trades-unionism.
Destruction by fire of the Palace of Westminster.

1835 Death of John Nash.
Municipal Corporations Act : instituting municipal supply of gas, water and other services, and municipal construction of Town Halls and other public buildings.
Death of William Cobbett : the champion of decentralization.
Invention of the telegraph.
The earliest extant photograph.

1836 Publication of Pugin's *Contrasts*.
Royal Institution, Edinburgh, by W. H. Playfair.
The linotype machine : used for printing the *New York Tribune*.
Building Societies Act.

1837 Royal Charter granted to the R.I.B.A. by William IV.
Death of Sir John Soane.
Accession of Queen Victoria.
Publication of Carlyle's *French Revolution*.
Camille Polonceau : the Polonceau truss used in the Gare du Nord, Paris : first important structural recognition of the properties of iron.
The Reform Club, Pall Mall, by Sir Charles Barry.
Death of Constable.

1838 *The Great Western* crosses the Atlantic : the first ship to do so under her own steam only.
Cobden : the foundation of the Anti-Corn Law League, and the beginning of agitation for free trade.
National Gallery, London, by W. Wilkins, opened.
Publication of Britten and Pugin's *Public Buildings*.
First regular cross-Atlantic steamship service : (the S.S. *Sirius*.)
Great Arch at Euston Station, by Philip Hardwick.

1839 Chadwick's *Survey into the Sanitary Conditions of the Labouring Classes of Great Britain*, leading to the establishment of Medical Officers of Health and other reforms.
The first bicycle.
Competition for St. George's Hall, Liverpool : won by Harvey Lonsdale Elmes.
The Daguerre photograph.

1840 Penny postage introduced.
Invention of the principle of the turbine.
Marriage of Queen Victoria : advent of the Prince Consort and introduction of German influence.
Lay-out of Bayswater terraces.
Houses of Parliament, by Sir Charles Barry, completed.
Athenæum Club, by Decimus Burton.

1841 Competition for Taylor Institute, Oxford : won by C. R. Cockerell.
Death of Carl Friedrich Schinckel : also birth of Otto Wagner.

1842 Death of Cotman.
Trafalgar Square laid out by Sir Charles Barry.
Amalgamation of the R.I.B.A. with the Architectural Society.
Publication of Thomas Shotter Boys' *Original Views of London as It Is*.

1843 Bibliothèque de Sainte Geneviève, Paris, by Pierre Labrouste : iron frame roof and column construction.
Nelson Column, Trafalgar Square, by Railton.
Hong Kong ceded to England.

1844 First telegraph line (Paddington to Slough).
Royal Exchange, London, by Sir William Tite.
Rochdale Co-operative Society.

1845 St. George's Cathedral, Southwark, by Pugin.
Fitzwilliam Museum, Cambridge, by George Basevi.
First Portland Cement produced by J. C. Johnston.
First screw ship to cross Atlantic (*Great Britain*) : also the first iron-built ship.
Stoneware drainpipes introduced.

1846 Hall and Library of Lincoln's Inn, by Hardwick.
Cheap Trains Act.
Invention of the sewing machine.
Repeal of the Corn Laws.

ARCHITECTURAL CHANGE OVER 100 YEARS

1847 Rolled iron joist (I-beam) introduced by Ferdinand Zorés.
Water Works Act.
Foundation of the Architectural Association
Completion of the British Museum, by Robert Smirke.

1848 Second French Revolution : Louis Blanc and the beginnings of Socialism in Europe.
Chartist riots.
Geological Museum, Piccadilly, by James Pennethorne.
Publication of Macaulay's *History of England.*
First award of the R.I.B.A. Gold Medal : to C. R. Cockerell.
Frankfort Assembly.
Publication of Pugin's *Gothic Ornaments.*
Publication of the *Communist Manifesto* by Marx and Engels.
Death of George Stephenson.

1849 Foundation of the Pre-Raphaelite Brotherhood.
Publication of Brandon's *Analysis of Gothic Architecture.*
Public Health Act.
Publication of Ruskin's *Seven Lamps of Architecture.*

1850 Invention of dryplate photography.
Robert Stephenson's tubular bridge between Wales and Anglesea : totally enclosed iron plate-girder design.

1851 Great Exhibition in Hyde Park : also its building by Joseph Paxton. First important use of sheet glass (first produced in England in 1832).
Formation of the *Amalgamated Society of Engineers :* the model Trade Union.
Dorchester House, London, by Lewis Vulliamy : the last of the great neo-Renaissance palaces ; painted decoration by Alfred Stevens.
Death of J. M. W. Turner.
First cross-Channel cable (to Calais).

1852 Death of Augustus Welby Pugin.
The Second Empire.
King's Cross Station : iron roof by Lewis Cubitt.

1853 Haussmann's replanning work in Paris.
Advertisement Tax repealed.
Completion of the *Grandes Halles* in Paris, in iron and glass from Flachat's designs.

1854 W. B. Wilkinson's patent fireproof floor : a precursor of reinforced concrete.
Crimean War : confirmation of Anglo-French *entente,* established under Louis Philippe.

1855 Bessemer's " Converter " process : mass-production of steel.
Newspaper Tax abolished.
Metropolis Management Act.
Joint Stock Companies : limited liability law.
British Museum Reading Room, by Sydney Smirke.

1856 Introduction of aniline dyes.
Lay-out of Saltaire (an industrial garden suburb, and the precursor of the garden city) by Titus Salt.

1857 Francis's typewriter.
Indian Mutiny.

1859 The first lift (" vertical screw railway ") installed by Otis Tufts in the Fifth Avenue Hotel, New York City.
Brunel's Saltash Viaduct : bow-string design in iron.
Publication of John Stuart Mill's *On Liberty.*
American Civil War.
Publication of Charles Darwin's *Origin of Species.*

1860 *Risorgimento :* Garibaldi's march on Naples : the introduction of the coloured shirt.
The Red House, Upton : designed for William Morris by Philip Webb.
Smithfield Market, by William Haywood.
Publication of Penrose's *Parthenon.*

1861 Death of the Prince Consort.
Italian excavations at Pompeii.
Foundation of Morris, Marshall, Faulkner and Co.: manufacture and distribution of William Morris's designs.

1862 The First International.
Glaisher's balloon ascent.
Westminster Bridge (Sir Thomas Page) opened.

1863 Publication of Mrs. Beeton's Cookery Book.
Death of Thackeray.

1864 The London Sewerage System.
Completion of Brunel the Younger's suspension bridge over the Avon.

1865 First Transatlantic cable laid.

1866 Bismarck's defeat of Austria : first milestone of German Unity ; also opening the way to Italian Unity.

1867 First volume of Karl Marx's *Das Kapital.*
Government Offices in Whitehall completed by Sir Giles Gilbert Scott : style changed to classic through pressure by Lord Palmerston—serious blow to the Gothic Revival.
Second Reform Bill.
Paris Exhibition : concrete floor by Coignet (first important use of mass concrete since Roman times) ; *Galerie des Machines* in steel and glass, by J. B. S. Krantz.
Death of Faraday.
Publication of Queen Victoria's *Leaves from the Journal of Our Life in the Highlands :* the Scottish or Balmoral influence in interior decoration.
Canadian Federation.
Monier's patent flower-pots : first real reinforced concrete construction.

1868 School Enquiry Reports.
Covent Garden Opera House, by E. M. Barry.
Siemens steel process commercially developed.

1869 Opening of the Suez Canal.
Construction of Holborn Viaduct : William Haywood, City Surveyor.
Publication of Matthew Arnold's *Culture and Anarchy.*

HISTORY CONDENSED : THE ORIGINS OF

1870 St. Pancras Station, by Sir Gilbert Scott : roof in steel and glass by Peter Barlow.
Education Act : elementary education made compulsory, and the school leaving age raised to 13 (subsequently to 14).
Completion of Victoria Embankment.

1871 Hollow-tile flooring invented by Balthasar Kreisher.
End of Franco-Prussian War : Germany acquires Lorraine iron fields and begins to develop her steel industry.
Trade Union Act.
Completion of the Albert Hall, by Francis Fowke.
Opening of Mont-Cenis tunnel.

1872 The Albert Memorial, by Sir Gilbert Scott.
Menier's Chocolate Works at Noisel-sur-Marne, by Jules Saulnier : the prototype of the steel frame structure.

1873 "New Zealand Chambers," Leadenhall Street, by Norman Shaw ; the first example of his famous picturesque classic.
Publication of Sir T. G. Jackson's *Modern Gothic Architecture.*
Death of Sir William Tite.
Publication of Ferguson's *History of Modern Architecture.*

1874 Formation of the International Postal Union.
Revision of the Building Societies Act.

1875 Gustave Eiffel's bridge over the Douro : *la ferme en arc* used in a single span of 160 metres.
Paris Opera House.
Third French Republic.
Death of Alexander ("Greek") Thompson.
Public Health Act.

1876 Bon Marché, Paris, by L. C. Boileau and Gustave Eiffel.
Philadelphia Exhibition.
The first telephone.

1877 The properties of asbestos discovered.
Society for the Protection of Ancient Buildings founded by William Morris.
Board of Trade allows use of steel for bridge-building.

1878 Electric lighting introduced.
Paris Exhibition : Henri de Dion, engineer.

1879 Natural History Museum, South Kensington, by Alfred Waterhouse.

1881 First Boer War.
Invention of arc welding.
Death of William Burges.

1882 Polytechnic Schools founded : popular technical education.
First compulsory examination of candidates for associateship of the R.I.B.A.
The electric motor.
Law Courts, London, by A. G. Street, completed : last monumental building of Gothic revival.

1883 Foundation of the *Art Workers' Guild* (in Norman Shaw's office).
Death of Karl Marx.
Death of Richard Wagner, composer.

1884 Queen Anne's Mansions, Westminster, completed.
Third Reform Bill : universal male franchise.
Foundation of the Fabian Society.

1885 Birth of Walter Gropius.
Offices in Lincoln's Inn Fields, by W. Simmons : first use of reinforced concrete in England.
Home Insurance Building, Chicago : the pioneer skyscraper.
The Welsbach mantle : gas lighting.
Steel joists first rolled in England, by Dorman Long & Company.

1886 Death of H. H. Richardson.

1887 Birth of le Corbusier (Jeanneret).
Truro Cathedral consecrated.

1888 House at Bedford Park, by C. F. A. Voysey.
L.C.C. Act.
Introduction of aluminium as a building material.

1889 First instalments of Charles Booth's *London Survey.*
Paris Exhibition : the Eiffel Tower, by Gustave Eiffel ; *Galerie des Machines*, by Cottancin.
First petroleum-driven motor car.
Foundation of the *Ecole Boule* in Paris : the nursery of French Decorative Art.

1890 The Forth Bridge, by Fowler and Baker.
First high-voltage underground electric mains, installed by Ferranti between Deptford and London.
Fall of Bismarck.
First tube railway : City and South London.
First block of L.C.C. Flats.
Lay-out of Bedford Park, by Norman Shaw.
Half-tone process : first used by *New York Tribune ;* practicable reproduction of photographs and international dissemination of architectural ideas.

1891 New Scotland Yard, by Norman Shaw.
Free education.
William Morris's Kelmscott Press.
Public Health Act.
Publication of William Morris's *News from Nowhere.*

1892 Hennebique's compound beams : round-bar reinforcement, making reinforced concrete a monolithic material.
Publication of J. H. Bernard's translation of Kant's *Critique of Judgement.*
"Liberator" disaster, leading to revision of Building Society law (see 1894).

1893 Introduction of the blue-print, by Herschel : mechanical reproduction of drawings ; revolution in office practice leading to disappearance of the pupil tracer.
Cecil Rhodes commissions Herbert Baker to restore Groote Schuur, South Africa : interest in Dutch Colonial design.
Imperial Institute, South Kensington, by T. E. Collcutt.

1894 Aubrey Beardsley : the *Yellow Book.*
Foundation of Liverpool School of Architecture.
Publication of Coignet and Tedesco's memoir on reinforced concrete calculation.
Opening of Tower Bridge, by Sir. J. W. Barry ("architectural features by Sir Horace Jones").

ARCHITECTURAL CHANGE OVER 100 YEARS

1894 Winslow House, by Frank Lloyd Wright.
(cont.) Completion of Karl Marx's *Das Kapital*.
London Building Act.
Invention of thermit welding, by C. Vantin.
Standard steel sections: the first catalogue circulated by the Carnegie-Phipps Co., of Pittsburg.
Building Societies Act.
Baudot's church of Saint Jean l'Evangeliste at Montmartre: the first reinforced concrete building by an architect.
Opening of Manchester Ship Canal.
House at Uccle, near Brussels, by Van de Velde.

1895 Researches in acoustics, by W. C. Sabine: enunciation of "Sabine's Law."
Automobile race from Paris to Bordeaux and back: won by Levassor, establishing the supremacy of the internal combustion engine over the steam and electric.
Death of Thomas Huxley.
Workshops Act.
First petrol-driven car in England.
Discovery of Röntgen ray.

1896 Furniture warehouse in West Hartlepool: first steel-frame building in England.
Death of William Morris.
Foundation of Central School of Arts and Crafts.

1897 Queen Victoria's Diamond Jubilee.
Hennebique introduces "crank-up" rods into reinforced concrete design.
Glasgow School of Art, by C. R. Mackintosh.
First publication of *Country Life*.
First publication of *The Architectural Review*.
Mill at Nantes, by Hennebique: cantilevered floors in reinforced concrete.

1898 Amendments to London Building Act.
Foundation of *Viennese Sezession*, by Josef Hoffmann and others.
Boston Public Library, by McKim, Mead and White.
Local Government Act.
Stations for Vienna City Railway, by Otto Wagner: use of sheet steel.
Establishment of permanent Competitions Committee by the R.I.B.A.
Death of Edward Burne-Jones.

1899 Marconi experiments with wireless telegraphy.
Second Boer War.
"The Orchards," Chorley Wood, by C. F. A. Voysey.
"The Orchards," Godalming, by Edwin Lutyens: typical example of the architect's early romantic style.

1900 Moncrieff formulæ for steelwork calculation.
Death of William Butterfield.
Wright brothers' flying experiments at Dayton, Ohio.
Chicago World Fair: victory for the Beaux Arts School of design over the followers of Louis Sullivan.
Invention of plywood.
Van de Velde appointed director of Weimar School of Art.
Paris Exhibition: *art nouveau*.
Introduction of asbestos roofing: a stage in the destruction of local character of English countryside.
Eagle Insurance Building, Birmingham, by W. R. Lethaby.

1901 First building by Peter Behrens.
Death of Queen Victoria.
Opening of the Architectural Association as a full-time school.
"Grey Walls," Gullane, by Edwin Lutyens: typical example of the architect's formal style.
First long-distance wireless transmission: Cornwall to Newfoundland.

1902 Nitshill, Scotland, by C. R. Mackintosh.
Education Act.

1903 Amsterdam Bourse, by H. P. Berlage.
Completion of Roman Catholic Cathedral at Westminster: F. Bentley.
Letchworth Garden City.
Death of Whistler.
Kingsway and Aldwych laid out on the site of Clare Market.
Competition for Liverpool (Protestant) Cathedral: won by Sir Giles Gilbert Scott.
Auguste Perret's reinforced concrete flats in the Rue Franklin, Paris.
Puckersdorf Sanatorium, Vienna, by Josef Hoffmann.

1904 Workmen's Compensation Act.
C. H. Reilly appointed professor of architecture at Liverpool.
Flat-roofed house on Lake Geneva, by Adolf Loos.
Establishment of the Board of Architectural Education.
St. Louis Exhibition.
Wertheim Store, Berlin, by Alfred Messel.
Formation of British Engineering Standards Association.

1905 Amendments to London Building Act.
Perret bros.' garage in the Rue Ponthieu, Paris.
Houses at Letchworth, by Baillie Scott.
Otto Wagner's Steinhof lunatic asylum.

1906 Ritz Hotel, by Mewès and Davis, completed.
Opening of first Simplon Tunnel.
Trades Disputes Act.
Death of Cézanne.

1907 Death of J. F. Bodley.

1908 Unity Temple, by Frank Lloyd Wright.
First *Daily Mail* Ideal Home Exhibition.
Competition for London County Hall, won by Ralph Knott.
Piccadilly Hotel, by Norman Shaw.

1909 Bleriot's flight across the English Channel.
R.I.B.A. form of contract.
John Burns's Town Planning Bill.
Turbine erecting shop in Berlin, by Peter Behrens.
Selfridge's, London, by Frank Atkinson.
Victoria and Albert Museum, by Aston Webb, completed.
Diaghieleff Ballet: first season in Paris: Léon Bakst and orientalism in interior decoration.

HISTORY CONDENSED : THE ORIGINS OF

1910
Pennsylvania Railroad Station, New York, by McKim, Mead and White.
Publication of Benedetto Croce's *Problems of Æsthetics.*
Layout of The Mall, London, by Aston Webb.
House in Cheyne Walk, Chelsea, by C. R. Ashbee.

1911
Fagus factory, Alfeld, by Walter Gropius.
Post-impressionist exhibition in London, organized by Roger Fry : first introduction of modern French painting to English public.
Kodak Building, Kingsway, by John Burnet.
Liver Building, Liverpool, by W. Aubrey Thomas.
Headquarters of the Mannesmann Tube Works, Dusseldorf, by Peter Behrens.
Health Insurance Act.
New Delhi : foundation stone laid.
Unveiling of the Victoria Memorial.
First air-mail in England (Hendon to Windsor).
Perret's Theatre des Champs Elysées, Paris.

1912
Death of Norman Shaw.
Foundation of the Austrian *Werkbund* : Josef Hoffmann.
Central Hall, Westminster, by Lanchester and Rickards.
House for Dr. Scheu, Vienna, by Adolf Loos.

1913
Opening of Panama Canal.
Robert Atkinson's influence at the A.A.
Woolworth Building, New York City, by Cass Gilbert.
Canberra : foundation stone laid.
Roger Fry's Omega workshops : continental influence in interior decoration.
Price of *The Times* reduced to 2d.
Discovery of aluminious rapid-hardening cement : Pavin de Lafarge.

1914
European War.
Hampstead Garden Suburb : Raymond Unwin.
Exhibition of applied arts, Cologne : theatre by H. van de Velde.
Publication of Geoffrey Scott's *Architecture of Humanism.*

1915
Publication of C. F. A. Voysey's *Individuality.*
E. McKnight Kauffer : first poster for *Underground Railways.*
Panama Pacific Exhibition, San Diego : Bertram Grosvenor Goodhue, architect : spread of California-Spanish influence.
Formation of the *Design and Industries Association.*

1916
Freyssinet's reinforced concrete airship shed at Orly.
New York zoning ordinance.
Stainless steel patented by Brearley.

1917
Russian Revolution.
Finnish republic proclaimed.
Heals' building, Tottenham Court Road, London, by Smith and Brewer.

1918
Stonehenge presented to the nation.
The Armistice.
Women's suffrage.
Death of Otto Wagner.

1919
Socialist majority on the Vienna Council : working-class housing legislation leading to construction of municipal housing schemes, 1923-1927.
Sir Aston Webb president of the Royal Academy : the first architect-president since James Wyatt in 1805.
Treaty of Versailles.
Ratification of 18th (prohibition) amendment to U.S. Constitution.
Death of Ernest Gimson.
First issue of *Daily Herald.*
First Atlantic aeroplane crossing, by Alcock and Brown.
Housing and Town-planning Act.
Introduction of standard metal-windows for domestic use.

1920
First session of the League of Nations at Geneva.
Foundation of the Building Research Station.
London Exhibition of African negro sculpture.
Foundation of Welwyn Garden City : Ebenezer Howard.
Stockholm Concert Hall, by Ivar Tengbom.
Death of Temple Moore.
Housing in Rotterdam : J. J. P. Oud.

1921
First broadcast : at Pittsburg, U.S.A.
Exhibition of American Architecture at the R.I.B.A.

1922
Publication of Spengler's *Decline of the West.*
New York Regional Survey started.
Foundation of the C.I.A.M. (Congrès Internationaux d'Architecture Moderne).
Bush House, by Roger Houchin : the central portion completed.
Opening of London County Hall : Ralph Knott.
Housing in Amsterdam, by L. de Clerk.
Foundation of the B.B.C.
Mussolini's march on Rome : Fascism in power.
Death of Graham Bell, inventor of the telephone.

1923
Stockholm Town Hall opened : Ragnar Östberg.
Ministry of Pensions Building at Acton, by H.M.O.W.
Concrete church at Le Raincy, by the Perret bros.
Competition for the Chicago Tribune tower : won by Raymond Hood and John Mead Howells.
Regent Street Quadrant, by Sir Reginald Blomfield.
Gothenburg Exhibition.

1924
Publication of Le Corbusier's *Vers une Architecture.*
Death of Bertram Grosvenor Goodhue.
Wembley Exhibition.
Death of Louis Sullivan.
Discovery of the sarcophagus of Tutankhamen.
Wheatley Subsidies.
Death of Lenin.
First Labour Government in England.
First Public Utility Societies' housing in Somers Town.
Britannic House, Finsbury, by Sir Edwin Lutyens.

1925
Paris Exhibition of Decorative Art.
Housing and Town Planning Act.
Amalgamation of R.I.B.A. and Society of Architects.
André Lurçat's villas at Versailles.

ARCHITECTURAL CHANGE OVER 100 YEARS

Stadium at Lyons, by Tony Garnier.
Foundation by Walter Gropius of the *Bauhaus* at Dessau : together with post-war economic conditions in Germany responsible for development of *pragmatic* (as opposed to French *romantic* functionalism).
Adelaide House, London Bridge, by Sir John Burnet and partners.

1926 "New Ways," Northampton : house by Peter Behrens.
Fire at the Shakespeare Memorial Theatre.
Mining Industry Act : leading to work of the Miners' Welfare Committee.
Foundation of the C.P.R.E.
Foundation of the Electricity Supply Board.
Houses in the Rue Mallet-Stevens, Paris, by Robert Mallet-Stevens.

1927 Stuttgart Housing Exhibition.
Working-class housing "drive" in Germany : siedlungen in Berlin, by Gropius, Richter, Taut and van der Rohe.
Competition for League of Nations Building at Geneva : Le Corbusier and Jeanneret's design.
Stockholm Public Library, by E. G. Asplund.
Le Corbusier and Jeanneret's villas at Garches.

1928 *New Survey of London Life and Labour* undertaken by the London School of Economics.
Steel church at Cologne, by Otto Bartning.
New York Medical Center, by James Gamble Rogers.
Competition for Shakespeare Memorial Theatre : won by Elizabeth Scott.
Death of C. R. Mackintosh.
Publication of Kenneth Clarke's *Gothic Revival.*
Launch of Nord-Deutscher Lloyd s.d. *Bremen.*
Scottish National War Memorial, by Sir Robert Lorimer : responsible for third Gothic revival in Scotland, still active in Edinburgh.
Frankfort Market Hall, by Martin Elsaesser.

1929 Shocken Store, Stuttgart, by Erich Mendelsohn.
Death of Serge Diaghieleff.
Underground Building, London, by Adams, Holden and Pearson.
Leipzig Market Hall.
Local Government Act : Poor Law Guardians abolished.

1930 Stockholm Exhibition.
First Irish Sweepstake : hospital building in Ireland : importation of continental hospital methods.
Completion of Karl Marx Hof, Vienna.
London Building Act.
Hilversum Town Hall, by W. M. Dudok.
News Building, New York City, by Raymond Hood.

1931 Factory at Beeston, by Sir E. Owen Williams.
One pipe system of sanitation.
Publication of Frank Lloyd Wright's *Modern Architecture.*
Architects' Registration Act.
Opening of New Delhi : Sir Edwin Lutyens and Sir Herbert Baker.
Death of W. R. Lethaby.
Publication of Hope Bagenal's *Planning for Good Acoustics.*
Revision of R.I.B.A. form of contract.
Economic Crisis : formation of National Government.
Publication of André Lurçat's *Modernist Architecture.*
London Exhibition of Swedish Industrial Art.
Death of Thomas Edison.

1932 Town and Country Planning Act.
Nazi regime in Germany : *Bauhaus* at Dessau closed.
Steelwork Code of Practice.
Broadcasting House, by G. Val Myer and Watson Hart : interior by Wells Coates, Raymond McGrath, etc.
Opening of the Building Centre, Bond Street.
Empire State Building, New York, by Shreve, Harmon and Lamb.
Death of Gertrude Jekyll, designer of gardens.
Completion of Stratford Theatre, by Scott, Chesterton and Shepherd.
Competition for new R.I.B.A. Building : won by G. Grey Wornum.
Completion of Sydney Harbour Bridge.

1933 Dorland Hall Exhibition of British Industrial Art.
President Roosevelt and the "New Deal" : N.R.A. (National Recovery Act).
Battle of Carlton House Terrace : victory for planning, but new building erected in Carlton Gardens.
Death of Adolf Loos.
Foundation stone laid of Roman Catholic Cathedral, Liverpool : designed by Sir Edwin Lutyens.
Foundation of MARS (Modern Architectural Research) Group.
Housing in Liverpool, by L. H. Keay.
Dunston Power Station, by Merz and McLellan.
Exhibition of Finnish furniture by Alvar Aalto.
Chicago World Fair.
Ministry of Health's Slum Clearance campaign.
Underground Stations on the Piccadilly Railway, by Adams, Holden and Pearson.
Completion of the first Soviet 5-year plan.
Erich Mendelsohn begins to practise in England.
Death of George Walton.
Completion of Electricity Grid.
Ravenscourt Park Hospital, by Burnet, Tait and Lorne.
Competition for Palace of the Soviets.
Magonigle report on malnutrition, Stockton-on-Tees : economics of working-class re-housing.

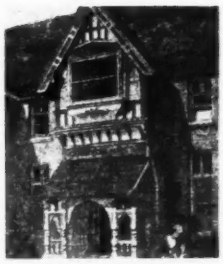
1934 Battle of Waterloo Bridge : defeat for planning: also acceptance of new design by Sir Giles Scott.
Opening of the Mersey Tunnel.
Death of H. P. Berlage.
Death of Raymond Hood.
Reinforced Concrete Code of Practice.
Formation of the Council for Art in Industry.
Lawn Road Flats, by Wells Coates.
The Ruislip case.
Wembley Baths, by Sir E. Owen Williams.
Death of Roger Fry.
Work by Lubetkin and Tecton for the Royal Zoological Society.
Gidea Park : exhibition of small houses.
Completion of R.I.B.A. Building by G. Grey Wornum : opening by H.M. the King.
R.I.B.A. Centenary.

ONE HUNDRED YEARS OF ENGLISH

DWELLINGS

1831 *The unpretentious politeness of the Regency survives in many later squares and terraces: urban living at its most civilized*

1851 *Scholarship supplanting unself-conscious culture: the rich the patrons of academic taste*



1865 c. *Ornament at all cost in the fashionable style: the decay of taste*

CIVIC AND CEREMONIAL BUILDINGS

1838 *The Grecian revival contributes civic scale and dignity*

1839 *Scholarship applied in the grand manner: the genius of classic design: monumental virtues combined with academic restraint*

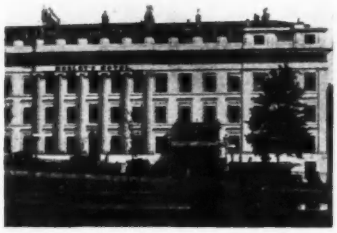
1840 *Scholarship less suitably applied: self-conscious stylism creates its own difficulties*

SERVICES TO THE COMMUNITY

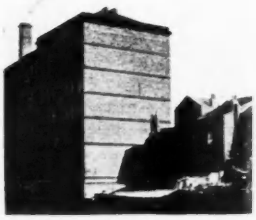
1830 *The engineer's unpremeditated functionalism: elegance akin to the cultivated Regency and honesty of purpose that survives the decay of taste better than the buildings in other categories*

1852 *Still no pains are taken to embellish a purely utilitarian building: it is left to its own dignity*

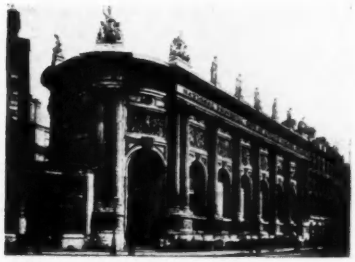
COMMERCE AND INDUSTRY



1836 *No differentiation of function: civility not yet ousted by advertisement*



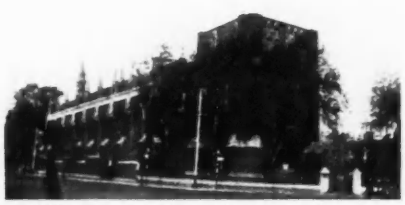
1845 c. *Industry as yet unadorned*



1864 *Academic impressiveness begins to find its real use: as the symbol of financial security*

UPLIFT

1836 *The end of an era*



1845 *The age of revivals at its serious beginning: scholarly conviction, not haphazard selection*

1847 *Greek running side by side with Gothic: seriously applied to a monumental purpose*

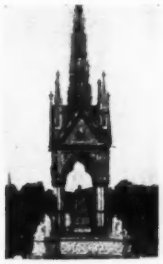
ARCHITECTURE: A PICTORIAL SUMMARY

1870 *The extreme of romanticism: conscientious stylism supplanted by a new picturesqueness: the architecture of escape*

1875 c. *Growth of the middle class: no tradition of culture to restrain the influence of commercial success*

1896 *Reaction from promiscuous eclecticism: a movement begins for a return to a sane vernacular*

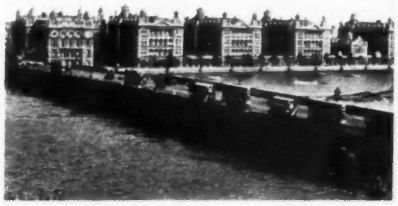
1865 c. *More difficulties: battle of the styles: classic for government after all*



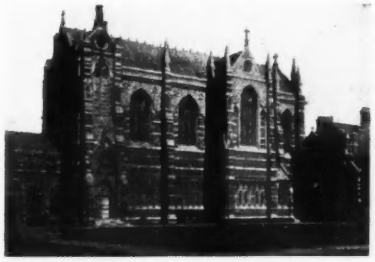
1872 *But still Gothic for sentiment*

1882 *Gothic suicide while of unsound mind: period conscientiousness killed by unreasonable application*

1891 *The new expedient: the romantic, substituting picturesqueness for scholarship: invention is better than cure*



1868 *Some essential services are rather regarded as monumental buildings, to be embellished in a suitable style*

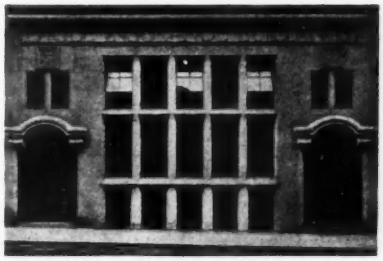


1870 *And for educational purposes Gothic is considered essential: though enthusiastic scholarship gives a certain interest independent of function*

1890 *Meanwhile, real engineering, through continual preoccupation with efficiency, is a useful corrective influence*

1879 *The religion of success: the current romantic style finds itself universally applicable*

1889 *The fashionable romanticism pervades all building: even industry must pretend to be something else*



1900 *Individuals are working towards a soberer expression of business: the limitations of fancy exposed*

1851 *The earliest signs of possibilities to come: technical opportunities undisguised by convention*

1855 *Originality, bnt to no end*

1879 *Fertility supplants originality*

1897 *Again the architecture of escape: profusion in design and a good deal of knowledge, conviction growing less*

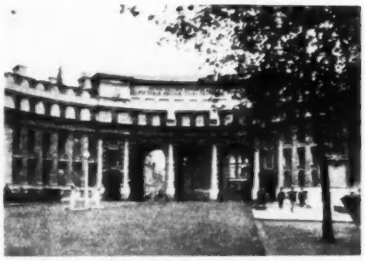
ONE HUNDRED YEARS OF ENGLISH

1901 *Back to "Queen Anne": a very suitable model for the new restraint: local materials: formal elements and the English "open" plan*

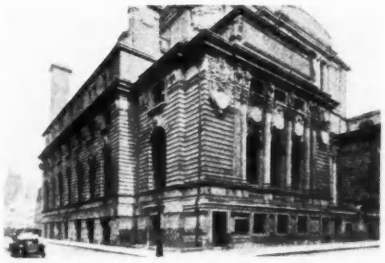
1903 *Romanticism still rampant but based on local materials and tradition: picturesque but not exotic*

1904 *The romantic villa enlarged: mass-living follows commercial mass-production, but with little recognition of new problems encountered or methods of solution available*

1893 *The architecture of externalization: new fields for fertility and new periods to investigate*

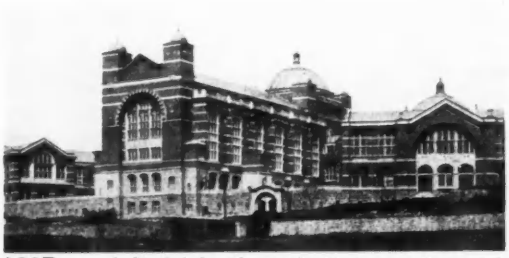


1910 *"Queen Anne" into modified renaissance: the weight of the white man's burden*

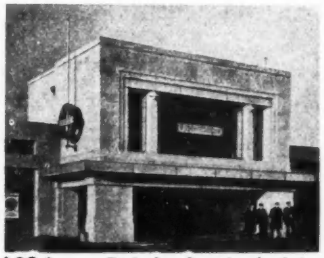


1912 *French operatic influence: baroque scholarship—the white man on holiday: architects' rather than community architecture*

1894 *But engineering is not always allowed to remain independent of the period in fashion*



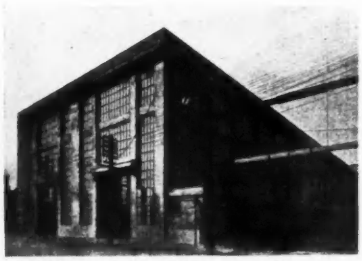
1907 *And period character remains (in terra-cotta) as social trimmings on a practically conceived building*



1926 *Revival of rational design, appropriately by way of transport services: a new function recognized by a new idiom*

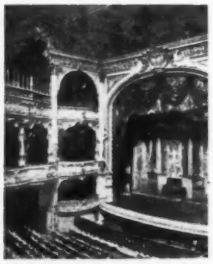
1903 *Commerce retains its fondness for the monumental*

1911 *With occasional romantic excursions*



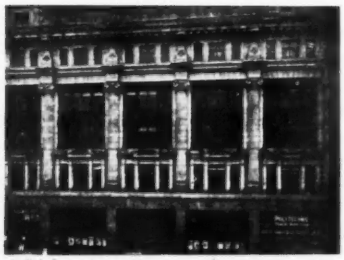
1920 *Industry shows signs of a return to its earlier sanity: efficiency comes first*

1924 *Commerce also realizes that it can be impressive through other than period means*



1900 *No stone left unturned*

1903 *Not even the Byzantine*



1911 *A soberer style returns, but sensitive scholarship does not condone increasing absurdity of application*

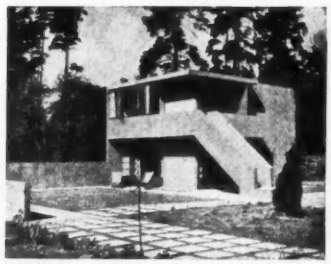
1927 *Scenic architecture: "modernized" stylism finds an appropriate purpose: drama where only drama is required*

ARCHITECTURE: A PICTORIAL SUMMARY

DWELLINGS

1922 *The garden city: the ideal employment of modernized "Queen Anne"—but still an architecture of escape*

1926 *Mass-living now firmly established: a communal solution, but still cautiously persisting with traditional domestic trimmings*



1933 *Real experiment progressing under the patronage of the private individual*

CIVIC AND CEREMONIAL BUILDINGS

1920 *Civic importance reflected in architectural exuberance*

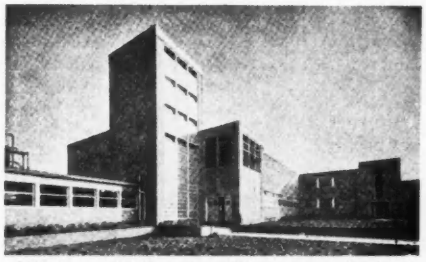
1927 *Reaction against extravagance, but civic dignity must always compromise with conservatism*

1934 *The last word*

SERVICES TO THE COMMUNITY

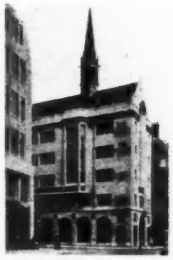
1927 *Modern materials allowed to dictate appearances*

1933 *And special function dictate external expression*

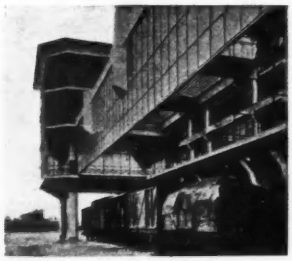


1934 *Public services still the pioneers of rationalism in architecture: no social distinctions to emphasize*

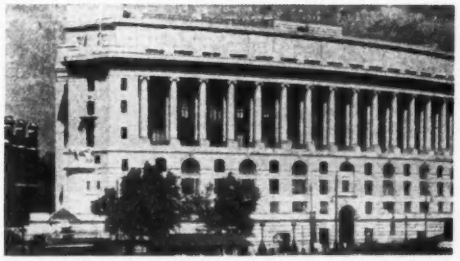
COMMERCE AND INDUSTRY



1927 *It can also be unashamedly eclectic*



1931 *Breaking free from convention, uses new materials and recognizes the result as architecture*

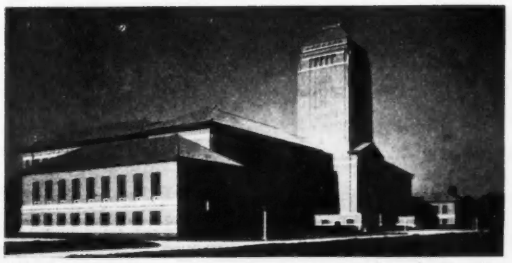


1932 *Commerce still for the most part prefers to present a stylish facade: modern organization must be disguised by the costume of financial respectability*

UPLIFT

1930 *The modern idiom arrives, but is often stylistically applied*

1932 *To be "modern" is to be news*



1934 *Away from commercial encouragement logical expression is still tempered by conservatism: technical advance disguised by traditional clothing—but not too traditional*

KEY TO THE BUILDINGS: *a list of the buildings reproduced as illustrations to this summary will be found in the first column overleaf* (page 710)

KEY TO THE PICTORIAL SUMMARY

Following are the names of the buildings illustrated in the pictorial summary of a hundred years of architectural change that occupies the four preceding pages.

DWELLINGS

1831 : Hyde Park Terrace, Kensington.
1851 : Dorchester House, Park Lane, by Lewis Vulliamy (now demolished).
1865c. : A house in Surrey, by Rowland Plumbe.
1870 : "Craigside," Northumberland, by Norman Shaw.
1875c. : Cambridge Terrace, Bayswater, by Thomas Archer.
1896 : Cottages at Elmsthorpe, by C. F. A. Voysey.
1901 : "Grey Walls," Gullane, by Sir Edwin Lutyens.
1903 : House at Happisburgh, Norfolk, by Detmar Blow.
1904 : Alexandra Court, Queen's Gate.
1922 : Houses at Welwyn Garden City, by Louis de Soissons.
1926 : L.C.C. Easthill Estate, by G. Topham Forest.
1933 : House in Kent, by Colin Lucas.

CIVIC AND CEREMONIAL BUILDINGS

1838 : Great arch at Euston, by Philip Hardwick.
1839 : St. George's Hall, Liverpool, by H. L. Elmes.
1840 : Houses of Parliament, by Sir Charles Barry.
1865c. : Government Buildings in Whitehall, by Sir Gilbert Scott.
1872 : The Albert Memorial, by Sir Gilbert Scott.
1082 : The Law Courts, by A. G. Street.
1891 : New Scotland Yard, by Norman Shaw.
1893 : Imperial Institute, by T. E. Collcutt.
1910 : Admiralty Arch, by Sir Aston Webb.
1912 : Central Hall, Westminster, by Lanchester and Rickards
1920 : Marylebone Town Hall, by Sir Edwin Cooper.
1927 : The Friends' House, Euston Road, by H. Lidbetter.
1934 : The R.I.B.A. Building, by G. Grey Wornum.

SERVICES TO THE COMMUNITY

1830 : Menai Bridge, by Thomas Telford.
1852 : King's Cross Station.
1868 : St. Thomas' Hospital, by H. Currey.
1870 : Keble College, Oxford, by William Butterfield.
1890: The Forth Bridge, by Fowler and Baker.
1894: The Tower Bridge, London, by Sir G. W. Barry and Sir Horace Jones.
1907: Birmingham University, by Sir Aston Webb.
1926 : Morden Underground Station, by Adams, Holden and Pearson.
1927 : Duntocher Burn Bridge, by Sir E. Owen Williams.
1933 : Ravenscourt Park Hospital, by Sir John Burnet, Tait and Lorne.
1934 : Pithead baths, Betteshanger Colliery, Kent, by C. G. Kemp.

COMMERCE AND INDUSTRY

1836 : Morley's Hotel, Trafalgar Square (now demolished).
1845c. : A warehouse building in Leeds.
1864 : National Provincial Bank, Threadneedle Street, by John Gibson.
1879 : Prudential Offices, Holborn, by Alfred Waterhouse.
1889 : Carpet factory in Glasgow, by William Leiper.
1900 : Eagle Insurance Building, Birmingham, by W. R. Lethaby.
1903 : Electra House, Finsbury, by John Belcher.
1911 : Liver building, Liverpool, by W. Aubrey Thomas.
1920 : Factory in Birmingham, by Wallis, Gilbert and Partners.
1924 : Adelaide House, London Bridge, by Sir John Burnet and Partners.
1927 : Shop in Bond St., by E. Vincent Harris.

(Continued on page 719)

GEORGE IV — GEORGE V

CHANGES IN BUILDING TECHNIQUE

[*By PHILIP SCHOLBERG*]

The following article reviews briefly the changes which have taken place in the technique of building during the past century. Present systems of construction, finishing and equipment are shown in tabular form on page 712.

UNTIL about 1800, changes in constructional methods had been slow and gradual, but from that date onwards improvements and inventions came thick and fast. Building has ceased to be a tradition handed down from craftsman to craftsman, and has now become a race against the inexorable demands of the time and progress schedule. The mason can no longer spend a happy week caricaturing an overbearing foreman on a corbel, but must turn out Corinthian caps in a fixed time for a building which he may never see. The great changes of the nineteenth century are due in part to various social improvements and changes in methods of living; improved means of communication, the wealth produced by world-wide trade and the introduction of machinery into manufacturing processes, and, more particularly, compulsory elementary education, which brought book learning to workers of all types, whose previous methods of learning had been by word of mouth, based on tradition. All these factors have exerted a considerable influence on building technique by producing a demand for new types of construction and planning, and a supply of labour which can be taught to carry out work which it has never done before. Changes due to new materials, however, are of far greater importance than those produced by alterations in methods of using the old, for the character of all types of building is necessarily conditioned by the physical characteristics of the material employed.

METALWORKER *v.* CARPENTER

The history of changes and improvements in building technique during the past century approximates very closely to a history of the development of metals, and the rise of the metal worker at the expense of the carpenter. Like lead, iron had been almost a precious metal and was hardly used at all in everyday building; even in Yorkshire, the home of the ironworkers, its use was restricted to nails, door handles and hinges. Improved methods of manufacture made iron available in large quantities, and the carpenter, for so long the principal worker in English building, was reduced to the same level as other craftsmen. As Mr. Starkie Gardner has pointed out—"If the smith produced iron chests and bedsteads, iron casements, doors, gates, screens and palings, it meant so much work taken from the carpenter. But such things were only the shadows of coming events, and trifling, compared with the inroads of the modern engineer, who has successfully annexed shipbuilding, piers, jetties, bridges, roofs, . . ." the list could be indefinitely extended.

As early as 1801 James ("steam engine") Watt had built a cotton mill in Manchester with cast iron floor joists of inverted T-beam section, and in 1810 Sir Robert Smirke "was then engaged in rebuilding part of Lord Bathurst's house at Cirencester: for that purpose iron girders between thirty and forty feet long were cast at Coalbrookdale, and the front wall, with other parts of the building, rests upon them." The most that can be said for Watt's mill is that it stood up, thought it is difficult to explain why it should have done so, for by present-day standards the building was thoroughly unsafe, the floor beams being only just capable of carrying the load of the floor itself, quite apart from any machinery and workers. The only explanation seems to be that the supporting feet of the looms were nearly the same distance apart as the stanchions, so that the floor beams had nothing more than the floor load to carry; yet in spite of its inadequacy the mill was considered a great success and was slavishly copied in many other districts.

From Watt's position in the engineering world he may reasonably be

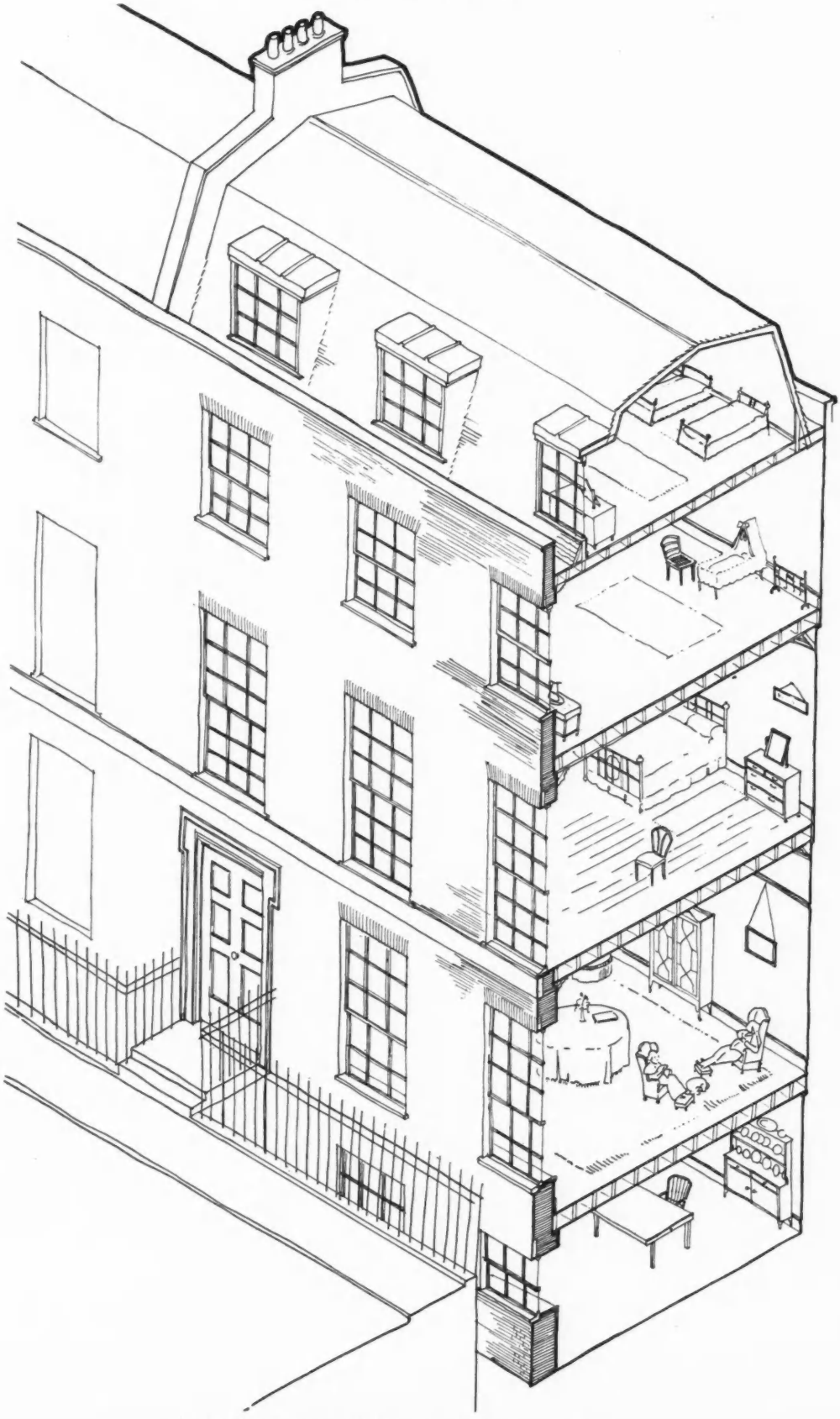
(Continued on page 714)

1834

The drawing on the opposite page shows a typical private house of 1834. A standardized plan, basement kitchens with the staff in the roof, and hot water carried in jugs up the back stairs to the master's hip-bath. Endless trimming of lamps and cleaning of knives. Few alternatives either for construction or finishings: equipment almost non-existent.

Walls—Brick and stucco or stone.
Roofs—Slates, tiles or lead.
Finishes—Plaster, wood panelling, wall paper, paint.
Flooring—Joist and board.
Heating and Cooking—Coal.
Lighting—Oil, perhaps gas.

1 8 3 4



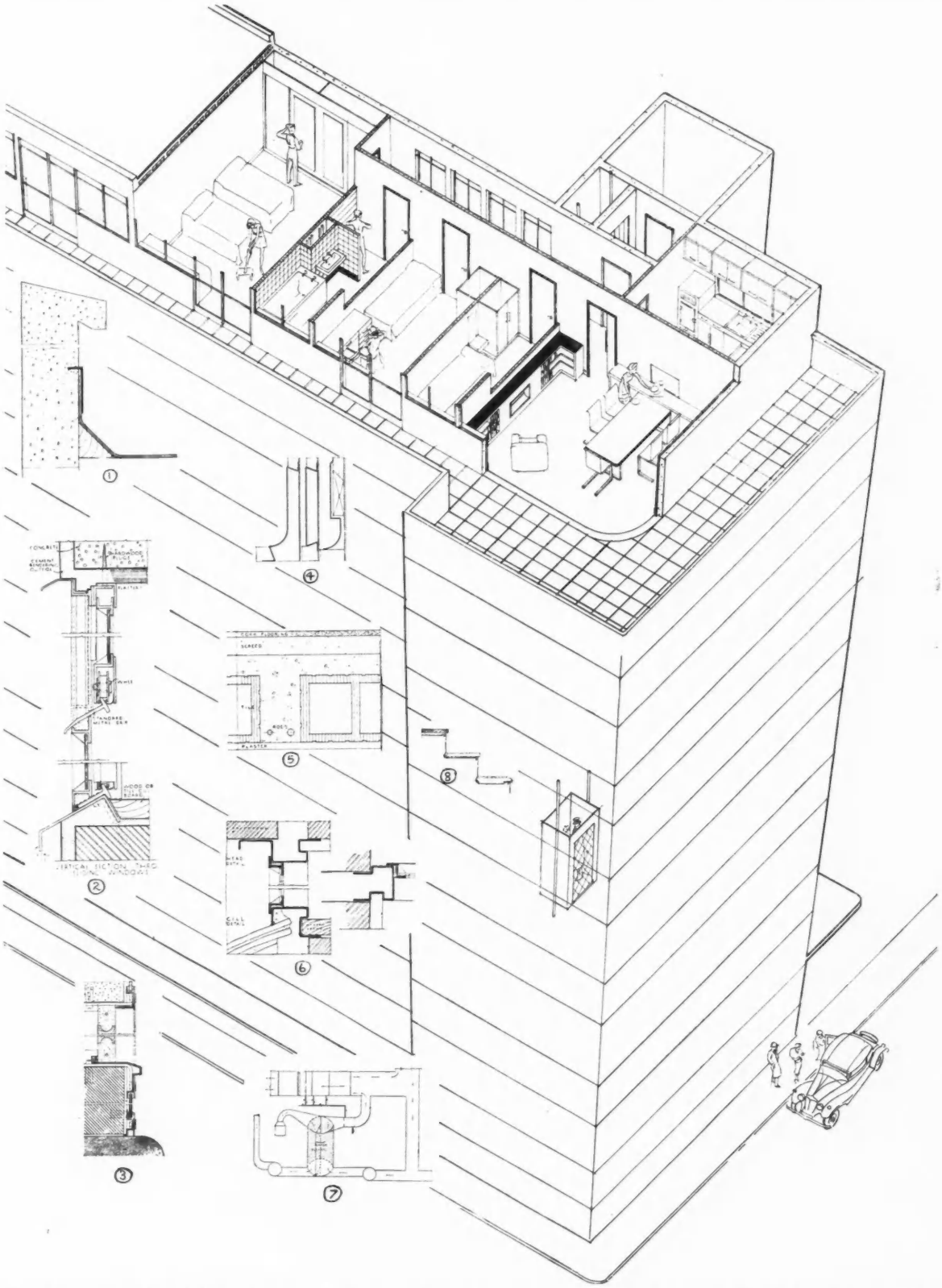
A typical private house of 1834. See description on facing page.

1934: STRUCTURE AND FINISHES

Below is a table of the various structural and finishing methods at present available. The dates given are not intended to show the first use of any particular device, but an approximate time at which the material or system was in general use. A — indicates that the material was in use before 1834.

FOUNDATIONS		
Bloom bases, 1924	Concrete raft, 1900	Pressure piles, 1929
Brick footings —	Precast piles, 1897	
STRUCTURE		
Bricks —	Concrete frame, 1898	Steel frame, 1896
WALLS AND WALL FILLING		
Bricks—	Cellular flettons, 1928	Concrete, 1845
EXTERNAL WALL FINISH		
Artificial stone, 1890	Concrete, 1885	Plaster —
Brick —	Glass, 1932	Stone —
Coloured cement, 1930	Paint —	Faience —
INTERNAL WALL FINISH		
Glass, 1925	Plaster —	Wallboard, 1917
Marble —	Plaster board, 1910	Wallpaper —
Paint —	Plywood, 1905	
FLOOR STRUCTURE		
Hollow tile, 1895	Precast beam (U section), 1935	Wood joist —
Precast T-beam, 1908	T-beam, 1895	
INSULATION : HEAT AND SOUND		
Aluminium foil, 1932	Eel-grass quilt, 1903	Slag wool, 1896
Asbestos, 1877	Glass silk, 1931	Wallboard, 1920
Cork, 1900		
WINDOWS		
Anodised-Aluminium, 1933	Bronze, 1840	Wood —
Bronze, 1840	Steel, 1908	
HEATING AND HOT WATER		
Automatic stokers, (1930, Oil and Coal)	Electricity, 1880	Hot air —
	Gas, 1840	Hot water radiators, 1895
Coal —		
LIGHTING		
Acetylene, 1900	Electricity, 1880	Gas, 1807
AIR CONDITIONING		
Extract fans, 1904	Filters and washers, 1925	
DOOR FURNITURE		
Floor springs, 1870		
VERTICAL COMMUNICATIONS		
Lifts, electric, 1891	Pressed steel stairs, 1932	R.C. stairs, 1896
PARTITIONS		
Asbestos cement, 1904	Glazed block, 1932	Sheet steel, 1928
Breeze block, 1890	Lath and plaster —	Terrazzo, 1904
Brick —	Metal faced ply, 1924	Tile, 1928
Folding, 1913		
FLOOR FINISHES		
Asphalt, 1836	Linoleum —	Plywood, 1930
Board —	Magnesite, 1906	Rubber, 1904
Cork, 1904	Marble —	Stone —
Empire hardwood, 1911	Mosaic —	Terrazzo, 1885
	Non slip, 1920	Tile —
ROOFING		
Asbestos cement, 1904	Lead —	Shingles —
Asphalt, 1836		Slates —
Bituminous felt, 1896		Tiles —
Copper		
WATERPROOFING		
Asphalt, 1836	Concrete powder, 1904	Dampcourses, 1874
TRANSPORT		
Aeroplane, 1909	Car, 1885	Railway, 1826
Bicycle, 1885		
EQUIPMENT		
Baths—	Geysers, Gas, 1865 and Electricity,	Refrigerators, 1916
Circuit breakers, 1931	Gramophones, 1897 [1888	Showers, 1880
Cookers, Gas, 1851 and Electricity,	Lightning Conductors, 1847	Stainless sinks, 1933
Fire Extinguishers, 1894 [1887	Metal doors, 1928	Steel furniture, 1928
Floodlighting, 1931	Metal trim, 1934	Synchronous clocks, 1931
Floor Clips, 1926	One pipe plumbing, 1931	Telephones, 1881
Flush doors, 1930	Radio, 1923	Vacuum cleaning, 1901

FOR THE MODERN DWELLING



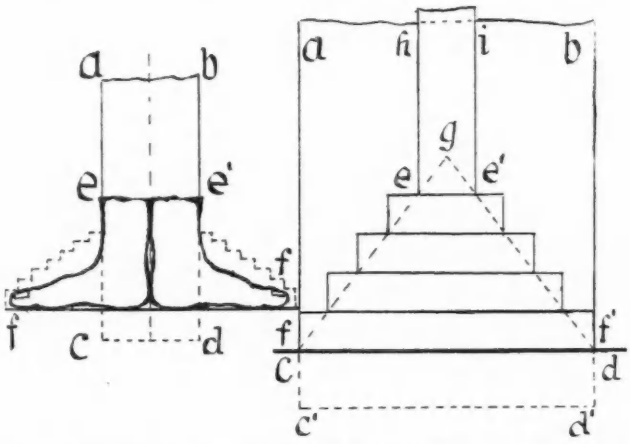
A modern service flat block, with some typical constructional details: 1, a parapet treatment; 2, a sliding window made up of standard sections; 3, fixing of a glass wall facing; 4, metal trim sections; 5, a typical hollow tile floor detail; 6, pressed steel window frame; 7, an air conditioning plant lay-out; and 8, pressed steel stair sections.

assumed to have known as much about cast iron as anyone else of his time, and one can only conclude that ignorance of even quite elementary structural principles was almost universal. His inverted T-beam section remained in use until about 1824, when it was slightly improved by Fairbairn, but it was not until 1827 that Hodgkinson evolved an I-section beam with the bottom flange larger than the top, a form naturally suitable for cast iron, which is good in compression, but considerably less so in tension. At the same time Hodgkinson gave a simple formula for calculating the safe load on a cast-iron beam, but this formula was, unfortunately, simple enough to be used by the ignorant and was responsible for many failures, culminating in the Oldham mill disaster of 1844. This and other disasters were investigated by Fairbairn, who thought it worth while to state in a report that " there is a wide difference between loading a beam in the middle and loading it along its whole length. In the latter case it would carry just twice as much weight." That such an elementary statement of elementary statics should have been thought worthy of mention implies that the structural engineer scarcely existed in the building world.

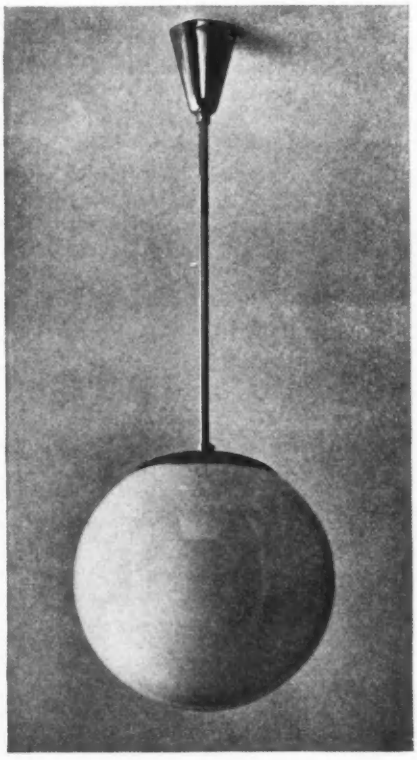
With a few notable exceptions, such as Sir Robert Smirke, quoted above, architects refused to

" . . . brave the dangers that environ
The man who dabbles in cast iron "

as a contemporary rhyme so tersely put it. Nor can they be altogether blamed for this: the railway boom, which started in 1824, and continued to the 1845 crash, attracted all the best engineering brains in the country and kept them busy designing bridges. Not a few ignorant charlatans were also acting as railway engineers, urged on by the boom and their own get-rich-quick ideas, and the inevitable crop of failures produced a considerable public outcry. Architects were, therefore, naturally shy of using a material which appeared to be dangerously unreliable; nobody who knew its virtues had the time to give them any advice on its use, so they played a somewhat embarrassed game of safety first, for which they were reproached by Professor George Atkinson. " The use of iron has become so general that it has nearly usurped the place of other materials. In every construction, machine, tool, or article of domestic use, we may find iron doing duty not infrequently in the most unexpected ways and places. Architects, therefore, must not alone refuse to profit by the advantages it offers, or, when they are absolutely obliged to use it, give it a sort of grumbling recognition and put it out of sight. Many have used it with success, but by the profession generally it is avoided."



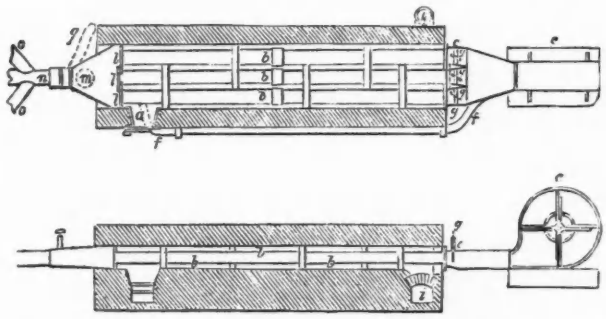
Structures without tears: a diagram from " The Builders' Journal " of 1895. " The prototype of Footings is readily seen in the human foot . . . If a rectangle a b c d be superimposed, the footless shank is shown, which has a much less breadth of base than the combined feet."

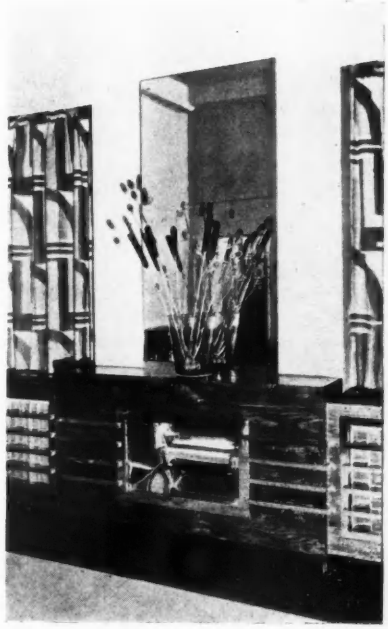


Above, an electric light fitting of 1896, published without comment by " The Builders' Journal." The position of the lamps themselves was apparently as much a mystery then as it is today. Left, a contemporary fittings

ATTENTION TO DETAILS

So much for the timid architects. They had been making tentative experiments as far back as 1837 with reinforced brickwork for the foundations of the Judge's Chambers in Chancery Lane, and flat roofs were occasionally covered with mastic asphalt, brushed on after being made fluid " by the application of caloric." Some attention was also being paid to the technical problems of heating, and numerous wordy papers were read, most of them disagreeing fundamentally with each other and only united in a common belief that " hot air would rise " and that " these charcoal stoves were dangerous "—as, indeed, many of them were. Attention to details and structural safety first may not have been altogether a shortsighted policy, for the general public was alarmed at the increasing death roll of the railways, and in 1859 the Government made a grant for the investigation of iron bridge design, the experiments being





Above, an 1846 patent by Anthony Nathan de Rothschild for "heating any desired space by forcing heated air by mechanical means to the space to be heated." Right, a contemporary electric fire.

conducted by Fairbairn. Beams were tested under repeated impact loads designed to represent the stresses due to the passage of a train, and the report, published some 3½ years later, assured the public, by a piece of adroit arithmetic, that a cast-iron bridge, carrying a load of 100 trains per day, would not fail for at least 328 years, a comforting thought, no doubt, both for the public and the ironmasters.

PROFESSIONAL BICKERINGS

It is at about this time that architects and engineers start laying their own sins at each other's door. We find the scientist spreading his acquired knowledge of the possibilities of iron, blaming the architect for ignoring the information and the practitioner for misusing it: the architect disliking cast iron from the æsthetic point of view and complaining that the scientists' explanations are unintelligible. Fairbairn, writing in 1854, says: "Notwithstanding the increased security which has been gained by the improvements in the form of cast-iron beams, their use is, nevertheless, attended with danger, when either the design or the construction are confided to the hands of ignorant persons. The numerous and fatal accidents which have occurred at various times have almost always been traced to this cause. . . Experimentalists and mathematicians have provided the knowledge, but practitioners, I fear, have in a great degree failed to avail themselves of it," to which Mr. Rogers, architect, retorts some years later:—

"Architects are not scientific men, and scientific men are not architects. Mathematics forming, in general, no part of architectural study, none of these sciences are usually infused into architecture; while the mathematician, having no knowledge of the construction and embellishments of architecture, writes without profit to the architect. He cannot apply knowledge to the construction of buildings when he has none, and his algebraic theorems, which might be of some use, are in an unknown language and form, as it were, a sealed book."

This old struggle (which has not to this day died down) cannot have appealed overmuch to the architects of the time, for the job of designing the building for the Great Exhibition of 1851, was secured by the landscape-gardener-engineer, Paxton, and though the galleries (carried on cast-iron brackets) had to be tested by marching soldiers* up and down them, the building was a complete success and was considered a triumph for iron and for the relatively new sheet glass, which was so soon to produce an orgy of Victorian "improvements" the old small paned sash windows being ruthlessly torn out and replaced with single sheets, much to the detriment of the elevations. *Ce que reine veut. . . .*"

WROUGHT IRON JOISTS

Two years before the exhibition, wrought iron joists had been rolled in France, under the guidance of Ferdinand Zorés, and these sections gave rise to several fire-resisting floor patents, some of which contained the germ of the reinforced concrete floor idea, though the first English patents, by Wilkinson, were not filed until 1854.

Like cast iron, wrought iron was more or less misused by the ignorant, for its great ductility made the rolling of light gauge strips and angles extremely easy, and trusses were designed which apparently considered only the area of the section regardless of its shape, flat strip being used indiscriminately for taking both tension and compression. Designers, however, seem to have learnt one or two lessons in making their work amply safe, for Mr. Scott quotes a case in which he was called in to advise upon a roof in a 40-year-old building, only to find that the original contractor had fixed the original trusses upside down, so that all ties were in compression and strut in tension. Yet the roof did no more than leak.

Wrought iron, in spite of its virtues, did not have a run of more than twenty years, for less than ten years after the introduction of the rolled iron joist, Bessemer patented his converter process for steel (1855). He was beset by early troubles and was unable to obtain a satisfactory uniformity in his product, though Hawkshaw tried to use it for Charing Cross bridge and was only prevented by the express veto of the Board of Trade. In 1867, however, the Siemens open hearth process was developed on a commercial basis, steel could be produced to a uniform analysis, and in 1877 the Board of Trade was compelled to allow its use.

Glimmerings of the electric light began to appear at about this time, and the professional journals talked learnedly though mysteriously of brush machines, one even going so far as to talk quite intimately of "Professor Volt," but cost was prohibitive and the supply unreliable, and it was nearly twenty years before public supplies could be made steady without a flicker in the lamps.

The steel joist was still developing, and several London factors held considerable stocks of standard sections, nearly all rolled in France or Belgium. Guarantees were given for the beam's behaviour under various loadings, but the methods of presenting data varied with each factor, and the figures given were mysteries for the architect, who generally expected the factor to supply a suitable size of joist. Thus the factors' clerks

* It is interesting to note that much the same method was used in 1933 for testing a temporary grandstand for the Greenwich pageant, though here the test load was provided by the Navy.

balanced accounts during the morning and stresses in the afternoon, becoming the first of the structural draughtsmen that every steelwork contractor employs today.

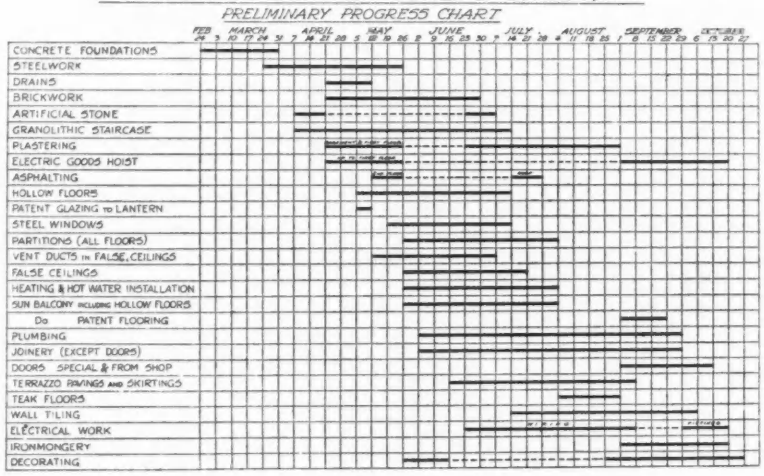
Importing steel from abroad was not the most satisfactory method, for it involved waste in cutting, and delays in the delivery of non-standard sizes, and, in 1885, the first steel joists were rolled in England by Dorman Long and Company.

In the same year, reinforced concrete was first used for an office block in Lincoln's Inn Fields, so that the chief structural rivals may almost be said to have started level. Portland cement had been discovered by I. C. Johnson as early as 1845, but concrete had only been used in mass form, and the rapid advance of reinforced concrete really dates from the round-bar reinforcement evolved by Hennebique in 1892.

Improvements and discoveries now start crowding in thick and fast. Aluminium was discovered in 1888, though, it spite of its amazing lightness, it was regarded largely as an interesting curiosity until the late Sir Alfred Gilbert's statue of Eros drew attention to its attractive appearance and good casting qualities. Sabine was conducting his acoustic experiments in America as far back as 1895. Gas was still, thanks to the Welsbach mantle (1885), only one-twelfth the price of electricity, though in spite of this, the streets of Edinburgh were lit by arc lamps. A mechanical improvement was the introduction of spray painting, but this method can hardly be said to have become universal in the building trade until some years after the war. Even at this date "young Mr. Montgomery," was explaining to respectful press representatives some of his methods for making the Building Exhibition a success.

Structure continued to progress, however, perhaps partly owing to the fact that young engineers were beginning to wonder whether the railways offered such golden opportunities to them as they had to their fathers. The steel skeleton frame, already accepted in America, was first used in a furniture warehouse in West Hartlepool in 1895. The concrete interests promptly retorted (via Hennebique again), with the cranked up rod system and cantilevered floors. Hollow tile floors had been first patented by Balthasar Krucher in 1871, and reinforced concrete was the ideal complementary material.

In 1904 the steelwork position was clarified somewhat, for the newly formed British Engineering Standards Association (now the British Standards Institution) standardized the R.S.J. sections, proposed standard methods and formulæ for calculating permissible loads and radii of gyration, and at the same time produced a standard analysis for mild steel, thus doing away with the innumerable sizes rolled by the various manufacturers, and ensuring that the safe load figures should be strictly comparable.



Typical time and progress schedule for a medium-sized building.

The Ritz Hotel, designed by Mewès and Davies, was the first steel-framed building in London, with Mr. Bylander as consulting engineer, and since that date (1905) the steel frame has been accepted as a normal and logical method of building, on jobs of any size, with the alternative of reinforced concrete, suitably insulated. The best-known example of reinforced concrete is probably the Dorchester Hotel, designed by Curtis Green and Partners and Sir E. Owen Williams. Here the walls are faced with precast terrazzo slabs and lined with cork for insulation, slabs and cork being placed inside the shuttering and keying to the concrete when it was poured.

CONTRACTORS' PLANT

Few startling changes in actual structure have taken place since that date, improvements being very largely questions of detail, new materials and finishes, methods of construction, and ways and means for increasing the speed at which a building may be erected. The contractor now has innumerable time-saving machines at his disposal. For excavation he can use drills or mechanical grabs, guy derrick and travelling cranes for steelwork and for unloading lorries, and pneumatic or electric drills, polishing machines and spraying plant, not to mention concrete pumps and mechanical mixers.

Steel (1932) and concrete (1934), codes of practice now allow further advantage to be taken of the stress-resisting properties of the materials, and it is highly probable that before the end of the year welded steel frame structures will be allowed under the London Building Act.

These changes, however, are scarcely as important as the complete revolution which has taken place in procedure, both from the point of view of the architect and of the contractor. Leadworker, bricklayer, mason, plasterer, joiner, smith and glazier, there would be no other craftsmen on the job in 1834, and all of them would be employed directly by the contractor, who would be responsible for the soundness of their work. Today, the general contractor is frequently no more than an entrepreneur, co-ordinating the work of the innumerable specialist sub-contractors, settling arguments between them, and "waiting on them" with suitable scaffolding and labour. True, many large contractors have joinery shops, stone yards and other subsidiary interests, but in many cases their purely constructional work may not involve much more than brick infilling.

Craftsmen are employed by the specialist sub-contractors, who may be supplying anything from jointless flooring to lighting fittings, who are given a starting and finishing date for the work they have to do, and who must make good any failures not due to outside agencies. Here arrives the "Time and Progress Schedule," an American device now in fairly general use in this country, where the size of the job warrants it. A sample of such a sheet is shown on this page; its accurate compilation involves a vast knowledge of building technique, for on it depends the smooth working of the job.

The architect, too, can no longer wander casually round the job looking for errors, for all specialists' work is interlocked with that of every other specialist, and any alterations or delays

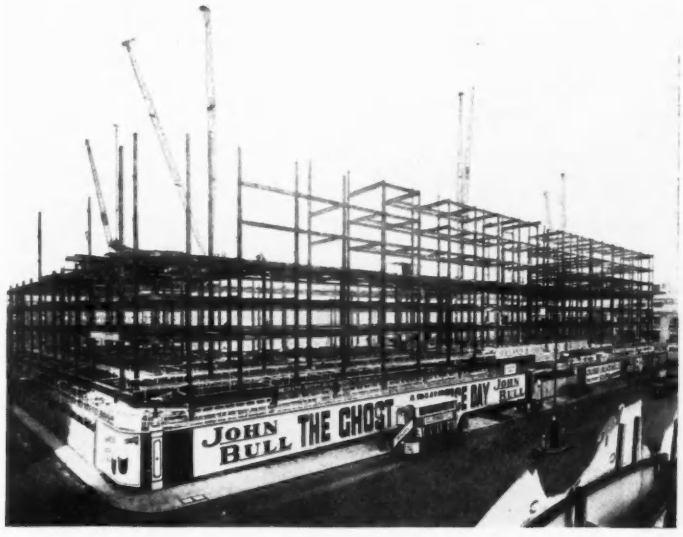
are discussed at weekly meetings between the architect, clerk of works, contractor and specialist. The architect becomes an arbitrator and supervisor, and design frequently becomes a matter of rough* sketches, developed by a staff of draughtsmen.

Outside his office, the architect's status has changed considerably. A hundred years ago there were a few well-known architects whose clients treated them with respect, but the general run of the profession was not treated much better than the "man who comes to read the gas meter." Even today, architects sometimes remark, rather self-consciously, that "some servants never quite know whether to ask them round to the back door." But the client now generally realizes that the architect is there to save him money, make his office or factory more efficient, and not only to apply Art.

From the manufacturer's point of view the architect has ceased to be an inaccessible being who takes no interest in details. Architects will come in droves to look at factories, and new materials and methods are not looked upon askance, but eagerly adopted if they have any advantages to show.

Building is no longer a casual and lengthy process, but an organized schedule like a factory operation. Thoughts† at the time of the Great Exhibition are, with amendments, equally true today. "But how? How did the great building so suddenly arise? As the dry bones that were shaken by the wind came together, 'bone to his bone,' so came the columns of the Crystal Palace! They came from afar: an exceeding great army of iron and wooden bones. By wagon loads they came—girders and trusses, columns and ribs, of iron and wood. Then, they fitted to one another forming a framework fairylike and fine for the transparent glass. No unsightly heaps of brick, no smoking heaps of lime! . . All the parts were ready prepared: and as they came from distant places, they quickly joined together, like brethren, who knew each other. Thus ranging in square companies and in long rows, they helped and supported one another until they were tall and strong. Then were they able to bear up their curved-shape friends, the giant ribs, who gratefully formed a roof over their heads, and covered them in from the rain."

"Bravo Mr. PAXTON! (designer). Well done Messrs. FOX AND HENDERSON! (builders)."



1851 and 1934. A progress drawing of the Great Exhibition building and a progress photograph of Mount Royal flats. 1934 revenue is increased by letting hoarding space for posters: the 1851 hoarding was composed of boards ultimately used for flooring, "not a nail anywhere."

* So much so that, as Mr. Goodhart Rendel says, "Many of our more successful architects forsook the thorny path of design at a comparatively early age."

† *Little Henry's Holiday at the Great Exhibition*, London: Houston and Stoneman, 1851.

THE CENTENARY OF THE ÆSTHETIC TRADE

[*By FRANK GRANGER, D.Litt., A.R.I.B.A.*]

IT is a hundred years or thereabouts since the word Æsthetics came to England. The Æsthetic Tea enlivened Carlyle's *Sartor Resartus* in 1834, as the tea, not yet Æsthetic, flowed a century earlier for Dr. Johnson from the tea-pot (Pembroke College), which is the glory of Oxford. The propriety of celebrating the centenary of Æsthetics should be obvious to the regular subscribers to this JOURNAL. Indeed, an apology is almost needed for inflicting upon them a recital of facts with which they are probably acquainted; architects, surveyors, decorators, plumbers, paviours, and all other representatives of the building trades, have, so to speak, taken Æsthetics in their stride, and have exhibited not only their mastery of the subject as one of the arts to be pursued for its own sake, but their power of turning it to profitable account. By the skilled employment of Æsthetic terminology, the architect has induced possible clients to become actual; the decorator has transformed the British home, and thereby furnished the surprised inhabitants with an Art setting; plumbing itself, the most intimate of trades, has commended itself and increased employment by giving Æsthetic epithets to the bathroom and its accessories. Not to these experts are these pages addressed, but to the lay readers, who happily find an interest in the personal services or the material goods supplied by the experts. For the layman is a possible client.

THE THEORY OF SENSATION

It has been said, indeed, and by no one with more emphasis than by Anatole France, that "Æsthetics has no solid foundation"; in fact, that it is, "a castle in the air." The historian of philosophy knows better. Æsthetics has its foundation in a mistake made by a German professor, Baumgarten, nearly two centuries ago. As a philosophical term Æsthetics means "the theory of sensation." Now sensation, as such, is clear. We do not usually confuse the colour of a sunflower with the sound of a German band. Baumgarten, however, starting from this point, went one better. He extended Æsthetic to denote "the theory of the obscure ideas which accompany, or follow upon, intense sensation." In Baumgarten's Æsthetics obscurity is of the essence. This obscurity is also of great practical value. Again, to quote Anatole France: "In Æsthetics, that is to say, *in the clouds*, one can argue more and better than in any other subject." To be sure the attempt to make darkness visible looks like a contradiction. But then what a wide field is opened! What employment for persons who are not yet at home in the clear upper air of strict logic and accurate workmanship! The dimness, however, which reigns over the Æsthetic field is comfortable for the weak eyes which are just opening upon a new world. And indeed, many persons relishing this comfort, prefer to spend their lives on the spot, discoursing upon objects which are clearly visible neither to themselves nor their auditors. Such persons include nearly all the writers upon Æsthetics, Art, Fine Art, and so forth. On the other hand, a fair proportion of the inhabitants of the Æsthetic limbo escape and become clients of the practical craftsmen enumerated in the first paragraph. Some clients, it is true, are attracted by the trade advertisements which, by their turn of phrase, remind them of the Limbonian dialect. Others shake themselves free and find satisfaction in good craftsmanship for its own sake. It is these with whom we are more especially concerned.

Professor Alexander leads the way. (Even philosophers build houses, like Diogenes his tub, or furnish them.) "When the philosopher," he says, "attempts to talk about art, he has in a sense to live upon the artist." Here is the first public announcement, so far as I know, of the rise of the philosopher above the purely Æsthetic field. This approach from the side of the possible client has been met from the side of the craftsman. If the philosophers talked rubbish until Professor Alexander came along, the incursions of craftsmen into philosophy have not always been happy. Even Mr. Clive Bell, to whom we owe so much, commits himself to the statement that "we have no other means of recognising a work of art than our feeling for it," to which it may be replied that (*a*) some people recognise a work of art by making it, (*b*) others recognise a work of art by paying for it. In matters of art which consists simply of making (or doing) things, production and consumption are the main conditions of our having any artificial things at all.

ART IN A WORK-A-DAY SENSE

It will be objected that I am using the term "art" in a work-a-day sense. The reader was warned, however, that when he got outside Æsthetics, he might find himself in the region of common-sense (which is the same as strict logic). Now, logic or common-sense draws a sharp line between knowing things (science) and doing things, which includes making things (art). Hence when Mr. Clive Bell says that "we have no other means of recognizing a work of art than our feeling for it," he is avowedly falling back into the Æsthetic state, in which a dim confusion follows upon certain sensations; a state in which everybody feels himself at home and on an equality. Or as one might say, employing the language almost of the workshop; one Æsthetic man, one Æsthetic vote. It is to such a public that Æsthetics, Art, Fine Art, make their appeal with capital letters.

Grandiloquence is a necessary accomplishment of the auctioneer. But the architect and his allies should use it with caution. It is most effective when it is so tempered as to escape notice. Coleridge should not have been able, writing in 1819, to speak of "the deceits and lures of the architects, surveyor, etc." It is safest, therefore, when the architect, dealing with his client, uses plain language, the language of his specifications. I have before me the form of estimate for the house which E. W. Godwin built for Whistler in Tite Street, Chelsea. The word "art" does not occur in it, nor yet "artist." They are replaced by their equivalents, "trade" and "tradesman." And as such William Morris described himself five years later in 1882: "I am not a professional man, but a tradesman."

It appears, therefore, that Æsthetics and Art have done their work as business adjuncts, and should drop their capital letters on retiring into

private life. The biographer of words which thus have had their day will begin with their antecedents. Before Æsthetics came to life on English soil, the picturesque was all the fashion. And the architect of the Picturesque age was required to be "*architetto-pittore*" when he built in the country; that is, acquainted with the practice of landscape painting. It was the age of painting, and things were pleasant "from some quality capable of being illustrated in painting." This quality is primarily "roughness," supplemented, however, by "sudden variation" and "irregularity." The Picturesque is thus distinguished from the Beautiful which, so we are told, by contrast, is smooth, varies gradually, and is regular. By analogy those persons were called Picturesque who were susceptible to the qualities distinguishing the Picturesque. Hence the architects of the day undertook to provide Picturesque buildings for Picturesque clients, as their successors provided Æsthetic buildings for Æsthetic clients. Unfortunately, newly-erected buildings could not be picturesque, although ruins could.

Hence some architects erected ruins like those in the grounds of Stowe. Perhaps the most striking tribute to the Picturesque was paid by Kent when he planted dead trees in Kensington Gardens "to give a greater air of truth to the scene." Gothic architecture furnished ruins both natural and artificial and so shared in the Picturesque movement, and the more because it was declared to be dead, and underserving of resurrection. Gunn, in his *Gothic Architecture*, "never hopes to see a new Gothic building either public or private." Worst of all, the misery of the cottage and its inhabitants ("poverty-stricken rusticity" as Ruskin said) alternated with the "pensive ruin" as subjects for the painter of the Picturesque. An editor of *Lamb's Essays* misunderstood the essay on Chimney-sweepers as a jest in the Picturesque!

The practical reader will excuse this digression because it has marked out the field which Æsthetics later claimed to occupy. The publication of *Modern Painters* cleared the ground from the false Picturesque and other *débris*. We can explain in Ruskin's own words the effectiveness of his work. It was based, he maintained, on a strict logical method, that of Locke: the appeal to experience and the discarding of prejudices. The spring of 1843, after ten years of Æsthetic twilight, saw the publication of *Modern Painters* and of J. S. Mill's *System of Logic*; both of them based upon our typical English thinker, John Locke, and both of them typically English in their limitations as in their excellencies. J. S. Mill was the more romantic; his secret object was in part to exhibit the superiority of Mrs. Taylor's intelligence to that of Carlyle. Ruskin found relief from an early disappointment, in championing the genius of Turner. Mill and Ruskin started from similar principles and in different ways reached a similar conclusion that the craftsman deserved more consideration. The indignant reader may object to the intrusion of logic into the building trades. I have only brought it in (*a*) that he may correct, if necessary, his view of Ruskin, (*b*) to vindicate the superiority of our English philosophers. So far from Ruskin being a mere rhetorician, he exhibited in *Modern Painters* and in the *Stones of Venice* the application of a scientific method to just those topics with which the intelligent client is likely to be conversant. He established the living character of Gothic architecture by reference to principles which are applicable to all architecture. He went on in *Aratra Pentelici* to obliterate the distinction between the Fine Arts (so-called) and other arts. Ruskin was a bad business adviser for the moment, but not in the end, when he warned his readers in 1883 against the Æsthetic sect and indeed against the use of the word Æsthetics at all. Mr. G. W. E. Russell observed, with reference to St. Alban's, Holborn, that "the Church became ritualistic as society became Æsthetic." And the clergy of that church in 1863 had been among William Morris's earliest customers when he set up in business. Some twenty years later "the eclectic Queen Anne-ism of the Æsthetic village at Turnham Green (in short Bedford Park) extended the operations of the sect to the housing of the middle classes. But they were difficult to satisfy. Mark Rutherford, writing in 1901 to Philip Webb, refused to be consoled by "the Art balustrades and mantelpieces" of his house which let in "wind, cold, heat, wet."

No readjustment of the currency, no Protection, therefore, can uphold the declining market of Æsthetics, Fine Art, Art. But although the craftsman will be wise in discarding the use of capital letters for business purposes (a form of Capitalism) philosophers, always excepting Professor Alexander, will still find occupation and, I hope, modest profit in discoursing amid and about the Æsthetic twilight. Let them take courage and example by Lotze, who made (with the help of Æsthetics) the discovery that Greek architecture was suitable only to one-storeyed buildings. Shades of Eleusis!

The Æsthetic philosophers who thus, by strict reasoning, draw false conclusions from their principles, triumphantly relegate their principles to the absurd. They are in the happy position of the mathematicians who start from the impossible quantity—the square root of minus one, and have written whole libraries about it. The only difference is this, that whereas the mathematicians manage to extract true conclusions from *their* queer principle, the Æsthetic philosophers still remain in the realm of the absurd, with most of their conclusions. Benedetto Croce discovers that "*Philosophy of language and philosophy of art are the same thing*" (Æsthetic *tr.* 142). Croce, being a Neapolitan, very properly states his principle in *italic* and not in roman type. Unfortunately, Bergson, according to Croce's *History of Æsthetic* failed to treat art as identical with language (*op. cit.* 416). In the Æsthetic wonderland, however, as the Dodo said to Alice about the use of words, "I pay them extra and make them mean what I like." How else could Mr. Collingwood says in his *Philosophy of Art*, "art always has a centre of gravity outside itself," gastronomy for instance?

The architectural profession in the person of one of its most famous members—none the less famous for being imaginary like Mrs. Harris—has pronounced upon Æsthetics. "My duty is to build, not speak; to act, not talk; to deal with marble, stone, and brick; not language." Mr. Pecksniff's disjunction of the linguistic from the æsthetic faculty is complete. In a word, Æsthetics for the philosopher, as for the general public, is an apparatus by which the layman can talk about craftsmanship without knowing anything about it. And the History of Æsthetics is a History of such talk.

●

(*Continued from page 710*)

1931: Factory at Beeston, by Sir E. Owen Williams.
1932: Unilever House, by Sir John Burnet, Tait and Lorne.

UPLIFT

1836: Christ Church, Albany Street.
1845: St. George's Cathedral, Southwark, by A. W. Pugin.
1847: British Museum, by Robert Smirke.
1851: The Crystal Palace, by Joseph Paxton.
1855: Caledonia Road Church, Glasgow, by Alexander ("Greek") Thompson.
1879: Natural History Museum, South Kensington, by Alfred Waterhouse.
1897: Brompton Oratory, by H. Gribble.
1900: The London Pavilion, by Wylson and Long.
1903: Westminster Cathedral, by J. F. Bentley.
1911: Regent Street Polytechnic, by Frank T. Verity.
1927: Scottish National War Memorial, Edinburgh, by Sir Robert Lorimer.
1930: New Victoria cinema, by W. E. Trent and Walmsley Lewis.
1932: *Daily Express* building, by Ellis and Clarke, and Sir E. Owen Williams.
1934: Cambridge University Library, by Sir Giles Scott.

Acknowledgment is made to the following publications from which illustrations have been reproduced: BRITISH BRIDGES (*The Public Works, Roads and Transport Congress*), ARCHITECTURE IN THE BALANCE, *by F. E. Towndrow and the* ARCHITECTURAL REVIEW.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A	Aberdeen ..	Scotland	1 6	1 1½
A_2	Abergavenny ..	S. Wales & M.	1 5	1 0½
A	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
C	Airdrie	Scotland	*1 5½	1 1½
A	Aldeburgh ..	E. Counties	1 1½	10½
B	Altrincham ..	N.W. Counties	1 5½	1 1½
A	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
B_2	Aylesbury ..	S. Counties	1 2½	11
B_2	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow	N.W. Counties	1 5½	1 1½
A	Barry	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_2	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham ..	Mid. Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton	N.W. Counties	1 5½	1 1½
A_2	Boston	Mid. Counties	1 4	1 0
A	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_2	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M	1 5½	1 1½
B_2	Bridgwater ..	S.W. Counties	1 3	11½
A_2	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A	Brighton	S. Counties	1 4	1 0
A	Bristol	S.W. Counties	1 5½	1 1½
B_2	Brixham ..	S.W. Counties	1 2½	11
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley	N.W. Counties	1 5½	1 1½
A	Burnlem	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury	N.W. Counties	1 5½	1 1½
A	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE ..	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff	S. Wales & M.	1 5½	1 1½
A	Carlisle	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A	Chelmsford ..	E. Counties	1 4	1 0
A	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A	Colchester ..	E. Counties	1 4	1 0
A	Colne	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_2	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorches	S.W. Counties	1 2½	11
A	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley	Mid. Counties	1 5½	1 1½
A_2	Dumfries ..	Scotland	1 5	1 0½
A	Dundee	Scotland	1 5½	1 1½
A	Durham	N E. Coast	1 5½	1 1½
A_2	EASTBOURNE ..	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorgan-shire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter	S.W. Counties	*1 4½	1 0½
B	Exmouth	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE ..	E. Counties	1 4	1 0
A	Filey	Yorkshire	1 4	1 0
A	Fleetwood	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham	N.W. Counties	1 5½	1 1½
B_2	Frome	S. W. Counties	1 2½	11
A	GATESHEAD ..	N.E. Coast	1 5½	1 1½
B	Gillingham	S. Counties	1 3½	11½
A	Glasgow	Scotland	1 6	1 1½
A_2	Gloucester	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	Gosport	S. Counties	1 4½	1 0½
A_2	Grantham	Mid. Counties	1 4	1 0
A_1	Gravesend	S. Counties	1 5	1 0½
A	Greenock	Scotland	*1 5½	1 1½
A	Grimsby	Yorkshire	1 5½	1 1½
B	Guildford	S. Counties	1 3½	11½
A	HALIFAX	Yorkshire	1 5½	1 1½
A	Hanley	Mid. Counties	1 5½	1 1½
A	Harrogate	Yorkshire	1 5½	1 1½
A	Hartlepools	N.E. Coast	1 5½	1 1½
B	Harwich	E. Counties	1 3½	11½
B_1	Hastings	S. Counties	1 3	11½
A_2	Hatfield	S. Counties	1 4½	1 0½
B	Hereford	S.W. Counties	1 3½	11½
A_2	Hertford	E. Counties	1 4½	1 0½
A	Heysham	N.W. Counties	1 5½	1 1½
A	Howden	N.E. Coast	1 5½	1 1½
A	Huddersfield	Yorkshire	1 5½	1 1½
A	Hull	Yorkshire	1 5½	1 1½
A	ILKLEY	Yorkshire	1 5½	1 1½
A	Immingham	Mid. Counties	1 5½	1 1½
A_2	Ipswich	E. Counties	1 4½	1 0½
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW	N.E. Coast	1 5½	1 1½
A	KEIGHLEY	Yorkshire	1 5½	1 1½
B	Kendal	N.W. Counties	1 3½	11½
B	Keswick	N.W. Counties	1 3½	11½
A_2	Kettering	Mid. Counties	1 4½	1 0½
A_2	Kidderminster ..	Mid. Counties	1 4½	1 0½
B_1	King's Lynn	E. Counties	1 3	11½
A	LANCASTER	N.W. Counties	1 5½	1 1½
A_1	Leamington	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B	Lewes	S. Counties	1 2	10½
A_2	Lichfield	Mid. Counties	1 4½	1 0½
A	Lincoln	Mid. Counties	1 5½	1 1½
	Liverpool	N.W. Counties	*1 7	1 2½
A_2	Llandudno	N.W. Counties	1 4½	1 0½
A	Llanelly	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton	Mid. Counties	1 5½	1 1½
A	Loughborough ..	Mid. Counties	1 5½	1 1½
A	Luton	E. Counties	1 4	1 0
A	Lytham	N.W. Counties	1 5½	1 1½
A_1	MACCLES-FIELD ..	N.W. Counties	1 5	1 0½
B	Maidstone	S. Counties	1 3½	11½
A_2	Malvern	Mid. Counties	1 4	1 0
A	Manchester	N.W. Counties	1 5½	1 1½
A	Mansfield	Mid. Counties	1 5½	1 1½
B_1	Margate	S. Counties	1 3	11½
A	Matlock	Mid. Counties	1 4	1 0
A_1	Merthyr	S. Wales & M.	1 5	1 0½
A	Middlesbrough ..	N.E. Coast	1 5½	1 1½
A_2	Middlewich	N.W. Counties	1 4½	1 0½
B_2	Minehead	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe	N.W. Counties	1 5½	1 1½
A_2	NANTWICH	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson	N.W. Counties	1 5½	1 1½
A	Newcastle	N.E. Coast	1 5½	1 1½
A	Newport	S. Wales & M.	1 5½	1 1½
A	Normanton	Yorkshire	1 5½	1 1½
A	Northampton ..	Mid. Counties	1 5½	1 1½
A	North Staffs	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich	E. Counties	1 5	1 0½
A	Nottingham	Mid. Counties	1 5½	1 1½
A	Nuneaton	Mid Counties	1 5½	1 1½
A	OAKHAM	Mid. Counties	1 4	1 0
A	Oldham	N.W. Counties	1 5½	1 1½
A_2	Oswestry	N.W. Counties	1 4	1 0
A_2	Oxford	S. Counties	1 4½	1 0½
A	PAISLEY	Scotland	*1 5½	1 1½
B_2	Pembroke	S. Wales & M.	1 2	10½
A	Perth	Scotland	*1 5½	1 1½
A_2	Peterborough ..	E. Counties	1 4½	1 0½
A	Plymouth	S.W. Counties	*1 5½	1 1½
A	Pontefract	Yorkshire	1 5½	1 1½
A_1	Pontypridd	S. Wales & M.	1 5	1 0½
A_2	Portsmouth	S. Counties	1 4½	1 0½
A	Preston	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING	S. Counties	1 4½	1 0½
B	Reigate	S. Counties	1 3½	11½
A	Retford	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A	Ripon	Yorkshire	1 4	1 0
A	Rochdale	N.W. Counties	1 5½	1 1½
B	Rochester	S. Counties	1 3½	11½
A_1	Ruabon	N.W. Counties	1 5	1 0½
A	Rugby	Mid. Counties	1 5½	1 1½
A_2	Rugeley	Mid. Counties	1 4½	1 0½
A	Runcorn	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens	N.W. Counties	1 5½	1 1½
B_2	Salisbury	S.W. Counties	1 2½	11
A_1	Scarborough	Yorkshire	1 5	1 0½
A	Scunthorpe	Mid. Counties	1 5½	1 1½
A	Sheffield	Yorkshire	1 5½	1 1½
A	Shipley	Yorkshire	1 5½	1 1½
A_2	Shrewsbury	Mid. Counties	1 4½	1 0½
A_2	Skipton	Yorkshire	1 4½	1 0½
A_2	Slough	S. Counties	1 4½	1 0½
A_1	Solihull	Mid. Counties	1 5	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport	N.W. Counties	1 5½	1 1½
A	S. Shields	N.E. Coast	1 5½	1 1½
A_1	Stafford	Mid. Counties	1 5	1 0½
A	Stirling	Scotland	1 6	1 1½
A	Stockport	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud	S.W. Counties	1 3½	11½
A	Sunderland	N.E. Coast	1 5½	1 1½
A	Swansea	S. Wales & M.	1 5½	1 1½
A	Swindon	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton	S.W. Counties	1 3½	11½
A	Teesside Dist ..	N.E. Counties	1 5½	1 1½
A_2	Teignmouth ..	S.W. Coast	1 4	1 0
A_2	Todmorden ..	Yorkshire	1 5½	1 1½
A_2	Torquay	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD ..	Yorkshire	1 5½	1 1½
A	Walsall	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby	Yorkshire	1 4½	1 0½
A	Widnes	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester	Mid. Counties	1 4½	1 0½
A_2	Worksop	Yorkshire	1 4	1 0
A_1	Wrexham	N.W. Counties	1 5	1 0½
A	Wycombe	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	s.	d.
Bricklayer . . . . per hour	1	7
Carpenter . . . . ,,	1	7
Joiner . . . . ,,	1	7
Machinist . . . . ,,	1	8
Mason (Banker) . . . . ,,	1	7
,, (Fixer) . . . . ,,	1	8
Plumber . . . . ,,	1	7
Painter . . . . ,,	1	6
Paperhanger . . . . ,,	1	6
Glazier . . . . ,,	1	7
Slater . . . . ,,	1	7
Scaffolder . . . . ,,	1	3
Timberman	1	3
Navvy . . . . ,,	1	2½
General Labourer . . . . ,,	1	2½
Lorryman . . . . ,,	1	5
Crane Driver . . . . ,,	1	6
Watchman . . . . per week	2	10	0

MATERIALS

EXCAVATOR AND CONCRETOR

	£	s.	d.
Grey Stone Lime . . . . per ton	2	2	0
Blue Lias Lime . . . . ,,	1	16	6
Hydrated Lime . . . . ,,	3	0	9
Portland Cement, in 4-ton lots (d/d site, including Paper Bags) . ,,	1	18	0
Rapid Hardening Cement, in 4-ton lots (d/d site, including Paper Bags) . ,,	2	4	0
White Portland Cement, in 1-ton lots ,,	8	15	0
Thames Ballast . . . . per Y.C.		6	3
¾" Crushed Ballast . . . ,,		6	9
Building Sand . . . ,,		7	3
Washed Sand . . . ,,		8	3
2" Broken Brick . . . ,,		8	0
¾" ,, ,, . . . ,,		10	3
Pan Breeze . . . ,,		6	6
Coke Breeze . . . ,,		8	9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s.	d.	6" s.	d.
Straight Pipes . . per F.R.	0	9	1	1
Bends . . . each	1	9	2	6
Taper Bends . . ,,	3	6	5	3
Rest Bends . . ,,	4	3	6	3
Single junctions . . ,,	3	6	5	3
Double . . . ,,	4	9	6	6
Straight channels . . per F.R.	1	6	2	6
¼" Channel bends . . each	2	9	4	0
Channel junctions . ,,	4	6	6	6
Channel tapers . . ,,	2	9	4	0
Yard gullies . . ,,	6	9	8	9
Interceptors . . ,,	16	0	19	6
IRON DRAINS:				
Iron drain pipe . . per F.R.	1	6	2	6
Bends . . . each	5	0	10	6
Inspection bends . ,,	9	0	15	0
Single junctions . ,,	8	9	18	0
Double junctions . ,,	13	6	30	0
Lead wool . . lb.		6		—
Gaskin . . . ,,		5		—

BRICKLAYER

	£	s.	d.
Flettons . . . . Per M.	2	18	0
Grooved do. . . . ,,	3	0	0
Phorpres bricks . . . ,,	2	17	3
,, Cellular bricks . ,,	2	17	3
Stocks, 1st quality . . ,,	4	11	0
,, 2nd ,, . . ,,	4	2	6
Blue Bricks, Pressed . ,,	8	17	6
,, Wirecuts . ,,	7	17	6
,, Brindles . ,,	7	0	0
,, Bullnose . ,,	9	0	0
Red Sand-faced Facings . ,,	6	18	6
Red Rubbers for Arches . ,,	12	0	0
Multicoloured Facings . ,,	7	10	0
Luton Facings . . ,,	7	10	0
Phorpres White Facings . ,,	3	17	3
,, Rustic Facings . ,,	3	12	3
Midhurst White Facings . ,,	5	0	0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:			
Stretchers . . . . ,,	21	0	0
Headers . . . . ,,	20	10	0
Bullnose . . . . ,,	27	10	0
Double Stretchers . . ,,	29	10	0
Double Headers . . ,,	26	10	0
Glazed Second Quality, *Less* . ,,	1	0	0
,, Buffs and Creams, *Add* . ,,	2	0	0
,, Other Colours . . ,,	5	10	0
2" Breeze Partition Blocks . per Y.S.	1	7	
2½" ,, ,, ,, . . ,,	1	10	
3" ,, ,, ,, . . ,,	2	1	
4" ,, ,, ,, . . ,,	2	6	

MASON

The following d/d F.O.R. at Nine Elms:

	s.	d.
Portland stone, Whitbed . . F.C.	4	4½
,, Basebed . . ,,	4	7½
Bath stone . . . . ,,	2	10
York stone . . . . ,,	6	6
,, ,, Sawn templates . ,,	7	6
,, ,, Paving, 2" . . F.S.	1	8
,, ,, 3" . . ,,	2	6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£	s.	d.
24"×12" Duchesses . . per M.	28	17	6
22"×12" Marchionesses . ,,	24	10	0
20"×10" Countesses . . ,,	19	5	0
18"×10" Viscountesses . ,,	15	10	0
18"× 9" Ladies . . ,,	13	17	6
Westmorland green (random sizes) . per ton	8	10	0
Old Delabole slates d/d in full truck loads to Nine Elms Station:			
20"×10" medium grey per 1,000 (actual)	21	11	6
,, ,, green ,, ,,	24	7	4
Best machine roofing tiles . ,,	4	10	0
Best hand-made do. . . ,,	5	0	0
Hips and valleys . . . each			9½
,, hand-made . . . ,,			10
Nails, compo . . . lb.		1	4
,, copper . . . ,,		1	6

CARPENTER AND JOINER

	s.	d.
Good carcassing timber . . F.C.	2	2
Birch . . . . as 1" F.S.		9
Deal, Joiner's . . . ,, ,,		5
,, 2nds . . . ,, ,,		4
Mahogany, Honduras . . ,, ,,	1	3
,, African . . ,, ,,	1	1
,, Cuban . . ,, ,,	2	6
Oak, plain American . . ,, ,,	1	0
,, Figured ,, . . ,, ,,	1	3
,, Plain Japanese . ,, ,,	1	2
,, Figured ,, . . ,, ,,	1	5
,, Austrian wainscot . ,, ,,	1	6
,, English . . ,, ,,	1	11
Pine, Yellow . . . ,, ,,	1	0
,, Oregon . . ,, ,,		4
,, British Columbian . ,, ,,		4
Teak, Moulmein . . ,, ,,	1	3
,, Burma . . ,, ,,	1	2
Walnut, American . . ,, ,,	2	3
,, French . . ,, ,,	2	3
Whitewood, American . ,, ,,	1	1
Deal floorings, ¾" . . Sq.	18	6
,, 1" . . ,,	1	1	6
,, 1¼" . . ,,	1	2	0
,, 1½" . . ,,	1	5	0
Deal matchings ¾" . . ,,	1	10	0
,, 1" . . ,,		14	0
,, 1¼" . . ,,		15	6
,, 1½" . . ,,	1	4	0
Rough boarding ¾" . . ,,		16	0
,, 1" . . ,,		18	0
,, 1¼" . . ,,	1	6	0

Plywood, per ft. sup.

—Thickness	¼"			⅜"			½"			⅝"		
Qualities	AA	A	B	AA	A	B	AA	A	B	AA	A	B
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
Birch .	4	3	2	5	4	3	7½	6	4½	8½	7	6
Alder .	3½	3	2	5	4	3	6½	5½	4½	8	7	6
Gaboon Mahogany	4	3	3	6½	5½	4½	9½	7½	–	1/0½	10	–
Figured Oak 1 side	8½	7	–	10	8	–	11½	–	–	1/6	–	–
Plain Oak . 1 side	6½	6	–	7½	7	–	9½	–	–	1/–	–	–
Oregon P.ne	5	4	–	5½	5	–	6	–	–	–	–	–

	d.
Scotch glue . . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:

(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	¼"	⅜"	½"	¾"	1"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
,, 3"-11½" long ,,	7	9	1/3	1/8	3/–
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3
,, 3"M-½" long ,,	8	10	1/5	1/11	3/6
Bends . . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . . ,,	1/–	1/3	1/10	2/6	5/1
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/–	2/–
Flanges . . . ,,	9	1/–	1/4	1/9	2/9
Caps . . . . ,,	3½	5	8	1/–	2/–
Backnuts . . . ,,	2	3	5	6	1/1
Iron main cocks . . ,,	1/6	2/3	4/2	5/4	11/6
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–

Discounts:

TUBES.

Per cent.		Per cent.	
Gas . . . 65	Galvanized gas .		52½
Water . . . 61½	,, water		47½
Steam . . . 57½	,, steam		42½

FITTINGS.

Gas . . .	57½	Galvanized gas	47½
Water . . .	52½	,, water	42½
Steam . . .	47½	,, steam	37½

SMITH AND FOUNDER—*continued*

	s.	d.
Rolled steel joists cut to length . . cwt.	10	9
Mild steel reinforcing rods, ⅜" . . ,,	8	6
,, ,, ½" . . ,,	8	3
,, ,, ⅝" . . ,,	8	0
,, ,, ¾" . . ,,	7	6
,, ,, ⅞" . . ,,	7	6
,, ,, 1" . . ,,	7	6
,, ,, 1¼" . . ,,	7	6
,, ,, 1½" . . ,,	7	6

Cast-iron rain-water pipes of	3" s.	d.	4" s.	d.
ordinary thickness metal . F.R.	8		10	
Shoes . . . . each	2	0	3	0
Anti-splash shoes . . ,,	4	6	8	0
Boots . . . . ,,	3	0	4	0
Bends . . . . ,,	2	7	3	9
,, with access door . ,,	—		6	3
Heads . . . . ,,	4	0	5	0
Swan-necks up to 9" offsets . ,,	3	9	6	0
Plinth bends, 4½" to 6" . ,,	3	9	5	3
Half-round rain-water gutters of ordinary thickness metal . F.R.	5		6	
Stop ends . . . . each	6		6	
Angles . . . . ,,	1	7	1	11
Obtuse angles . . . ,,	2	0	2	6
Outlets . . . . ,,	1	9	2	3

PLUMBER

	£	s.	d.
Lead, milled sheets . . cwt.	18	6	
,, drawn pipes . . ,,	17	0	
,, soil pipe . . ,,	18	6	
,, scrap . . ,,	10	6	
Solder, plumbers' . . lb.		9½	
,, fine do. . . ,,	1	0	
Copper, sheet . . ,,		8½	
,, tubes . . ,,		11	

L.C.C. soil and waste pipes:	3"		4"		6"	
Plain cast . . F.R.	1	0	1	2	2	6
Coated . . ,,	1	1	1	3	2	8
Galvanized . ,,	2	0	2	6	4	6
Holderbats . each	3	10	4	0	4	9
Bends . . ,,	3	9	5	3	10	3
Shoes . . ,,	2	10	4	4	9	6
Heads . . ,,	4	8	8	5	12	9

PLASTERER

	£	s.	d.
Lime, chalk . . per ton	2	5	0
Plaster, coarse . . ,,	2	10	0
,, fine . . ,,	4	15	0
Hydrated lime . . ,,	3	0	9
Sirapite . . . ,,	3	6	0
Keene's cement . . ,,	3	0	0
Gothite Plaster . . ,,	3	6	0
Thistle Plaster . . ,,	3	6	0
Sand, washed . . Y.C.		11	6
Hair . . . . lb.			6
Laths, sawn . . bundle		2	4
,, rent . . ,,		3	9
Lath nails . . lb.			3½

GLAZIER

	s.	d.	s.	d.
Sheet glass, 21 oz., squares n/e 2 ft.	s.	F.S.		2½
,, ,, 26 oz. ,, ,,				3
Flemish, Arctic, Figured (white)* ,,				7
Blazoned glasses . . ,,			2	6
Reeded; Cross Reeded ,,				11
Cathedral glass, white, double-rolled, plain, hammered, rimpled, waterwite				6½
Crown sheet glass (n/e 12 in. x 10 in.) ,,			2	0
Flashed opals (white and coloured) ,,	1	0	and 2	0
⅛" rough cast; rolled plate . ,,				5½
⅛" wired cast; wired rolled . ,,				9½
⅛" Georgian wired cast . . ,,				11
¼" Polished plate, n/e 1 ft. . ,,	† 10	to	‡1	1
,, ,, 2 . . ,,	†1	2 ,,	‡1	4
,, ,, 4 . . ,,	†2	3 ,,	‡2	6
,, ,, 8 . . ,,	†2	9 ,,	‡3	2
,, ,, 20 . . ,,	†3	7 ,,	‡4	2
,, ,, 45 . . ,,	†3	11 ,,	‡4	7
,, ,, 100 . . ,,	†5	0 ,,	‡5	7
Vita glass, sheet, n/e 2 ft. . ,,			1	3
,, ,, ,, over 2 . . ,,			1	9
,, ,, plate, n/e 2 ft. . ,,			3	0
,, ,, ,, 7 . . ,,			5	0
,, ,, ,, 15 . . ,,			6	0
,, ,, ,, over 15 . . ,,			7	6
"Calorex" sheet 21 oz., and 32 oz. ,,	2	6 and	3	6
,, rough cast ⅛" and ¼" ,,			8½ ,, 1	0
Putty, linseed oil . . lb.				3

* *Colours*, 1d. *F.S. extra.*

†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£	s.	d.
White lead in 1 cwt. casks . . cwt.	2	6	0
Linseed oil . . . . gall.	2	2½	
Boiled oil . . . . ,,	2	4½	
Turpentine . . . . ,,	4	1½	
Patent knotting . . . ,,	14	0	
Distemper, washable . . cwt.	2	6	0
,, ordinary . . ,,	2	0	0
Whitening . . . . ,,	4	0	
Size, double . . . brkin	3	0	
Copal varnish . . . gall.	13	0	
Flat varnish . . . ,,	14	0	
Outside varnish . . ,,	16	0	
White enamel . . ,,	1	15	0
Ready mixed paint . . ,,	13	6	
Brunswick black . . ,,	7	6	

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR

		£ s. d.
Digging over surface n/e 12" deep and cart away	Y.S.	2 9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.	8 6
" to form basement n/e 5' 0" deep and cart away	"	9 0
" " 10' 0" deep and cart away	"	9 6
" " 15' 0" deep and cart away	"	10 0
If in stiff clay	add "	6
If in underpinning	"	4 0
Planking and strutting to sides of excavation	F.S.	1 0
" " to pier holes	"	5
" " to trenches	"	5
" " extra, only if left in	"	3
Hardcore, filled in and rammed	Y.C.	10 0
Portland cement concrete in foundations (6-1)	"	1 6 0
" " (4-2-1)	"	1 12 6
" " underpinning	"	1 16 0
Finishing surface of concrete, spade face	Y.S.	7

DRAINLAYER

		4" s. d.	6" s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
" junctions	"	3 9	4 6
Gullies and gratings	"	16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER

		£ s. d.
Brickwork, Flettons in lime mortar	Per Rod	27 10 0
" " in cement	"	28 15 0
" Stocks in cement	"	35 0 0
" Blues in cement	"	52 0 0
Extra only for circular on plan	"	2 0 0
" backing to masonry	"	1 10 0
" raising on old walls	"	2 0 0
" underpinning	"	5 10 0½
Fair Face and pointing internally	F.S.	1¼
Extra over fletton brickwork for picked stock facings and pointing	"	8
" " " red brick facings and pointing	"	11
" " " blue brick facing and pointing	"	1 4
" " " glazed brick facings and pointing	"	3 6
Tuck pointing	"	7½
Weather pointing in cement	"	3
Slate dampcourse	"	10
Vertical dampcourse	"	1 1

ASPHALTER

		s. d.
½" Horizontal dampcourse	Y.S.	4 6
½" Vertical dampcourse	"	6 9
½" paving or flat	"	4 0
1" paving or flat	"	5 6
1" × 6" skirting	F.R.	1 6
Angle fillet	"	2
Rounded angle	"	2
Cesspools	Each	5 0

MASON

		s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17 9
Bath stone and do., all as last	"	13 6
Artificial stone and do.	"	13 0
York stone templates, fixed complete	"	10 6
" thresholds	"	13 6
" sills	"	1 0 6

SLATER AND TILER

		£ s. d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr.	3 10 0
Do., 18" × 9"	"	3 7 0
Do., 24" × 12"	"	3 17 0
Westmorland slating, laid with diminished courses	"	6 0 0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3 0 0
Do., all as last, but of machine-made tiles	"	2 16 0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	"	4 6 0
" " " " " " (green)	"	4 15 0

CARPENTER AND JOINER

		£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2 5 0
Shuttering to sides and soffits of beams	F.S.	8
" to stanchions	"	8
" to staircases	"	1 8
Fir and fixing in wall plates, lintols, etc.	F.C.	3 9
Fir framed in floors	"	4 6
" " roofs	"	6 6
" " trusses	"	7 6
" " partitions	"	8 6
¾" deal sawn boarding and fixing to joists	Sqr.	1 14 6
1" " " " " "	"	1 17 6
1¼" " " " " "	"	2 3 0
⅞" × 2" fir battening for Countess slating	"	9 6
Do. for 4" gauge tiling	"	12 0
Stout feather-edged tilting fillet	F.R.	4½
Patent inodorous felt, 1 ply	Y.S.	2 3
" " " 2 "	"	2 9
" " " 3 "	"	3 3
Stout herringbone strutting to 9" joists	F.R.	10½
1" deal gutter boards and bearers	F.S.	1 2
1¼" " " " "	"	1 6
2" deal wrought rounded roll	F.R.	8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2 1 0
1¼" do.	"	2 10 0
1½" do.	"	2 17 0
1" deal moulded skirting, fixed on, and including grounds plugge to wall	F.S.	1 6
1¼" do.	"	1 9

CARPENTER AND JOINER—*continued*

		s. d.
1½" deal moulded sashes of average size	F.S.	1 9½
2" " " " "	"	1 11½
1½" deal cased frames double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ⅝" parting beads, and with brass faced axle pulleys, etc., fixed complete	"	3 7
2" " " " "	"	3 10
Extra only for moulded horns	Each	6
1⅛" deal four-panel square, both sides, door	F.S.	2 0
2" " " " "	"	2 8
1⅛" " but moulded both sides	"	2 4
2" " " " "	"	3 0
4" × 3" deal, rebated and moulded frames	F.R.	1 0
4½" × 3½" " " " "	"	1 4
1½" deal tongued and moulded window board, on and including deal bearers	F.S.	1 9
1¼" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2 6
1¼" deal moulded wall strings	"	2 1
1¼" " outer strings	"	2 4
Ends of treads and risers housed to string	Each	1 9
3" × 2" deal moulded handrail	F.R.	1 3
1" × 1" deal balusters and housing each end	Each	2 0
1½" × 1½" " " " "	"	2 9
3" × 3" deal wrought framed newels	F.R.	1 3
Extra only for newel caps	Each	6 0
Do., pendants	"	6 0

SMITH AND FOUNDER

		£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.	15 6
Riveted plate or compound girders, and hoisting and fixing in position	"	19 6
Do. stanchions with riveted caps and bases and do.	"	19 0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	"	17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.	11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1 10 0

PLUMBER

		£ s. d.
Milled lead and labour in flats	cwt.	1 12 0
Do. in flashings	"	1 15 6
Do. in covering to turrets	"	2 3 0
Do. in soakers	"	1 7 6
Labour to welted edge	F.R.	3½
Open copper nailing	"	3
Close " "	"	4

		½" s. d.	¾" s. d.	1" s. d.	1¼" s. d.	2" s. d.	4" s. d.
Lead service pipe and fixing with pipe hooks	F.R.	10	1 0	1 3	2 0	2 10	—
Do. soil pipe and fixing with cast lead tacks	"	—	—	—	—	—	5 6
Extra, only to bends	Each	—	—	—	—	2 0	6 9
Do. to stop ends	"	6½	8	9	11	1 0	—
Boiler screws and unions	"	3 3	3 9	5 0	8 0	—	—
Lead traps	"	—	—	—	6 3	8 9	—
Screw down bib valves	"	6 9	9 6	11 0	—	—	—
Do. stop cocks	"	7 0	9 6	12 6	—	—	—

		s. d.
4" cast-iron ½-rd. gutter and fixing	F.R.	1 0
Extra, only stop ends	Each	1 0
Do. angles	"	1 6
Do. outlets	"	2 9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.	1 2
Extra, only for shoes	Each	1 3
Do. for plain heads	"	5 6

PLASTERER AND TILING

		s. d.
Expanded metal lathing, small mesh	Y.S.	2 0
Do. in n/w to beams, stanchions, etc.	"	2 9
Lathing with sawn laths to ceilings	"	1 3
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	"	1 5
Do. vertical	"	1 7
Rough render on walls	"	1 2½
Render, float and set in lime and hair	"	1 9
Render and set in Sirapite	"	1 11
Render, backing in cement and sand, and set in Keene's cement	"	2 9
Extra, only if on lathing	"	4
Keene's cement, angle and arris	F.R.	6
Arris	"	1½
Rounded angle, small	"	3
Plain cornices in plaster, including dubbing out, per 1" girth	"	1½
1" granolithic pavings	Y.S.	3 6
1½" " " " "	"	4 6
6" × 6" white glazed wall tiling and fixing on prepared screed	"	17 6
9" × 3" " " " "	"	1 2 6
Extra, only for small quadrant angle	F.R.	8

GLAZIER

		s. d.
21 oz. sheet glass and glazing with putty	F.S.	7½
26 oz. do and do.	"	8½
Flemish, Arctic Figured (white) and glazing with putty	"	1 1
Cathedral glass and do.	"	1 2
Glazing only, British polished plate	"	7
Extra, only if in beads	"	2
Washleather	F.R.	4

PAINTER

		s. d.
Clearcolle and whiten ceilings	Y.S.	6
Do. and distemper walls	"	9
Do. with washable distemper	"	1 1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	"	3 3
Do. on woodwork	"	3 6
Do. on steelwork	"	3 0
Do. and brush grain and twice varnish	"	5 6
Stain and twice varnish woodwork	"	1 11
Stain and wax-polish woodwork	"	4 6
French polishing	F.S.	1 2
Stripping off old paper	Piece	2 0
Hanging ordinary paper	from "	2 9

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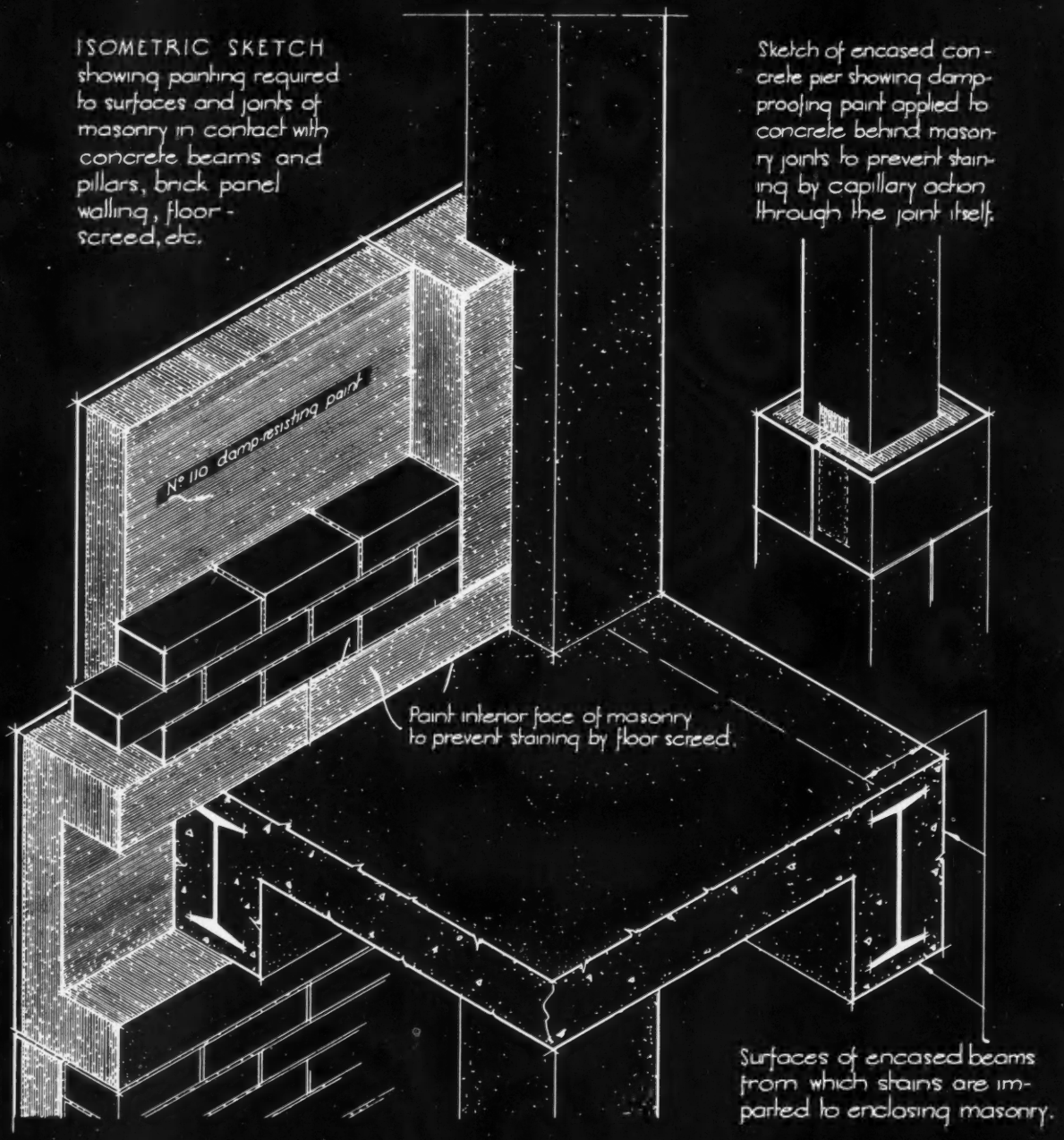

Nº 110. DAMP-RESISTING PAINT (For back-painting stonework)
Consists of a black elastic, alkali and dampproof paint for the protection of stone from chemical action and discoloration due to alkali in cement, etc. Nº 110 may be used for backing limestone, sandstone, granite, marble and other cut stone, etc., and is an efficient medium for protection against staining action.

APPLICATION: Apply the paint to the top, bedding, sides and back of all surfaces of stonework in contact with masonry to within 1" of the face. Surfaces to be treated should be dry and free from any foreign matter and all Lewis holes and anchor recesses should also be coated. For general specification and covering capacity of Nº 110 see reverse side of this sheet.

Information from The R.I.W. Protective Products Co. Ltd.

INFORMATION SHEET: STAIN PREVENTION IN STONEWORK.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET
• 159 •
STAIN PREVENTION IN STONEWORK

Product: No. 110 Damp Resisting Paint

Specifications:

All limestone, sandstone, granite, marble or any other cut stone, where specified, shall be backed with "R.I.W." No. 110 in accordance with the directions of the manufacturers.

The top, bed, sides and back—all surfaces in contact with masonry — shall be coated thoroughly with "R.I.W." No. 110 to within 1 in. of the face to prevent staining and to insure thorough damp-proofing.

The surface of the stone shall be dry and free from any foreign matter that would prevent the adhesion of this material.

The coating shall be continuous and even and applied at least twelve to twenty-four hours before setting up the stone. All Lewis holes, anchors and anchor recesses must be thoroughly coated with the "R.I.W." No. 110. After the cut stone is set apply where possible an additional coat of "R.I.W." No. 110 on the backs, being careful that all joints, as well as the stone itself, are thoroughly coated.

Covering capacity:

Per gallon, one coat, approximately 150 square feet.

Cost: ten shillings per gallon.

Name of Manufacturers: R.I.W. Protective Products Co., Ltd.

Address: 16-17 Devonshire Square, E.C.2
Telephone: Avenue 4735

Works: 74 Vicarage Lane, Stratford, E.15
Telephone: Maryland 1589

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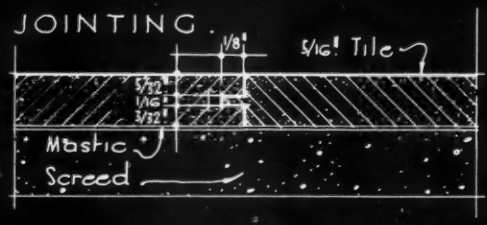
ISOMETRIC SKETCH

of corner of typical tile. Two adjacent edges are tongued and the other two are grooved.

JOINTING.

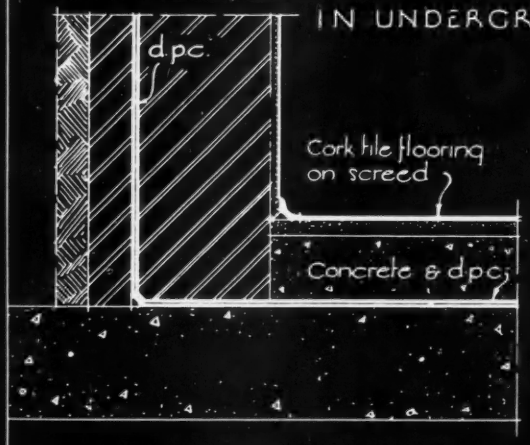


CIRCLE-A-CORK TILING : SIZES, ETC.

All cork tiles and borderings are permanently non-slip, resilient and odourless, & effectively insulate against heat, sound, moisture and electrical leakage.

DESCRIPTION.	SIZES	THICKNESS.	SHADES.
LARGE GRAIN.	Any size of tile may be cut from pieces 36" x 12". Limited quantities of 18"x18". All bordering is 36" long.	5/16"	Light. Medium. Dark-medium. Dark.
FINE GRAIN.	do. do.	9/16" & 5/16"	Light. Medium. Dark.
HEAVY DENSITY. (excephonally severe treatment).	Any size of tile may be cut from pieces 18"x12" maximum.	5/16"	Medium.

LAYING : (done by the Manufacturers if desired).

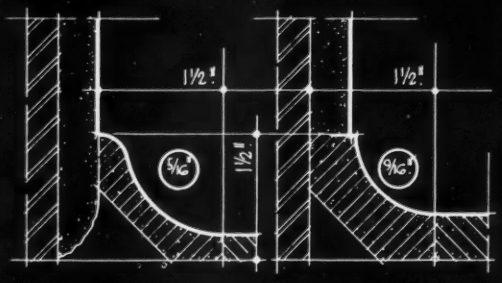


IN UNDERGROUND SITUATIONS, or where ordinary concrete floor is in direct contact with the soil, it is important that the floors and all side walls should be thoroughly protected by a positive damproof course carried up side walls well above what will be the corresponding finished floor level.

NOTES ON LAYING :

Tiles and borderings are set in Armstrongs No. 236 Waterproof Cement and may be laid on any surface that is level and dry. Before laying on existing wood, concrete or cement floors a perfectly smooth and dry surface should be obtained, and especial care should be taken to ensure that the sub-floor is adequately damproofed over the entire area to be covered when the floor is in contact with the earth.

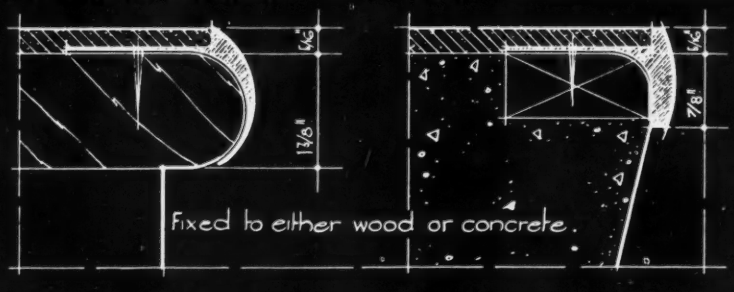
CORK TILE COVING :

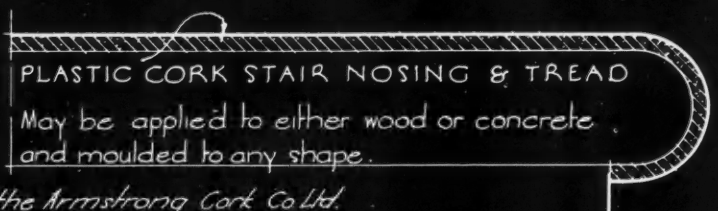


LARGE GRAIN : 5/16" thick only, in standard shades & Std 36" lengths.

FINE GRAIN : 5/16" and 3/16" thick, in light and dark shades only.

ALUMINIUM STAIR NOSINGS :





PLASTIC CORK STAIR NOSING & TREAD

May be applied to either wood or concrete and moulded to any shape.

Information from the Armstrong Cork Co Ltd.

INFORMATION SHEET : DETAILS OF CORK TILE FLOORING

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 160 •

CORK

Name of Product : Cork Tile
Cork Covering
Cork Stair Treads

Summary of Tests by the Department of Scientific and Industrial Research (building research).

General report :

The resistance to wear due to "drag" abrasion and to erosion by sandblasting was good when compared with rubber and good quality jointless flooring tested under the same conditions.

Drag Abrasion : Wear in inches. The depth of wear was measured after 250 revolutions of a rotating disc fed with 20 to 30 mesh Leighton Buzzard Standard Sand. One revolution is equivalent to a travel of two metres.

Dry.	Wet.
0·0016	0·034
0·0004	0·031
0·0004	0·027
Average 0·0008	Average 0·031

Sandblast Abrasion :

Four samples 4 in. by 4 in. cut from tiles submitted were subjected to action of a sand stream applied at a pressure of 5 lbs. per sq. in., the nozzle of the apparatus being 3 ft. away from the face of sample. Test was continued for 50 minutes, during which time 50 lbs. of sand (Leighton Buzzard Standard 20 to 30 mesh) was fed through the machine. The depth of wear after 4, 12, 20 and 50 lbs. of sand had passed through the machine was as shown in the tables below.

Sandblast tests—Wear in inches :

Untreated Cork.				Jointless Flooring		
4 lb.	12 lb.	20 lb.	50 lb.	4 lb.	12 lb.	20lb.
·0004	·001	·002	·004	·002	·010	·020
·0008	·001	·001	·002	·002	·007	·014
·0004	·0004	·0004	·002	·003	·014	·030
·0001	·0004	·0004	·003	·002	·014	·030
Av. ·0004	·0007	·0009	·0027	·0022	·011	·031

TYPICAL SPECIFICATION CLAUSES

Armstrong's Cork Tile Floors of colour and design to be approved by the architect (or owner) shall be furnished and installed in accordance with the standard Armstrong specifications.

All Cork Tile shall be made from a select grade of pure corkwood. It shall be homogeneous from face to back, free from foreign substances and thoroughly and evenly baked.

PROVISIONS FOR WORK OF RELATED TRADES

New Concrete Floors.

Where Armstrong's Cork Tile is to be installed over a new suspended concrete floor, the top surface shall be finished 9/16 in. (or 5/16 in.) below the desired floor level and shall be trowelled to a smooth and even surface. The concrete shall be thoroughly dry before the Cork Tile is laid.

Old Concrete Floors.

Where Armstrong's Cork Tile is to be installed over an old suspended concrete floor or hard tile floor, the base shall be true and even and any low places, expansion score marks, or cracks shall be repaired by another contractor, and finished flush with the surface of the floor before the Cork Tile is laid.

New Wood Floors.

Where Armstrong's Cork Tile is to be installed over a new suspended wood floor, this floor shall be finished 5/8 in. (or 3/8 in.) below the desired floor level and shall be laid diagonally with approximately 1/32 in. between the boards and face nailed to eliminate expansion or buckling. Any unevenness in the boards shall be planed smooth and even by another contractor.

Old Wood Floors.

Where Armstrong's Cork Tile is to be installed over an old suspended wood floor, the loose, defective, or badly worn boards shall be replaced or face nailed. Any unevenness in the boards shall be planed smooth and even by another contractor.

Concrete Treads.

Where Armstrong's Cork Tile is to be installed over new concrete treads, the top finish of the concrete shall be trowelled to a smooth and even surface and shall be thoroughly dry before the Cork Tile is laid. Where Armstrong's Cork Tile is to be installed over old concrete treads, the treads shall be true and even and any low places or cracks shall be repaired by another contractor and finished flush with the surface of the tread before Cork Tile is laid. The concrete shall be thoroughly dry.

Metal Treads.

Where Armstrong's Cork Tile is to be installed over metal treads, the metal shall be sufficiently smooth and rigid to form a firm base for the Cork Tile.

Wood Treads.

Where Armstrong's Cork Tile is to be installed over new wood stairs, the treads shall be made of dry and well-seasoned timber not less than 7/8 in. thick, and left smooth and even. Where Armstrong's Cork Tile is to be installed over old wood treads, all loose, defective, or badly worn boards shall be replaced or face nailed. Any unevenness in the boards shall be planed smooth and even by another contractor.

GENERAL NOTES

Wood Floors.

On the wood base there shall be installed Armstrong's Lining Felt weighing 1½ lbs. per square yard. The felt shall be securely pasted to the base with Armstrong's Linoleum Paste, all seams to be butted and made tight.

Concrete Floors Resting Directly on Earth.

The floor shall be thoroughly damp-proofed by means of a layer of asphalt installed between the concrete and the screeding.

In the case of old floors where no damp-course already exists, there shall be installed an underlay of bituminous felt. The felt shall be securely fixed to the screed with a bitumastic, all seams to be butted and made tight.

Prices vary according to area to be covered, locality of work, size of rooms, shape of rooms, nature of sub-floor.

Quotations may always be obtained within 24 hours.

Name of Manufacturer : Armstrong Cork Co., Ltd.

Address : Aldwych House, Aldwych, W.C.2

Telephone : Holborn 7503

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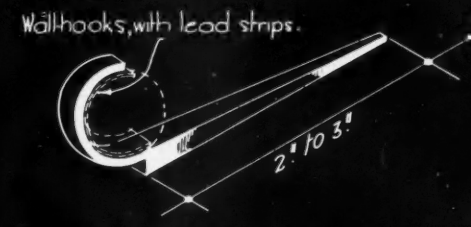
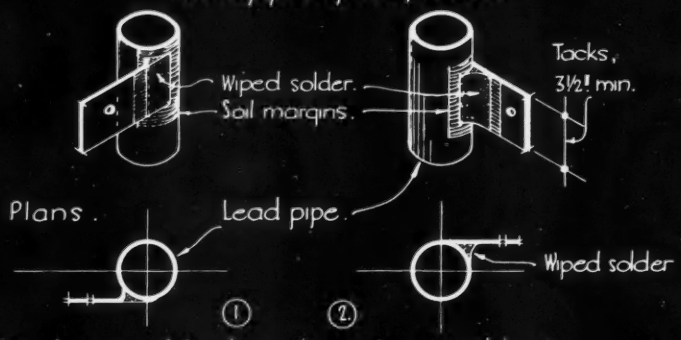
METHODS OF SUPPORTING LEAD PIPES :

(A) VERTICAL RUNS :



NOTE : Iron pipe hooks as shown are suitable for small diameter pipes only. The hook is driven into the joints of the brick or stone-work. This method is recommended for horizontal piping only when intermediate support is provided. See sectional details of horizontal (wall) runs below.

Types of eared lead tacks for supporting lead pipes up to 1½" bore.



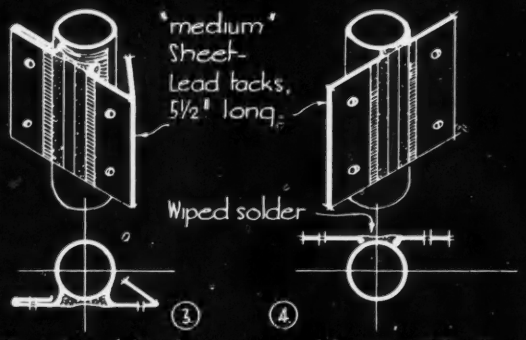
Single eared tack, back soldered.

Single eared tack, face soldered.

Nos. 1 & 2 more suitable for horizontal or raking pipes 24" to 30" c's. horizontally, 42" c's. vertically.

NOTES : ears are secured to walls by pipe nails or by round-headed brass screws and washers.

Tacks for pipes, say of 2", and over.



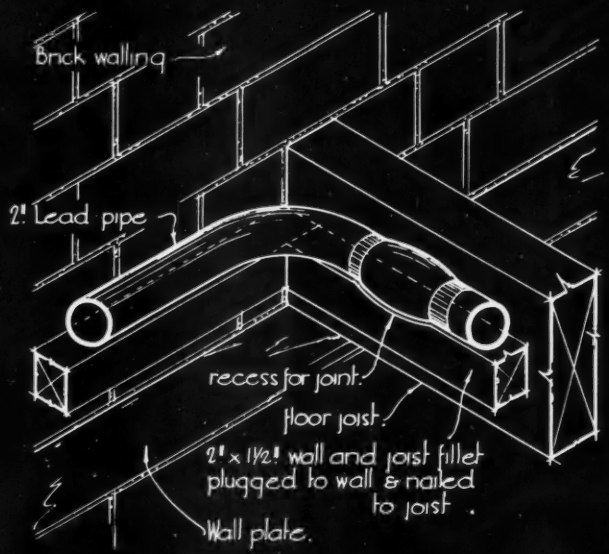
Double folded tack, back soldered.

Double eared tack, back soldered.

(Double ears more suitable for vertical pipe runs)

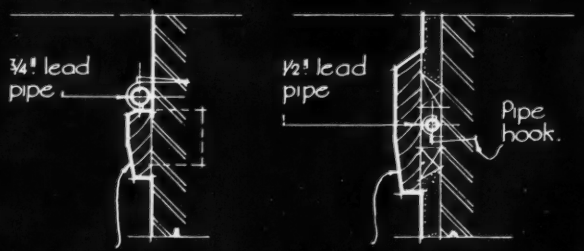
Double, "large" cast lead ears, 8" x 3" for pipes over 3" bore, and at 5'0" centre to centre, are necessary for heavy vertical soil pipes, etc.

(B) HORIZONTAL RUNS : (1) In floors.



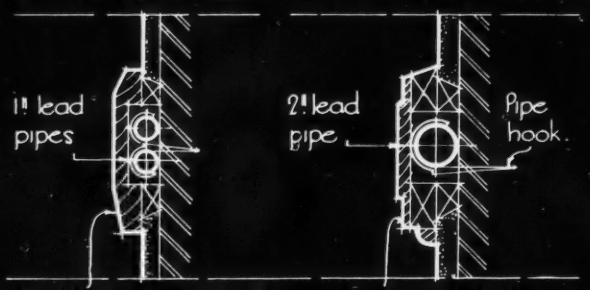
ISOMETRIC SKETCH OF SUPPORT REQUIRED FOR ALL LEAD PIPES RUN IN WOOD FLOORS, ROOFS, ETC.

(2) along walls



Moulded rail 1¼" piping exposed.

1¼" Moulded casing on plaster face.



Moulded & recessed casing on plaster face.

Built out moulded casing with packing pieces.

Information from the Lead Sheet & Pipe Development Council.

INFORMATION SHEET : THE USE OF LEAD IN BUILDING CONSTRUCTION 4

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 161 •

LEAD IN BUILDING CONSTRUCTION

Type of Product: Lead Pipe

This is the fourth of the series of Information Sheets dealing with the use of Lead in Building Construction, and illustrates the various methods of supporting Lead pipe-runs.

When run in vertical lengths, small pipes not larger than 1 in. bore are usually supported and secured to brick and stone walls by iron pipe hooks at not more than 3 ft. on centre and of the form shown, driven into the joints of the wall, the hooks being fitted with a lead packing strip.

For horizontal or raking pipes the use of pipe hooks alone is most unsatisfactory, and soon causes failure in both the piping and the circulation by allowing distinct sags between supports; in all such cases continuous supporting fillets should be plugged to the walls or nailed to timbers and the piping clipped to the wall at intervals by hooks at not more than 2 ft. on centre. At changes of direction an easy bend is much preferable to a quick one, as the latter causes excessive friction of the water and restricts the flow; wide bends may be supported on angle blocks bevelled and nailed against the supporting fillets. In exposed positions the fillet may be suitably moulded and bevelled to prevent the accumulation of dust, etc., and on plastered walls variously treated as indicated. When pipes are to be secured to visible woodwork, clips are preferable to hooks. These are obtainable in galvanised iron or cast brass in a variety of patterns, with ears for screw-fixing.

Larger diameter vertical pipes are secured and supported by heavy lead tacks, 2½ in. or more in width, soldered to the pipe. Four methods of forming and attaching the tacks are shown. The tacks may be single or double eared of single or double thickness and soldered on the face or the back. Back soldering is customary for pipes 2 in. bore and upwards and face soldering for pipes of smaller bore. Single ears are more suitably used for horizontal or raking pipes and double ears for vertical pipes.

Soil margins are indicated at all points. The portion to be soldered is scraped bright to the correct size and shape for the soldered connection. All tacks are secured to walls by pipe nails or to woodwork by round-headed brass screws and washers.

Lead piping is manufactured in a large number of bores and weights, the range being as follows, for bores in general usage:

LEAD WATER PIPE.

Bore.	Weights per lineal yard in lbs.
⅜″	3 to 7 lb.
½″	3½ ,, 9 ,,
¾″	6 ,, 12 ,,
1″	8 ,, 16 ,,
1¼″	9 ,, 18 ,,
1½″	10 ,, 24 ,,
2″	16 ,, 36 ,,

LEAD SOIL PIPE.

Bore.	Weight per 10 ft.
2″	30 to 50 lb.
2½″	36 ,, 83⅓ ,,
3″	45 ,, 111⅛ ,,
3½″	52 ,, 130 ,,
4″	56 ,, 140 ,,
5″	75 ,, 220 ,,
5½″	90 ,, 220 ,,
6″	90 ,, 220 ,,

LEAD BARREL.

Bore.	Weight per 10 ft.
2¼″	80 to 127 lb.
2½″	87 ,, 120 ,,
2¾″	100 and 125 ,,
3″	120 to 180 ,,
3½″	150 ,, 200 ,,
4″	160 ,, 300 ,,
4½″	167 ,, 220 ,,
5″	233 and 250 ,,

Larger and smaller and lighter and heavier pipes made to order.

The minimum specification for the installation of cold water services in lead piping compiled by the Institute of Plumbers, is as follows:

(1) Lead pipes subject to Pressure from Mains.

Bore not exceeding:	Weight per Lineal Yard in Pounds. ⅜″	½″	¾″	1″	1¼″	1½″	2″
(a) For pressure not exceeding 110 ft. head	4	6	9	12	16	18	24
For pressure exceeding 110, but not exceeding 250 ft. head	5	7	12	16	21	27	33
For pressure exceeding 250 ft. head	5½	9	16	21	28	36	48

(2) Lead pipes for use as distributing pipes.

Bore not exceeding:	¾″	½″	¾″	1″	1¼″	1½″	2″
Weight per Lineal Yard in pounds	4	5	8	11	14	18	24

(3) Lead pipes with open end for flushing and warning or overflow pipes.

Bore not exceeding:	¾″	1″	1¼″	1½″	2″
Weight per lineal yard in pounds ...	4	6	7	9	10

Other sheets of this series, Nos. 148, 149, and 157 dealt with the use of Sheet Lead for parapet gutters and flat roofs and the methods of jointing lead pipes.

Source of Information: The Lead Sheet and Pipe Development Council

Address: Golden Cross House, Charing Cross, W.C.2

Telephone: Whitehall 7264

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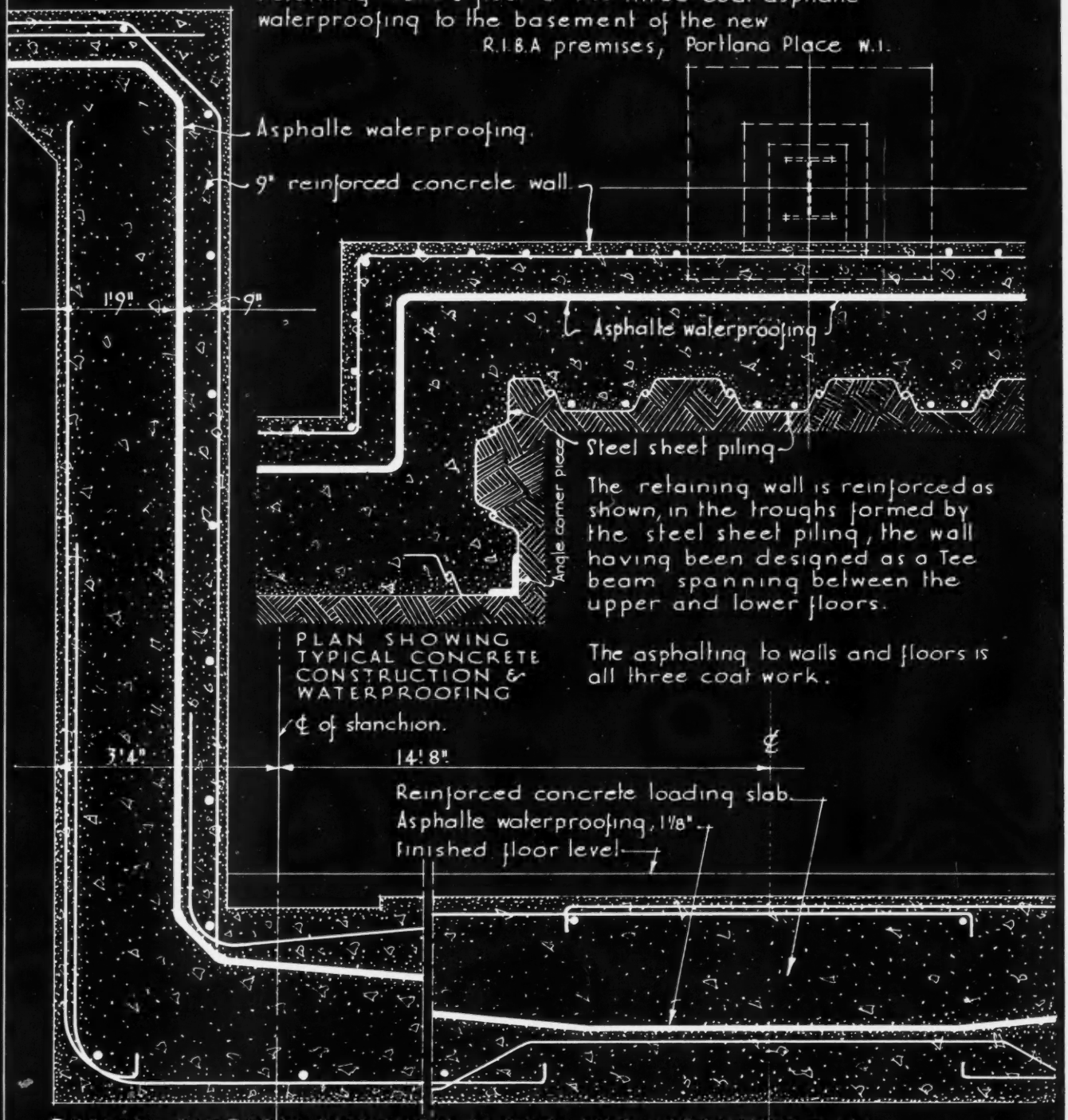
ARCHITECT : G Grey Wornum F.R.I.B.A.
CONSULTING ENGINEERS : J.T James & Partners

Scale ½" to 1'0"

The details given below are typical details of the retaining walls & floor & the three-coat asphalte waterproofing to the basement of the new R.I.B.A premises, Portland Place W.1.



The retaining wall is reinforced as shown, in the troughs formed by the steel sheet piling, the wall having been designed as a Tee beam spanning between the upper and lower floors.

The asphalting to walls and floors is all three coat work.

TYPICAL SECTION THROUGH FLOOR AND RETAINING WALL.

Issued by the Natural Asphalte Mine Owners and Manufacturers Council.

INFORMATION SHEET : WATERPROOFING OF BASEMENT WALLS & FLOORS
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1.

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 162 •

ASPHALTE

Type of Product :

Asphalte for dampcoursing and basement work, standardised by the Natural Asphalte Mine-Owners and Manufacturers Council.

GENERAL :

The details given on this Sheet are of the retaining walls and floors in the new premises for the R.I.B.A., Portland Place, W.1.

WATER PRESSURE :

The water pressures met with were equal to an 8 or 9 ft. head of water, or approximately 400 to 500 lb. per sq. ft.

This necessitated heavy construction and heavy loading slabs inside the asphalte waterproofing as shown, and specially constructed asphalte pipes were used to control the pressure of water and thus enable the final sealing of the asphalte tanking to be carried out under dry conditions.

ASPHALTE :

The asphalte used was manufactured by the Limmer and Trinidad Lake Asphalt Co., Ltd., in accordance with the appropriate specification of the Natural Asphalte Mine-Owners and Manufacturers Council, and applied in conformity with the Council's Code of Practice. All the asphalte blocks were branded with the Council's symbol, consisting of the letter "D" and a Maltese cross, indicating that the material was specially manufactured for dampcourse and tanking work, thus enabling the architect and the clerk of works to verify the nature of the material when delivered on the site.

The asphalte was applied in three layers, each coat being lapped 3 in., with double angle fillets at all internal angles.

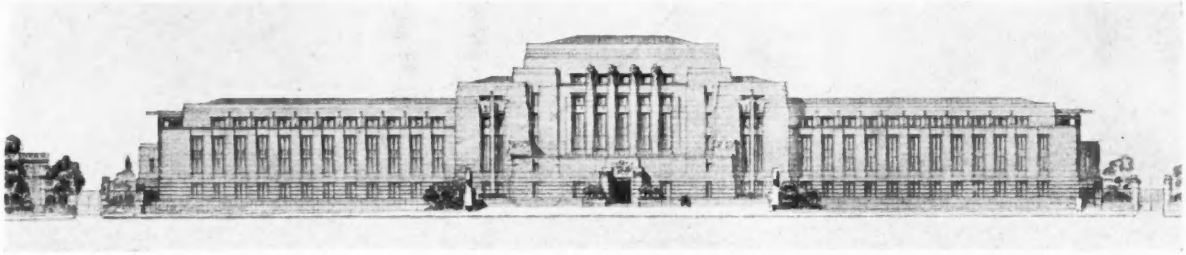
Source of Information : The Natural Asphalte Mine-Owners and Manufacturers Council

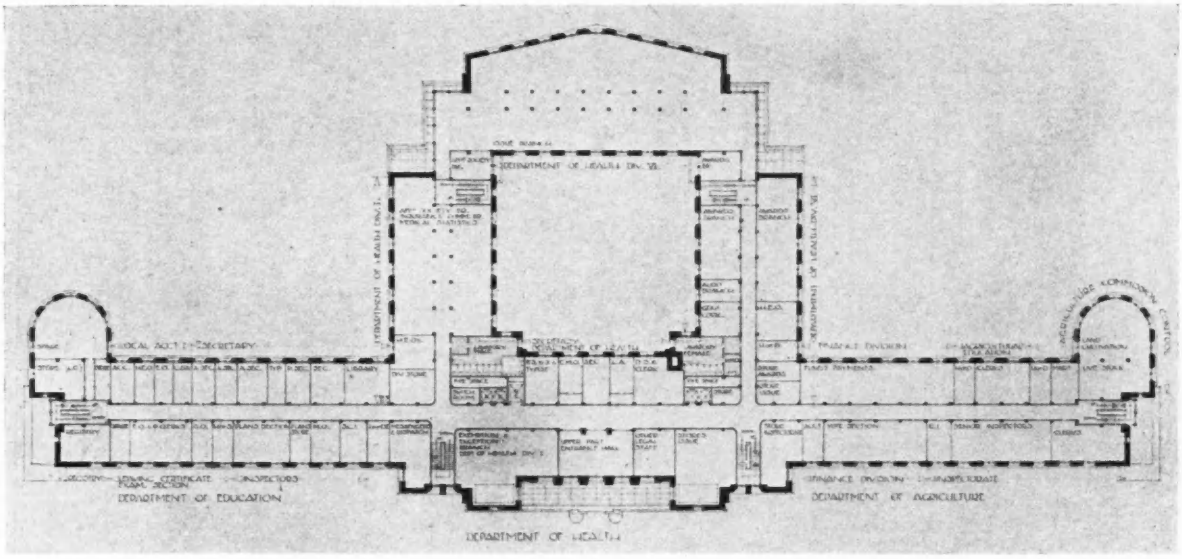
Address : 52 Grosvenor Gardens, London, S.W.1

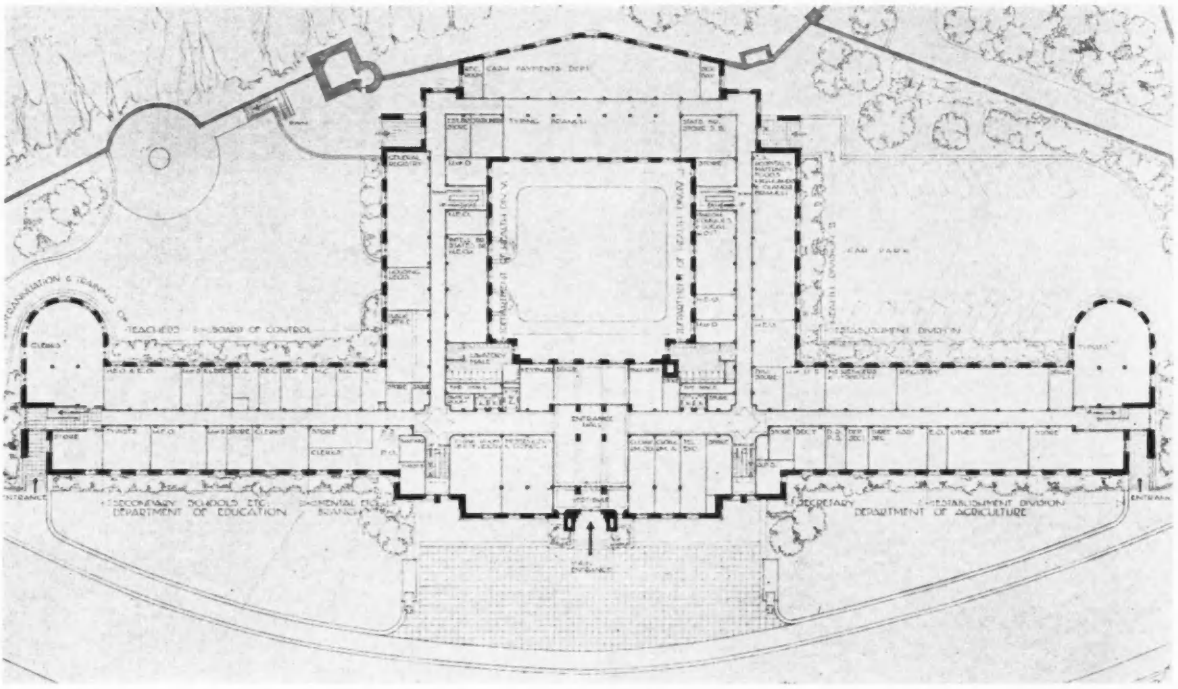
Telephone : Sloane 7902

NEW GOVERNMENT BUILDINGS, EDINBURGH

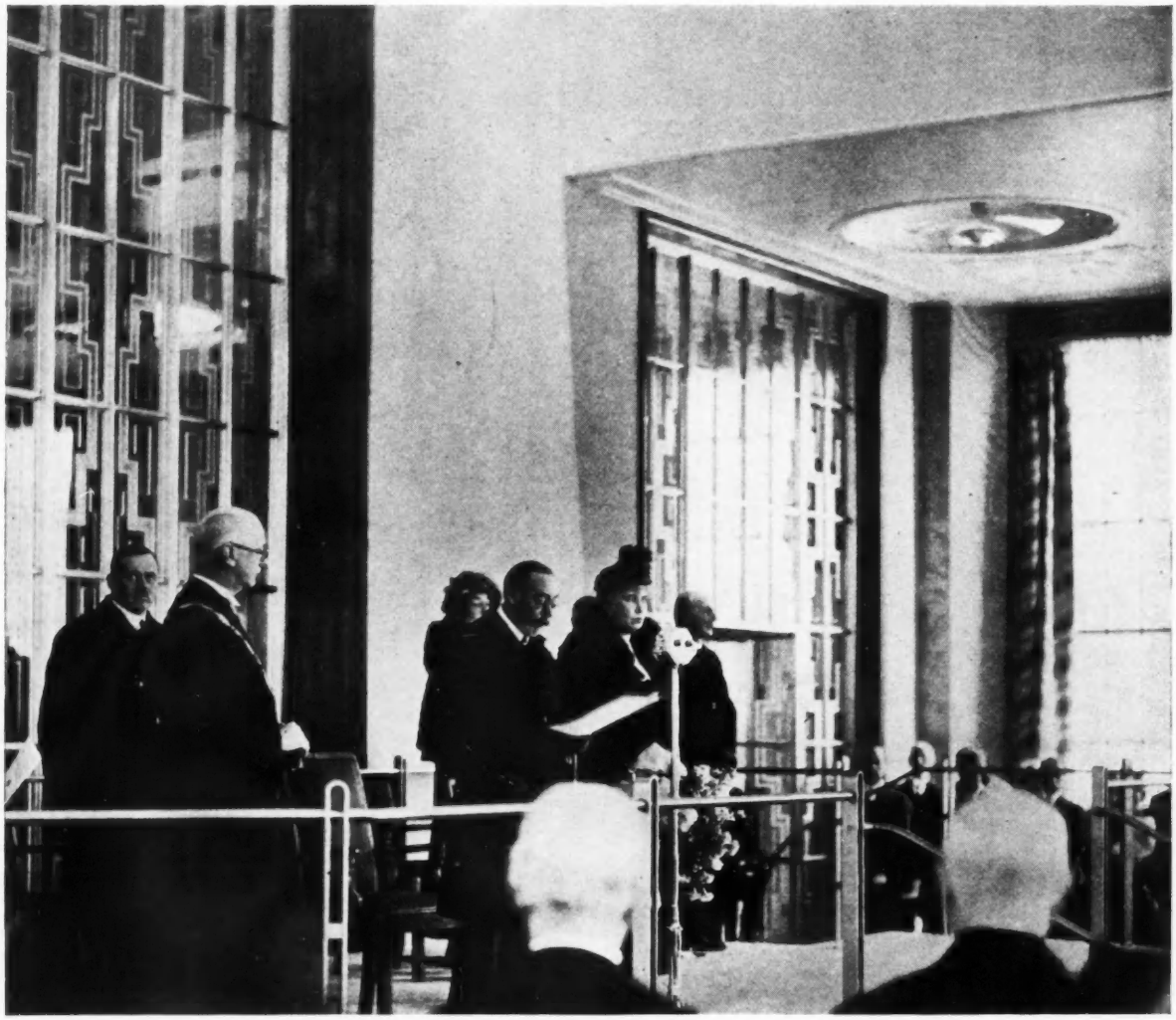
DESIGNED BY THOMAS S. TAIT





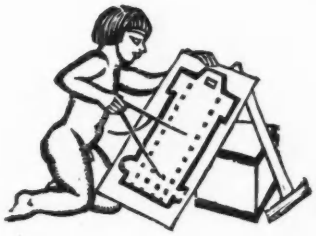


ABOVE are reproduced the main elevation and ground and first floor plans of the proposed new Government Buildings, Edinburgh. The building, which is estimated to cost £425,000, will accommodate the following Departments: Scottish Office; Department of Health for Scotland; Department of Agriculture for Scotland; Fishery Board for Scotland; Scottish Education Department and the General Board of Control for Scotland. It is anticipated that work will be commenced in November next and that the building will be completed three years later.



NOVEMBER 8, 1934

Last Thursday, November 8, saw H.M. the King, accompanied by H.M. the Queen, visit the Institute of which he is patron, formally to open the new headquarters in Portland Place. Above is a photograph taken in the Henry Florence Memorial Hall, showing the King replying to the address delivered by Sir Giles Gilbert Scott, President of the Institute. A report of the King's speech is given on page 728 of this issue.



RESOLVING CHAOS IN THE BUILDING INDUSTRY

THE secret of success is intelligent anticipation; the building industry, like any other, needs the application of forethought if it is successfully to meet the demands that society makes on it. A fortnight ago, in our leading article, while referring to the advent of the R.I.B.A. centenary, we took the opportunity to suggest that celebration of the occasion should be tempered by recognition of the chaotic state in which the organization of architecture finds itself; that the profession can only justify self-congratulation on past achievements by express resolution to plan for the future.

The word "planning" is an unsatisfactory one to use; its use so often represents the total contribution to progress of those vague reformers who are capable of no further definition of their proposals—of people whose enthusiasm for the future is only the measure of their discontent with the present, so that "planning" has almost become the pass-word of defeatism. Indeed, we ourselves have been accused of the same kind of benevolent vagueness, as the result of our leading article, in letters published last week and this. "Is the measure of your eloquence," one correspondent asks, "also the measure of your ideas?" We are challenged to give a more specific definition of the organization the building industry needs, to expand the vague word "planning" into concrete suggestions for a plan.

We have referred to the chaotic state in which the building industry finds itself. This state of chaos is due, as much as to anything else, to the complete absence of any means of anticipating the demand for building and building materials. The whole industry is compelled to live from hand to mouth, with no opportunity of regulating employment or production according to fluctuating conditions. The industry knows well from experience that these fluctuations occur, and that, as its function is to supply a permanent but variable demand, to make its own internal variations of production coincide with external variation of demand is the simplest method of successful organization. That is the form we suggest planning for the future ought to take; though no attempt has hitherto been made to provide such an obviously necessary anticipation. When a boom period in the industry arrives, the result is always the same: besides the intensive activity in existing production units, "mushroom" companies spring up to cope with increased (though ephemeral) demand. These are living only on the present, making hay while the sun shines, only to find themselves unable to continue when the inevitable reaction sets in. Bankruptcies result, and industrial disorganization and disorganization of employment. The larger, more stable manufacturers, too, are impeded by fluctuations of demand. They cannot close down in quiet periods and open again in busy—if they could, there would still be delay between the sudden arrival of a new demand and the ability of renewed production activity to meet it. They cannot, owing to limitations of stock space and difficulties of transport, lay up huge stocks during quiet periods for immediate use when the demand arises—they have no means of knowing when and where the new demand will occur; of really working to a programme and having their products ready when they are wanted, where they are wanted, eliminating wastage and unnecessary disorganization of the labour and the raw material market—they have, in fact, no plan.

What the building industry needs is a forecast of building activity in the immediate future: an intelligent anticipation of the demand for buildings, and therefore of building material, equipment and labour, that will enable it to regulate its production and make its plans for the future; confident that it will not continually be thrown into the state of its present confusion by sociological and financial developments for which it is unprepared. It needs that kind of planning, both for the protection of its own interests, on which many thousands of wage-earners are dependent, and to enable it to play an adequate part as the purveyor of an essential service to the community.

There is a well-known axiom among economists, that it is in the early stages of a boom period that a depression is manufactured: advantage is taken of apparent prosperity without thought for the later effects of present unplanned activity. Today we are told that a boom in the building industry is imminent—has already indeed begun. Let us not make the mistake of our predecessors in letting the future look after itself, but let those who have it in their power make sure of the permanence of returning prosperity by organizing the factors that determine it. Industry is a science, not a speculation, and as such it must be treated.

The Architects' Journal
Westminster, S.W.1
Telephones: Victoria
9212-7
Telegrams:
Buildable
Parl
London

NOTES & TOPICS

THE ROYAL OPENING

SELDOM have I attended a ceremony so well arranged and so perfectly carried out as last Thursday's opening of the new R.I.B.A. building by the King. Everybody I have spoken to agrees with me.

*

Sir Giles Gilbert Scott's address was well conceived and written, and the King, in his reply, made some shrewd observations about the responsibilities of the architect to the modern town and community.

*

Their Majesties must have arrived long since at a sort of shuddering horror of "going round" new buildings. And it is the more gratifying to know that they were truly interested in and impressed by No. 66. In point of fact they paid the highest possible compliment to the Institute, to the building and to Mr. Wornum by spending far more time on their examination than had been expected.

*

Both their Majesties were particularly interested in the Library, as also in the Aston Webb Room. The King, I am told, asked some pertinent questions about the heating units in the bookcase ends and seemed relieved to hear that the books themselves were insulated from the heat.

AN INTERNATIONAL EXHIBITION

Following upon the opening ceremonies, and the conference, the R.I.B.A. is to stage an exhibition—an international exhibition—of contemporary architecture.

*

This exhibition, the first to be held in the new building, will be unusually interesting, not only because it will be contemporary and international, but because it will fortify the system of travelling exhibitions which Mr. R. A. Duncan did so much to foster.

*

The photographs which will form the major part of the exhibition are to be of uniform size and mount so that they can easily be packed, and we may look forward to a steady circulation round the provinces of the most advanced ideas of contemporary architecture. This is exactly the sort of work the Institute can do really well.

DISTRESSED AREAS

It is rumoured that Sir Wyndham Portal will be offered the job of carrying out the reorganization of the "distressed areas," which apparently is to loom largely in the next Parliamentary session.

*

What about the "distressed" slum areas? Is there to be a superman appointed to that still more formidable job, or is the Ministry of Health to carry on, as usual?

*

It is discovered that the rehabilitation of derelict mining areas is beyond the resources of local authorities, yet in London, where so much inequality exists, an East End borough, with all the needs of rehousing and none of the means, is expected to provide the main impetus towards slum clearance.

*

The whole structure of the slum clearance campaign is one-sided and impracticable, leaves out of count every real aspect of national planning, and stands in the greatest need of a new organization and a new super-man.

WITHOUT COMMENT

Sir Cyril Cobb, finishing a complaint about using the London parks for recreational purposes, said:

*

"And let us get rid of these Victorian statues and replace them with pastoral statuary we can get from the Royal Academy, the public art schools and foreign artists."

SLUM

At the annual luncheon of the British Steelwork Association last week there was much talk of the rebuilding of the slums. Much good talk, for Lord Dudley was in the chair, and his references to slum clearance, though "steel framed," bore closely upon the need for "replanning" rather than mere rebuilding.

*

If more people of his calibre insist upon this point we may one day induce the Ministry of Health to realize that slum clearance means very little to this country until it involves the replanning and the rebuilding of large sections of our worn-out towns.

A NEW BLOCK OF FLATS

Mr. E. Maxwell Fry has certainly broken fresh ground in the five-storey block of working-class flats which he has designed for Mrs. Meyer Sassoon, and now erected

China on show. This plate is from a Foley tea-service exhibited recently at Harrods and at Dorland Hall : the Old Mayfair design, in terra-cotta on white, by Milner Grey.

at St. Mary's Road, Peckham. These are to be opened by Sir Samuel Hoare to-morrow, November 16.

*

The walls are of reinforced concrete and allow the maximum freedom in the disposition of the standard metal windows. The ceilings are lined so that there may be effective insulation against heat losses and transition of noise. The kitchen is a standardized unit, which is repeated throughout the work with the consequent standardization of all other rooms. Each flat has a large balcony leading from the living-room, and protected against floor draughts by a low concrete wall. Heating, lighting and cooking are carried out with gas, with attractive, newly designed lighting fittings of coloured enamel.

*

The cost of the scheme is approximately £370 per flat, and the rents, inclusive of rates, are from 9s. to 11s. a week.

*

The block is associated with the Pioneer Health Centre, whose large reinforced concrete structure is reaching an interesting stage of development.

PLANNING

Judging by the correspondence columns of this JOURNAL there are those who weary of the oft sounded note of "planning." Now, why should they? We are only in the elementary stages. We haven't seen much planning yet.

*

Take Olympia. The Building Trades Exhibition. There were exhibitors who talked of a properly planned exhibition months and months ago, and have talked about it ever since. But Olympia is not yet planned. If one is tired of words, what about a spot of action?

*

There *is* a need for more planning. What is going to be the programme of building in the next ten years? What sections of the population, what industries, must be rehoused? How will structure change? What materials will be used? These are all questions more costly to answer when they are forced upon us than now when there is time to think, and calculate.

HORSE RELISH

The Belisha beacons have been mistaken for a number of things by those whose business it is to be funny about Cabinet Ministers, but a decent hard-working horse in the employment of the Gas Light and Coke Company actually ate one the other day. The beacon proved comparatively harmless.

AN EIGHTEENTH CENTURY OBSERVER OF BUILDINGS

I have been reading the first volume of the *Torrington Diaries*, which contains descriptions of a number of tours through England and Wales made by the Hon. John Byng (later fifth Viscount Torrington), between 1781 and 1794.

*

I was surprised to find that as early as 1782 the idea that church architecture could depart from the traditional Gothic forms was being questioned. Perhaps the disrespect for the comely Georgian churches that was to grow into actual destructiveness in the next century was beginning to show itself.

*

Writing of Winchester Cathedral, the diarist says: "The new screen before the choir, built by Sir Cr. Wren, is very plain, and neat, but not at all in the Church or Gothic style. . . ."

*

The Church or Gothic style. From such reflections did the Gothic Revival derive its sanctions.

*

BEARDED BUILDERS

An outside observer of the building industry asked me the other day: "Why do so many of the leaders of the building industry wear beards?"

*

I was unable to enlighten him on this delicate matter, but learn that a large proportion of the former Presidents of the National Federation of Building Trades Employers were bearded builders. Both Sir William Nicholson of Leeds and Sir Stephen Easton of Newcastle-on-Tyne are examples of this fashion.

A FURNITURE DEPOSITORY

I have received the following letter, which I print without comment:

I have lately erected a furniture depository—you know the sort of thing—about 60 ft. high, flat roof, not many windows and all square, the building was finished with cream coloured rendering.

A lady friend, who has seen my depository from a distance, called at my office last week. I had just received the *R.I.B.A. Journal* and rather proudly showed her the external view of the new R.I.B.A. headquarters. She glanced at it and casually remarked, "Oh! so they have published your depository." I am an admirer of Grey Wornum's production. If you care to repeat the joke I am sure he is far too "big" a man to be offended.

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

What the building industry needs is a forecast of building activity in the immediate future 725

"*Kindergarten Chats, a series of lectures to the lay and the student mind on Architecture, Education and Democracy*" 737

Many knowledgeable people think there are two estates—Becontree and Dagenham—whereas the estate is all one 744

The American speculator who mass-produces small houses in brick has at least one formidable rival now actively engaged in the production of pre-fabricated parts for the mass distribution of small houses built from standardized pressed steel components 753

THE ARCHITECTS' DIARY

Thursday, November 15

L.C.C. GEFFRYE MUSEUM, KINGSLAND ROAD, E.2. "*The London of Queen Anne.*" *By D. Martin Roberts, M.A.* 7.30 *p.m.*

INSTITUTION OF STRUCTURAL ENGINEERS (*Yorkshire Branch*). *At the Hotel Metropole, Leeds.* "*New Codes of Practice for Reinforced Concrete.*" *By W. H. Glanville, D.Sc., Ph.D., M.Inst.C.E., M.I.Struct.E.* 7 *p.m.*

ELECTRICAL ASSOCIATION FOR WOMEN. *At 20 Regent Street, S.W.1. Exhibition on Electricity for the Working Woman.* 10 *a.m.* to 6 *p.m. Open until November 17.*

Friday, November 16

LONDON SOCIETY. *At the Royal Society of Arts, 18, John Street, Adelphi, W.C.2.* "*Trees and Tree Planting in Great Cities, with Special Reference to London.*" *By Dr. Wilfrid Fox, F.R.C.P.* 5 *p.m.*

Saturday, November 17

ARCHITECTURAL ASSOCIATION. *At 36 Bedford Square, W.C.1.* "*Building England 4—The Industrial Centre.*" *By E. A. A. Rouse, A.R.I.B.A., A.M.I.P.I., A.M.I. Struct.E.* 3 *p.m. Last day of Exhibition of Watercolours, Etchings and other Drawings by Members.*

Wednesday, November 21

R.I.B.A. *At 66 Portland Place, W.1. Centenary Celebration Conference. Opening day.*

L.C.C. CENTRAL SCHOOL OF ARTS AND CRAFTS. *At Southampton Row, W.C.1.* "*Italian Renaissance—6. Later Renaissance in Italy.*" *By Sir Banister Fletcher, M.Arch., F.S.A., PP.R.I.B.A.* 6 *p.m.*

R.I.B.A. BUILDING OPENED BY THE KING

The new R.I.B.A. Building was opened by H.M. the King on Thursday, November 8. The King was accompanied by the Queen and they were received by the Mayor of Marylebone and Sir Giles Gilbert Scott, the President of the Institute. In the Henry Florence Memorial Hall, where the opening ceremony was performed, Sir Giles Gilbert Scott read an Address to the King, gratefully acknowledging the honour His Majesty conferred upon the Institute by his presence. The Charter of the Institute, he continued, had been granted by King William IV and the record of the past hundred years showed that the objects defined in it had been successfully pursued.

Replying to the President, the King congratulated the Institute on celebrating its centenary and said: "In an age when millions of men and women spend their lives in a world of streets, the shaping of these calls for thought, skill, and imagination. Every building, whether it be a cathedral or a factory, a shop or a city hall, forms part of a prospect on which many eyes will rest; and the designer of the humblest dwelling has a duty, not only to those who live in it, but to those who pass by.

"The provision of better homes for very many of my people is an urgent social need, in which the Institute has taken a deep interest. The subject is one for experts with wide knowledge and a broad outlook.

"Your members have also given consideration to the problems raised by the rapid spread of building along new roads and in country places of special beauty. To focus the collective thought of the profession on questions such as these is one of the many services rendered by the Institute.

"The Royal Institute has now completed a century of useful work. The enterprise of its members in providing this new centre for its activities shows that they are preparing for still greater responsibilities and greater successes in the future. I warmly congratulate the architect who designed this beautiful building, which I now have much pleasure in declaring open."

After the opening ceremony Their Majesties were conducted over the Building by the President, the Chairman of the New Building Committee, Mr. Maurice Everett Webb, the Hon. Secretary, Mr. Henry Martineau Fletcher, and the Architect, Mr. Grey Wornum. In the Library Mr. Martin Shaw Briggs, Chairman of the Literature Standing Committee, presented the King and Queen with a folio volume of detail drawings and water-colours of the Ballroom, the Supper Room and other apartments in Buckingham Palace, designed in 1852 by Sir James Pennethorne, a former President of the Institute. All but three of the seventeen drawings are signed by the architect and all but two are signed "Appd. Albert," signifying the Prince Consort's approval of the design. They were also presented with a specially bound copy of the Centenary History of the R.I.B.A. When they had looked at the Building Their Majesties signed the visitors' book in the Reference Library, and after their departure the Building was open for inspection by the guests who were present at the opening ceremony.

R.I.B.A. EXHIBITION

The exhibition of photographs of international architecture, 1924-1934, to be held at the R.I.B.A. in connection with their centenary celebrations, is to be opened by the Princess Royal on Friday, November 30.

PRESERVATION OF OLD BUILDINGS

Sir Hilton Young, the Minister of Health, has sent the following letter to a correspondent who addressed him on the subject of the preservation of interesting buildings in towns and old cottages under slum clearance schemes:

I entirely agree that we should do all we can to save beautiful or interesting houses, and particularly fine old cottages.

The first principle must be that no human being should live in an unfit house; but, subject to that, much can and should be done under provisions of the present law to preserve such buildings, without any interference with the work of slum clearance. Since these provisions are not, I think, as well known as they should be, it will be useful to call attention to them.

In the first place, when a dwelling is unfit to be lived in, the owner may undertake to make it fit, and if the local authority is satisfied that he can and will do so, the house need not be pulled down. But a provision of the law more directly helpful to save a fine old dwelling that is unfit, is that the local authority may accept an undertaking that it shall not be used for human habitation. It may then be allowed to stand, and the full subsidy for providing accommodation in its place is, nevertheless, paid to the local authority.

The existing provisions by which grants may be obtained for reconditioning agricultural dwellings afford another means of preserving fine old cottages. The owner can be helped to the extent of two-thirds of the money needed for the purpose, up to £100.

Further, under planning powers, local authorities are able to intervene directly to save buildings of architectural, historic or artistic interest. The authority under these powers can prohibit the demolition of any such building. Such an order is subject to the approval of the Minister of Health in consultation with the First Commissioner of Works, and compensation is payable to the owner for any loss.

THE IMPORTANCE OF DESIGN

Mr. John A. Milne, C.B.A., in the course of a lecture entitled "Arts and Commerce Promoted," at the Royal Society of Arts last week, said: "In America and on the Continent, the importance of design is so fully recognized that good artists can always secure a price for their work, which, at the lowest computation, is fully commensurate with its true value, and manufacturers find it well worth their while to pay them, because outstanding design pays for itself. Until there is some real recognition of this fact in our own country, and until those who use design are prepared to establish contact with those who produce it, instead of keeping them at a distance as though they were of no consequence, it will be difficult to wipe out the past and make the headway which we undoubtedly ought to do."

PROGRESS IN TIMBER RESEARCH

In the annual report of the Forest Products Research Board for 1933, recently issued, it is pointed out that an investigation was carried out to test the truth of the common belief that timber expands and contracts less the older it gets. The report states:

Panels of oak dating from the fourteenth century and of a softwood (Pinus sp.) dating from 1770 were tested against panels of new

timber very carefully selected with regard to similarity in grain. The changes in dimension which took place over a moisture content variation of from 10 to 17 per cent. were observed, and it was found that a new specimen of the softwood appeared to shrink and swell slightly less than an old one, while with oak the position was reversed. The differences observed, however, were so slight that they could well be accounted for by structural characteristics which could not be exactly identical in the old and new timbers. The conclusion is, therefore, that there is no material difference between old and new timbers from the point of view of shrinkage and expansion.

£500,000 BUILDING FOR LEICESTER

Messrs. Lewis's, Ltd., are to erect a new department store in Leicester at an estimated cost of £500,000. The site, which is in the centre of the city, has cost approximately £100,000. Building operations will begin early next year.

NOISE

The elimination of noise in the reinforced concrete building was the subject of an address by Mr. Robert Grey at a dinner held by the Reinforced Concrete Association at St. Ermin's, Westminster, S.W., on Tuesday last.

ART IN INDUSTRY

Following are some extracts from a letter by Lord Gorrell, published in *The Times* for November 13: "Comment has been made to me by many people at different times on the fact that neither the Royal Academy nor the Royal Society of Arts in their official documents make any reference to the Government Report on Art and Industry issued in 1932, though this has been widely and generously acclaimed both in this country and in America. Its main principles, though not all its recommendations, were accepted by the Government and are now being worked out by the National Council, of which Mr. Frank Pick is chairman, and of which Sir William Llewellyn is a member. It is upon the formation of a permanent national policy and not upon any one exhibition, however authoritative, that the future of this most important movement must really rest."

THIS ARSHETECTURE

HANDKERCHIEF MAP

Deriving his inspiration from a rare old cloth map printed about 1792, City Planner Frederic A. Delano has had made a handkerchief map showing the celebrated L'Enfant plan of Washington, D.C., together with some of the surrounding country.

The map, drawn by cartographer Mildred G. Burrage, of Kennebunkport, Me., is being printed in six different colours and is sold for one dollar each by the American Civic Association. The income so derived is to go to the George Washington Memorial Parkway Fund for the purchase of key properties within the proposed park area.

From THE ARCHITECTURAL FORUM.

THE INSTITUTE

DEFECTS AND REMEDIES

[*BY ICONOCLAST*]

[*This is the first of a short series of articles in which the function and constitution of the R.I.B.A. is discussed and suggestions put forward for its even more valuable organization. The author, who is a Fellow of the Institute, has contributed to this* JOURNAL *in the past on similar subjects: further discussion now seems timely, at the time of the Institute's move into its new building and the celebration of its centenary.*—ED., *A. J.*]

I. INCONSISTENCIES AND THEIR EFFECTS

IT is not too much to assume that the democratic ideal is the model for R.I.B.A. constitution or, in other words, that every member should be in direct touch with some channel of intercourse, which he has shared in forming, whereby he may initiate policy which merits democratic support.

In the letter, the existing constitution provides such machinery, and those at the head of affairs are justified in saying that it is a member's own fault if his complaints do not reach the ear of the mighty.

The same sort of thing may be said of a motor-car engine. It has generally been the fault of the owner driver when parts show premature wear and the works "seize up." Yet designers have concentrated upon improving the accessibility of points for lubrication, and upon making care of the car as automatic a process as possible.

This is because the owner driver, like the man in any walk in life, is human, and liable to lapses of memory and energy.

It is well to remember that the individual member of a professional organization is also human; and that one of an Institute of Architects is not only this, but possibly more temperamental than most.

An attempt to simplify the machinery of representation seems therefore a matter of common sense, even though it may be admitted that present conditions can be fair and representative. But, lest the argument become purely academic, let us examine the facts, because however inaccessible the machine may be, it would be waste of time if we re-designed it after we had found it worked smoothly and conveniently.

At a recent election, the scrutineers reported that they received 1,367 voting papers, including those which were spoiled. The voting strength of the Institute is, I believe, over 7,000. In other words, out of every eleven members on the register, only two thought it worth while voting.* Let us state this in a more picturesque way. There are only two men sufficiently interested in the machine to crawl under it with the grease gun, for nine men who prefer to preserve the knees of their trousers before the bearings of the machine.

Admit that those other nine are lazy, if you like, but remember that it is not only they who suffer by their inaction, but also the energetic two whose unsupported activity fails to preserve the machine.

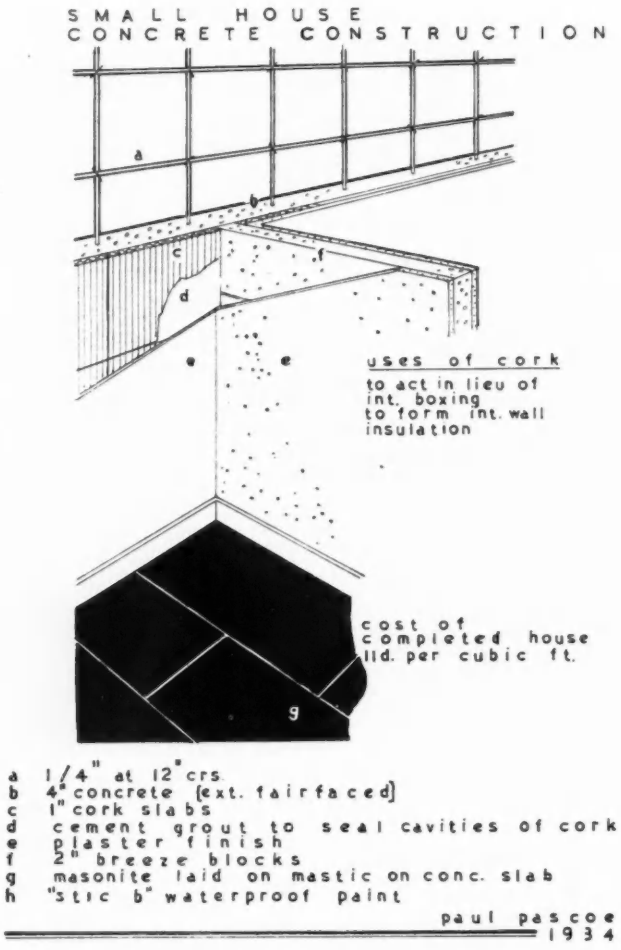
Surely that fact alone shows that the designers must get to work.

Now what are the cardinal principles of machine design? Surely simplicity and consistency: qualities which can hardly be claimed for the R.I.B.A. electoral system. The postal system is of course inevitable. But the system which distributes a list of names for the whole country to vote upon is neither simple nor consistent. It puts a premium upon those areas where the architectural population is dense and closely in touch. It encourages the thoughtless voter who fails to realize the importance of his vote. It drives to despair the conscientious voter from the far corners of the country who may not recognize any name as a personality fitted to represent him.

The part played by the Allied Societies is not thoroughly understood. These societies were originally local clubs of architects much as the R.I.B.A. was once a club of London architects. Membership of such societies was only accidentally related to R.I.B.A. membership, and is still the same, although R.I.B.A. membership predominates. The alliance of these societies was a wise joining of identical interests, but remains no more than an alliance because, in spite of a tacit understanding, the R.I.B.A. has no jurisdiction over the affairs of the Allied Societies, nor have these any prescriptive right to dictate R.I.B.A. policy.

The direct representation of the Allied Societies upon the Council of the Institute is therefore much further from a federal principle than is generally

* The figures quoted in this and subsequent articles were prepared before the last election and before the recent issue of the Kalendar.



From a house at Gidea Park. Designer : H. Spence-Sales.

imagined. Yet it is the germ of reform on the lines of the cardinal principles we have accepted.

Surely the next step to be taken is to replace alliance by amalgamation as integral federal units, even though such a step would involve a choice between the expulsion of unattached members from the Allied Societies, or a further extension of the Licentiate Class. Neither of these things need alarm us unduly, since it is inconceivable that a man can be fit for membership of an Allied Society, and yet unfit to be a member of the Institute ; while the elasticity which the Licentiate Class has suffered can surely stand another inch or two without disaster.

Having arrived at a federal principle, the virtue of consistency must be observed. It is surely inconsistent to have one part of the country committed to a system of two degrees, with another admitted to a system of one degree. In other words, the existing London conditions would be quite inconsistent with a federal principle. Nor can it be felt that London itself benefits by such an anomaly.

The idea therefore of founding a London Society of Architects, which I threw out in a recent series of articles and which I am interested to see Mr. Martin Kaye suggested in another journal almost in the same breath, raises an ideal which would do justice to the provincial man by promoting uniformity and consistency in the general system, and to the London man by setting up an organization where the interests of the Londoner could be prosecuted without the embarrassment of provincial distractions.

I propose in a following article to draft out a skeleton constitution along these lines, which I hope will receive a fair measure of thought and consideration. In this I hope to show that a sensible use of existing foundations may make this project less formidable than it may appear, and also by similar means to show how a compact and effective Federal Council could be developed to make the putting into effect of agreed policy a simpler and quicker process.

For surely it will be admitted that if a project could be devised that would encourage a general use of the ballot paper, that alone would be its most convincing argument.

(To be continued)

COMPETITION NEWS

BUS STATION, CARDIFF

The Cardiff Corporation is considering a suggestion made by the Cardiff Civic Society that the scheme for a central 'bus station should be the subject of an architectural competition.

CIVIC CENTRE, TUNBRIDGE WELLS

The first and second premiated designs in the competition for a proposed civic centre, Tun- bridge Wells, are illustrated in this issue.

Competitions Open

Dec. 7.—Proposed municipal offices, public library, free library and fire station, for the Wembley U.D.C. (Open to architects of British nationality resident in the British Isles.) Assessor : Stanley Hamp, F.R.I.B.A. Premiums : £300, £250, £150 and £100, for designs placed first, second, third and fourth, respectively. Conditions etc., are obtainable from E. R. Royle, O.B.E., Clerk to the Council, Council Offices, Wembley, Middlesex, on or before December 7. (Deposit £1 1s.) Latest date for submission of designs : March 1, 1935.

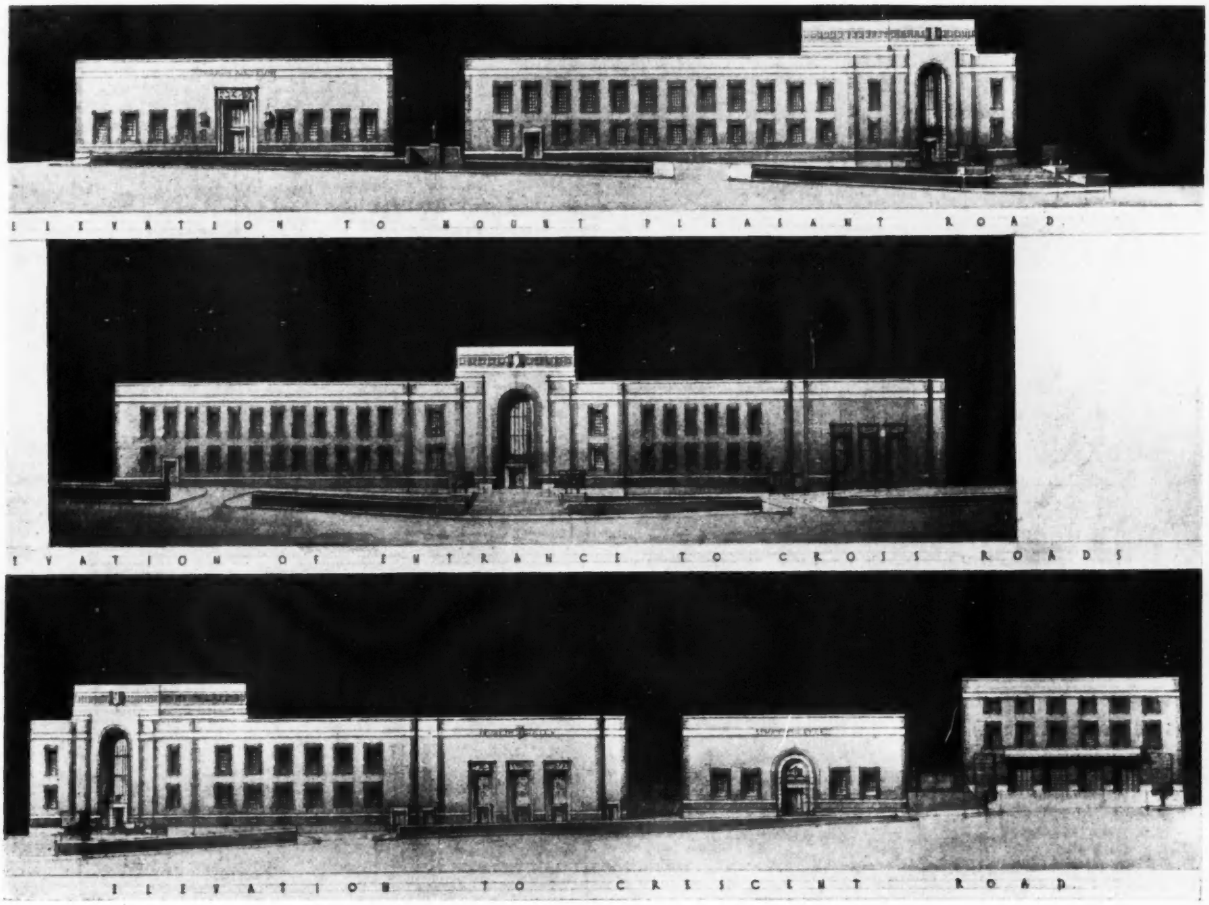
Dec. 22.—Proposed Public Offices, Bridge Road, Welwyn Garden City, for the Welwyn Garden City U.D.C. (open to architects of British nationality). Assessor : C. H. James, F.R.I.B.A. Premiums : £75, £35 and £25, for designs placed first, second and third, respectively. Conditions, etc., obtainable from B. H. Deamer, Clerk to the Council, Council Offices, Bridge Road, Welwyn Garden City (deposit £1 1s.).

Dec. 31.—Proposed Council Offices, Wirral, for the Wirral U.D.C. Open to architects in practice in Birkenhead, Chester, Liverpool and Wirral. Assessor : Gilbert Fraser, F.R.I.B.A. Premiums : £40, £30 and £20, for the designs placed first, second and third respectively. Conditions are obtainable from Mr. W. F. Roberts, Clerk to the Council, Council Offices, Wirral. (Deposit £1 1s.)

January 19.—Designs for five-storey blocks of working-men's flats suitable for construction in reinforced concrete for the Cement Marketing Company. Assessors : Joseph Emberton, F.R.I.B.A., Burnard Green, M.INST.C.E., and L. H. Keay, O.B.E., F.R.I.B.A. Premiums : £300, £200 and £100 for designs placed first, second and third, respectively. Copies of the conditions will be forwarded on application to the Publicity Department, the Cement Marketing Co., Portland House, Tothill Street, S.W.1. Latest date for submission of designs : January 19.

April 30.—The Croydon Corporation invite the submission of designs for laying out an area in Central Croydon which is to provide an extension of the Civic Centre of the Borough and to improve central means of communication. Assessor : Dr. Thomas Adams, F.R.I.B.A., F.S.I., M.T.I. Premiums : £500 for the design placed first ; £350 to be divided (in proportions to be determined by the Assessor) for not more than three designs placed next in order of merit. A copy of the conditions is obtainable on application to the Town Clerk, Town Hall, Croydon (deposit of one guinea). Designs are to be submitted not later than April 30.

COMPETITION FOR CIVIC CENTRE, TUNBRIDGE WELLS



The winning design. By Percy Thomas and Ernest Prestwich.

Mr. E. Berry Webber, F.R.I.B.A., the assessor in the competition for a proposed Civic Centre, Tunbridge Wells, has made his award as follows :—

Design Placed First (£300) : Messrs. Percy Thomas, O.B.E., F.R.I.B.A., of 6 and 7 St. John's Street, Cardiff : and Ernest Prestwich, M.A., F.R.I.B.A., of Bradshawgate Chambers, Leigh, Lancs.

Design Placed Second (£200) : Messrs. D. Carr and W. F. Howard, AA.R.I.B.A., of 55 Millbank, Westminster, S.W.1.

Design Placed Third (£100) : Messrs. C. Clare Nauheim, B.A., and W. Naseby Adams, A.R.I.B.A., of 28 Albemarle Street, W.1.

Design Placed Fourth (£75) : Mr. H. T. Wright, F.R.I.B.A., of 66 Northumberland Street, Newcastle-on-Tyne.

The designs placed first and second are reproduced on this and the following five pages.

THE WINNERS' REPORT

Following are some extracts from the report presented by the authors of the winning design :

GENERAL : After a careful study of the site and the requirements of the Corporation it was felt that the following main principles should govern the design :—

1. That the buildings should follow the line of the two existing roads.
2. That the buildings, while following a general grouping, should be separate and distinct units.
3. That, for reasons of economy, the buildings should be situated on approximately the existing level of the site with an inner approach road on a higher level, the existing portion on the Mount Pleasant frontage being retained.

It was felt that the frontages to Mount Pleasant Road and Crescent Road are ample for the purpose and costly internal roads are avoided, with the additional advantage that the backs of the existing buildings will not be exposed.

The position of the buildings on the site follow naturally from the placing of the fire station, in the south-east corner of the site, with the courts building adjacent and the assembly hall and municipal buildings occupying the angle of the site, leaving the north-west corner for the library.

By placing the buildings on the natural level of the site not only is costly excavation avoided but the sloping grass lawns and flower beds, which are a feature of the site, would be retained and extended. It is proposed to retain the existing stone wall at the foot of the slope in Mount Pleasant Road and to rebuild the existing wall on the improvement line in Crescent Road.

The levels of these inner roads are carefully adjusted to allow of easier approach by car.

MUNICIPAL OFFICES : The municipal offices are planned to form three sides of a central courtyard, with the assembly hall forming the fourth side, the angle of the buildings being splayed off at the junction of the two roads The main entrance is situated at this angle, a position which the shape of the site and the importance of the adjoining roads seem to demand. The rates office and council chamber over are placed on the main axis, the remaining accommodation being disposed in simple blocks of offices with internal corridors.

The maternity and child welfare centres are approached from a 25 ft. road which separates the municipal buildings from the library and museum.

The council suite is placed between the main entrance and the assembly hall, with easy approach to the foyer of the latter, this arrangement giving absolute privacy to the council corridor, whilst the position of the council chamber will avoid any disturbance by noise from the main streets. Two secondary entrances and staircases are provided, giving access to all departments.

ASSEMBLY HALL : The assembly hall adjoins the municipal buildings in Crescent Road and is planned on an ample scale with complete encircling corridors. Large cloak rooms with lavatory accommodation are situated under the front portion of the building.

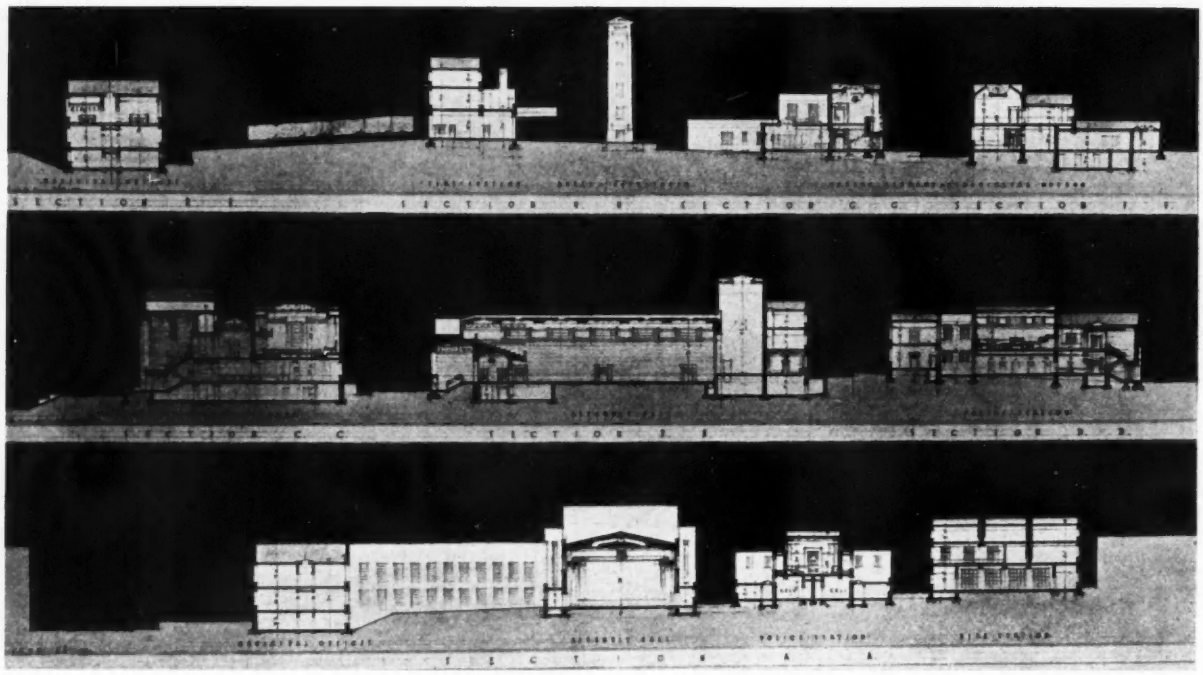
The hall has seating accommodation for 1,200 persons on the ground floor and 300 in a gallery, which is carried over the foyer.

The green room, artistes' and chorus' retiring rooms are arranged at the rear of the stage, which is designed for dramatic performances with the entrances placed so that portable terracing could be provided for concert purposes.

A service room with lifts communication with the kitchen underneath is placed adjoining the foyer.

Under the stage and green room is a large

COMPETITION FOR PROPOSED CIVIC CENTRE,



Above : Sections. Facing page : Ground floor plan.

chair store and the central heating chamber for the whole group of buildings.

POLICE STATION AND POLICE COURT : The police station and court have been arranged on two floors, the whole of the accommodation for the police, except recreation and mess room, etc., being on the ground floor and the court and subsidiary rooms on the first floor.

For ease of supervision the entrance to both police station and court is in the centre of the Crescent Road front, with a private entrance for the police in the side road which separates the court building from the fire station. A separate entrance is also provided for justices.

The charge room faces the main entrance, with the cells immediately behind. The cells obtain their light over the flat roofs of the adjoining corridor. This arrangement makes a simple, compact plan and provides direct access from the cells to the court above, while all basement accommodation is avoided. An internal area provides an exercise yard for prisoners ; and a flat for the resident police officer is provided on the ground floor.

FIRE STATION : The fire station is set well back from the road to allow of an easy gradient for the engines. The watch room has an entrance from the side road and there is a covered washing space at the rear. Separate staircases provide access to the recreation room on the first floor and to the resident firemen's quarters on the first and second floors, sliding poles giving easy access to the engine room below.

A battery room for the alarm system is provided in the basement. The tower is in the centre of the drill yard at the rear of the engine house and court buildings and combines the purpose of hose drying and drill tower. A testing tank, fire hydrants and petrol pump would also be provided in the yard.

LIBRARY AND MUSEUM : The library is planned to give the greatest possible supervision, the whole of the public rooms being under the observation of the attendant at the control desk, the stacks being arranged in the lending library on the radiating principle for the same purpose. The juvenile lending library is placed in a wing of the lending library with access through the same gates.

The staff room, cataloguing and librarian's room form a wing at the rear, with a private entrance and staircase and ample storage accommodation is provided in the basement.

A staircase from the main entrance hall of the library leads to the museum, which consists of two top side lighted rooms over the front portion of the building, with an office and workroom adjoining. The staff entrance and staircase at the rear of the library also serve the museum. Storage accommodation is provided in the basement.

PUBLIC CLEANSING STATION : It was considered desirable to keep this department separate from the rest of the municipal building and it has been made a complete, independent unit adjoining the staff rooms of the library, with separate access from the new road.

ELEVATIONS : A simple, dignified treatment has been aimed at, and while the buildings have been carefully balanced and grouped as regards main lines and masses, each unit has been designed to express its individual function.

CONSTRUCTION : The buildings generally would be constructed of brick, faced externally with 2-in. hand-made silver grey bricks with red brick quoins and arches and Portland stone plinths, cills and copings.

Floors and staircases throughout would be of fireproof construction, floors of offices, library, museum, etc., being covered with oak blocks, lavatories with tiles, and corridors, court room, etc., with rubber flooring. The floor of the assembly hall would be of oak boards on spiral springs, arranged so that they could be locked when not required for dancing. The main entrance hall and staircase would be lined with polished Portland, and the ceilings of hall, anteroom and council chamber in fibrous plaster picked out in colour.

Dadoes in mayor's parlour, council chamber and committee rooms would be in Australian walnut veneer. Internal divisions generally would be in hollow brick. The internal corridors would have a frieze of plate glass from top of doors to ceiling. Flat roofs would be covered with two layers of asphalt with a layer of insulating material between asphalt and concrete.

ACOUSTICS : Special attention has been given to the acoustic requirements of the council chamber, court room and assembly hall. The walls of the council chamber above the dado would be finished with acoustic tiles, and ¾-in. acoustic felt would be placed in the coffers of the ceiling. The floor would be carpeted and the council seats upholstered in tapestry. The absorbent surfaces would be calculated to give a reverberation of 1·5 seconds.

The walls of the assembly hall up to clerestory windows would be covered with acoustic tiles, with hardwood dado and acoustic felt in two-thirds of the ceiling coffers, the third nearest the stage being hard plaster. Seats in the gallery would be upholstered in soft material, the total absorbent surfaces giving a reverberation of 2·0 seconds, which is considered most suitable for an all-purpose hall. All fans would be of silent running type with specially insulated bases.

HEATING AND VENTILATION : It is suggested that the central heating chamber be situated under the platform end of the assembly hall providing a convenient and central position, with easy communication, by means of ducts, with the other buildings. Access for fuel would be obtained from the road at the rear.

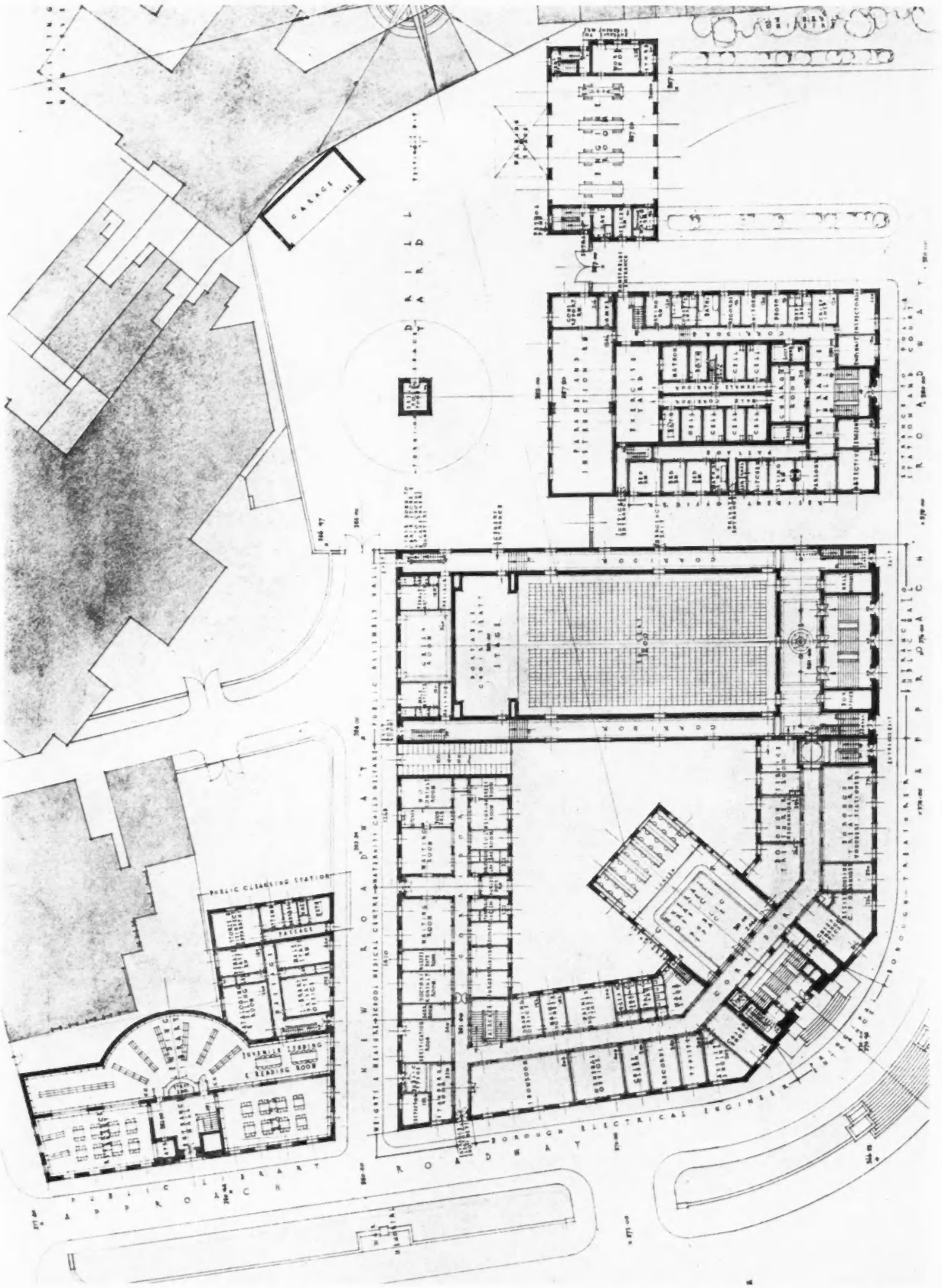
The heating system would be low pressure hot water with electrically driven accelerators, space being provided for additional boilers as required. A separate room is provided for pumps, calorifiers, etc., adjoining the boiler house. Panel heating would be provided in the entrance halls, foyers and cells but the heating generally would be by means of radiators placed against the outside walls.

Ventilation would be provided by slow running electric fans connected to a system of ducts formed in upper parts of corridors.

ESTIMATE OF COST

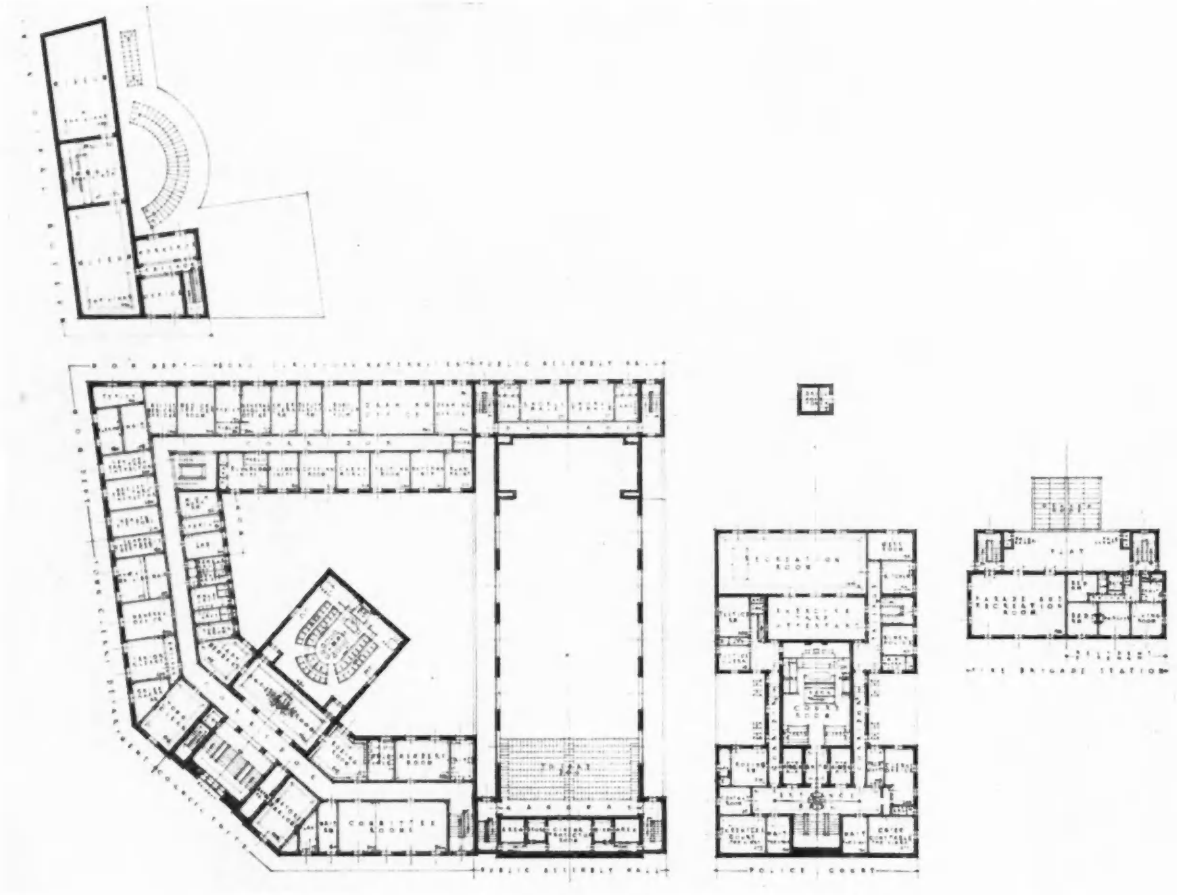
	£	s.	d.
Fire Station, 114,608 cu. ft. at 1s. 3d.	7,163	0	0
Garage, 9,360 cu. ft. at 6d. ..	234	0	0
Hose Tower, 10,752 cu. ft. at 1s. 6d.	806	8	0
Police Courts, 299,169 cu. ft. at 1s. 6d.	22,437	13	6
Municipal Buildings, 744,627 cu. ft. at 1s. 9d.	65,154	17	3
Assembly Hall, 572,906 cu. ft. at 1s. 4d.	38,193	14	8
Library, 234,150 cu. ft. at 1s. 6d.	17,561	5	0
	£151,550	18	5
Roads, Fire Station Yard, Boundary Walls, etc. ..	6,000	0	0
Total	£157,550	18	5

TUNBRIDGE WELLS: THE WINNING DESIGN

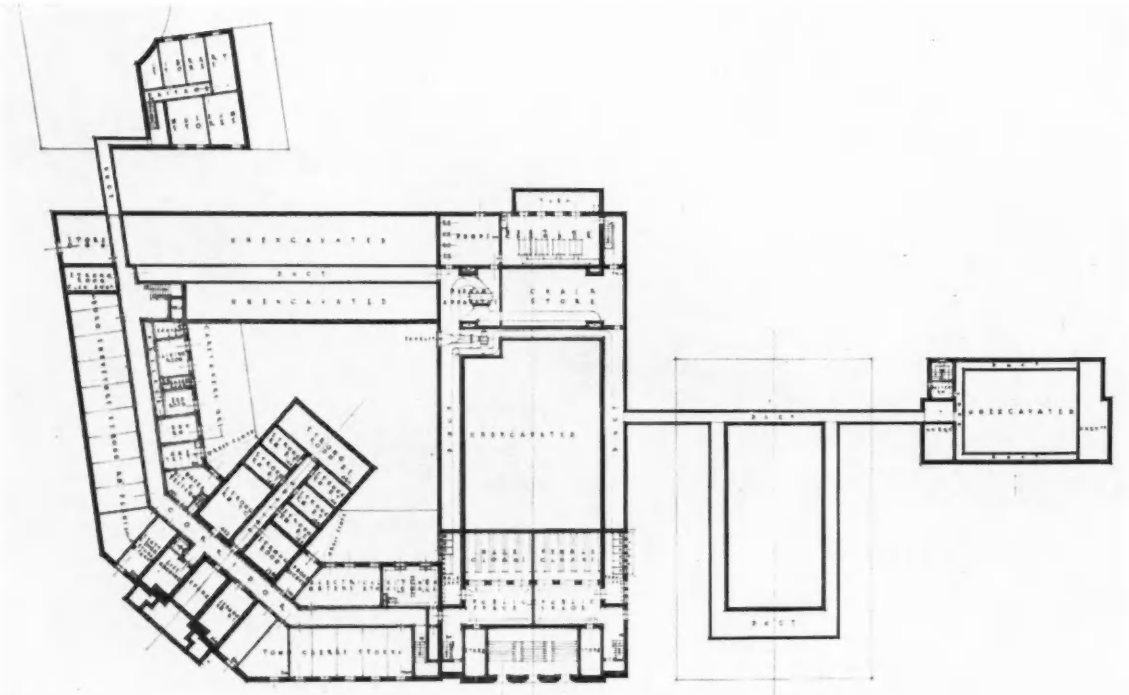


BY PERCY THOMAS AND ERNEST PRESTWICH

COMPETITION FOR PROPOSED CIVIC CENTRE,

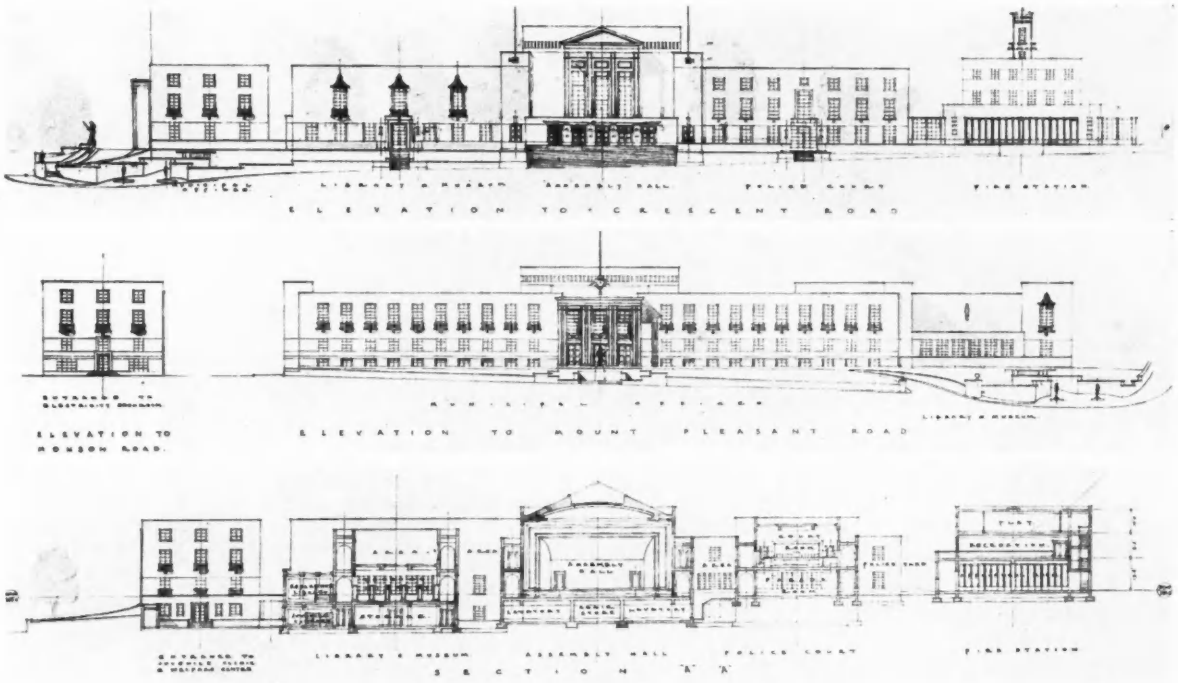


Above: First floor plan; below, basement plan.

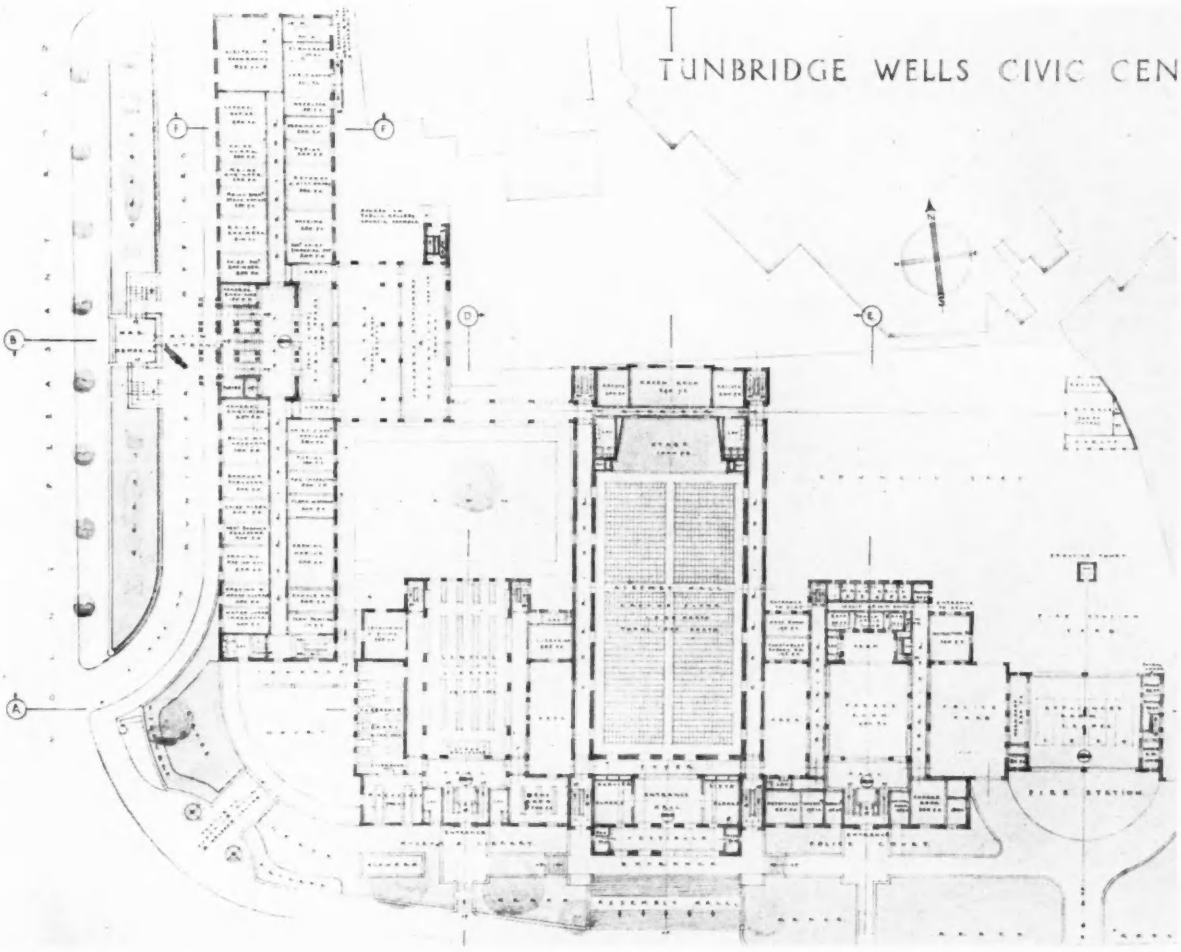


WINNING DESIGN: BY PERCY THOMAS AND ERNEST PRESTWICH

TUNBRIDGE WELLS : THE PREMIATED DESIGNS

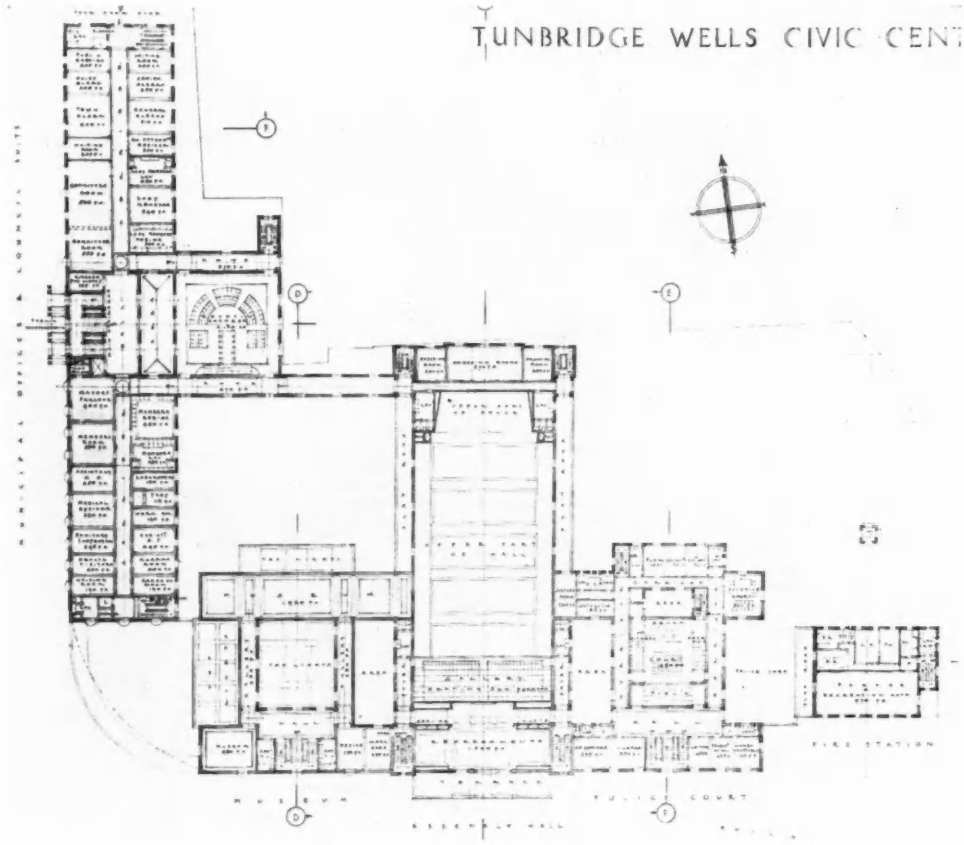


Above, elevations and sections ; below, ground floor plan.



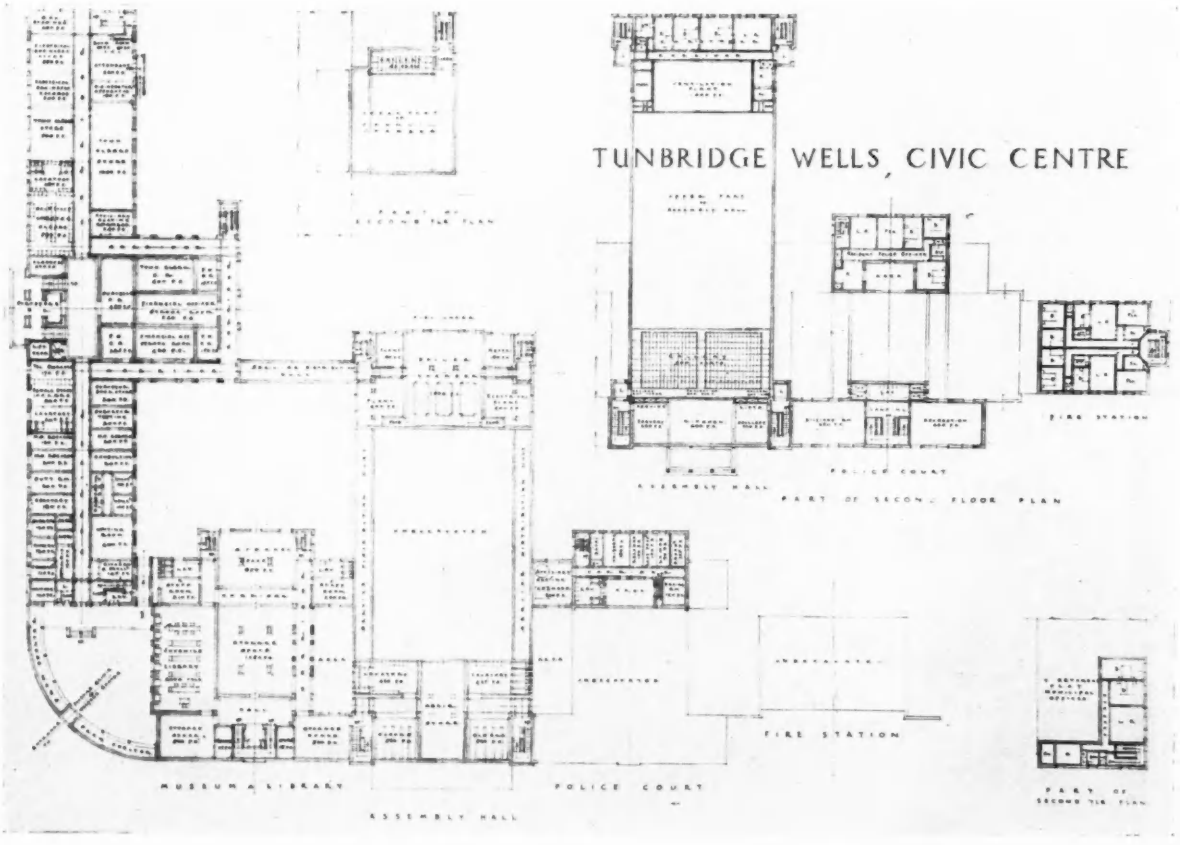
DESIGN PLACED SECOND : BY D. CARR AND W. F. HOWARD

COMPETITION FOR CIVIC CENTRE, TUNBRIDGE WELLS



DESIGN PLACED SECOND: BY D. CARR AND W. F. HOWARD

Left: First floor plan.
Below: Basement plan and part of second floor plan.



LETTERS FROM READERS

EDWARD UNWIN, A.R.I.B.A.
J. N. GRAHAM
J. M. COHEN
CONNELL, WARD AND LUCAS
H. R. GAMBLE
GEOFFREY BIDDULPH

Centenary—and After

SIR,—The writer of your leading article under the above title seems to me to have omitted what is the most important contribution that the R.I.B.A. can make (and to a considerable extent is making) towards the organization of the building industry as a national service.

Surely the function of the Institute is something bigger than the mere organization of the most economical method of satisfying public demands.

Building is a social as well as an economic problem, and the first task must be to decide which among modern tendencies are social and which anti-social, giving wholehearted support to the one and opposition to the other, rather than accepting them all because they are the fashion.

To give but one example, efficiency in modern building methods, and economics in the narrowest sense, to say nothing of the immediate pecuniary interest of the individual architect, would long ago have led to the building of skyscrapers in London, had not the R.I.B.A. upheld a wide disinterested social point of view by supporting limitation of height and density of buildings. And in thinking of the future it must always be remembered that the Institute's power to give a lead in other directions must depend on the fact that it stands for building in the interest of the whole community, and not merely the sectional interest of those who build.

While this tradition is maintained nothing but good can come of the Institute taking a leading part in the development of the building industry. If, however, by mistaking the minor for the major task, the R.I.B.A. were to lay itself open to the suspicion of serving mainly a sectional interest, the damage might be irreparable.

EDWARD UNWIN
London

Circular Planning

SIR,—You published in two recent issues of the JOURNAL interesting articles on circular planning, which point out the value of such a scheme in reducing building costs by standardization and by economy in exterior walling. May I suggest that this scheme might offer a rather monotonous appearance in a street such as you illustrate in perspective.

Perhaps the enclosed sketch might interest you, not by any means as a model of perfect form, but as an indication of the possibilities of a

combination of the circular and the rectangular in such buildings. These would then appear to have most of the advantages of circular planning, and at the same time would eliminate monotony by the introduction of the long straight lines.

Standardization in this case would take place in two divisions, in one of which everything would conform to the circle, and in the other to the rectangle.

J. N. GRAHAM
Perth

Dorland Hall

SIR,—While I am in agreement with the main points of Mr. Heal's letter, I feel that he should not be allowed to get away with the last paragraph.

The organizers of Dorland Hall cannot by any political analogy be called the left wing party ; the difference between their work and that of the previous generation lies chiefly in the choice of decorative detail and not in any radical change of attitude towards design.

The signatories of the letter published by you on November 1 should surely be viewed as a left wing party, and they, I feel, are hardly likely to compromise themselves, even if they do " attain to any power."

J. M. COHEN
London

The Ruislip Case

SIR,—The Clerk to the Ruislip-Northwood Urban Council is somewhat upset that you have published the sketch plan which the Council provided for our use in making modifications to our design in the " Ruislip case." In order to dispel any misunderstanding we should be grateful if you would publish our letter to the Clerk to the Council of October 18, in which we explained our reasons for reproducing the Council's sketch. The letter was as follows :—

To Gordon H. Taylor, Esq., late Clerk to the Ruislip-Northwood Urban Council.

Plan No. 4179—House, Park Avenue, Ruislip.

Dear Mr. Taylor,—Both Mr. Connell and I regret very much the circumstances connected with your letter of the 16th inst. We really were under the impression that the Council's sketch plan need remain private between us only pending the completion of the case.

If you would kindly convey our regrets to the Chairman and Clerk of the Ruislip-Northwood District Council, we should be obliged.

The plan was printed from this office purely as a record, and it was only after the whole matter had been settled that the question of its use arose. It was then considered that its publication was a necessary adjunct to make complete the history of a case which had so much interest for the particular public reached by the architectural press, and that the article under review showed the moderate and reasonable attitude maintained by the Council,—Yours truly, BASIL WARD

CONNELL, WARD AND LUCAS
London

Kindergarten Chats by Scarab Fraternity

SIR,—By special arrangement with the executor of the estate of Louis H. Sullivan, Scarab Professional Architectural Fraternity announces the publication in book form of *Kindergarten Chats*, a series of lectures to the lay and the student mind on Architecture, Education and Democracy.

The noble position in the architectural world held by Mr. Sullivan is no longer challenged and his prophetic and immortal writings are described in the words of two national authorities as follows :—

" By reason of that consensus of dis-

passionate opinion which bestows the laurel with so sure a hand, Louis Sullivan has now his place in the pantheon of America's representative men."—*Claude Bragdon, New York Architect and Author.*

"Your country had passed you by. That was what had happened, and I knew, as you read, what the passing had meant and how you had been hurt. It was plain then that you had been crucified and lacerated, because you challenged the humbug of the art you loved."—*Charles Harris Whitaker, Editor and Author of "Rameses to Rockefeller."*

This treasure volume, bound in superb cloth binding, with many illustrations, is to be released early in December and may be obtained by addressing The Scarab Fraternity, 306 Marvin Hall, Lawrence, Kansas. *Kindergarten Chats* is to be distributed privately and therefore this edition will be limited. Reservations may be made for any number of copies of this work, or individuals may be served at the retail price of $2.50 per copy, c.o.d., if orders are received in advance.

Trusting that your journal will grant us space for the announcement of this publication.

HARRY R. GAMBLE
(President of Scarab)
Washington, U.S.A.

Economics and the Architect

SIR,—I am just as well aware of the existence of unemployment and want, in conjunction with surplus stocks of commodities, as is "Archiconomist"; unlike him, I have sufficient knowledge of economics in general, and monetary practice in particular, to see that the theories of this "paradox" being due to technological progress and lack of "consumer purchasing power" are inadequate and absurd. In reply to his questions :—

1. The failure of the monetary authorities to adopt correct policies after the war, and on returning to gold, was, I believe, the main cause of the crisis of 1929 and the subsequent depression; but this does not mean that socializing credit is necessary or possible.

2. Unemployment in a particular industry will only result from labour-saving devices : (*a*) if population and supply of money fail to increase; (*b*) if demand for the product is inelastic (i.e., if reduced prices do not increase the amount sold). In this connection, it may be mentioned that while spinning machines increased productivity about a thousand times, the people employed in the British textile industry rose to more than a million, instead of being reduced to a hundred or so—as the Douglasites would assume. And with regard to technological unemployment in the United States, the only careful statistical analysis I have seen, "The Displacement of Workers through Increases in Efficiency and their Absorption in Industry, 1920-31," by David Weintraub, concludes that up to 1926 a number greater than that displaced by the increased output per man-hour was absorbed by the increased volume of output, while "the years 1926-29 failed to absorb only about one-tenth of one per cent. of those displaced" (*Jnl. of American Statistical Assn.*, Dec. 1932).

3. The object of production is use or exchange of the product. "Consumption" is inevitable, but it is not "the object" in producing durable goods.

4. Machinery is only partly the result of our "cultural heritage." No heritage will produce without labour and materials, and so long as potential demand exceeds the means of satisfying it, a complete voluntary distribution of increment outside the factors of production is impracticable.

5. General control of monetary policy should be (as it is) exercised by Parliament; but details must be left to the Bank and the Treasury.

6. Wars are caused by the struggle for power, not by "the system" or lack of one.

7. No "golden age" is possible immediately. But production and standards of living might increase more rapidly if progress were not periodically checked by the failure of monetary policy to avert crises and depressions. As for a "Bankers' Conspiracy," the idea is absurd. As Mr. Keynes said, "I only wish there were one."

And now for A-Bism. The Major and his followers habitually argue as though the Theorem proved "an increasing lack of purchasing power," but when this is refuted, they complain that they have been misrepresented and that they only mean that industry requires an increasing volume of credit to finance its transactions! To make this sound sensational, they describe it as "getting into debt with the banks," and allege that it must involve continual inflation—which is quite untrue. The fallacy consists in comparing consumers' income not with the goods and services consumers buy, but with the total value of transactions, most of which take place between traders and cannot be directly financed by consumers. Nor did Douglas argue why the alleged "deficiency" should be met by substituting "dividends to consumers" for the existing short-term trade credits; he merely declared :

"The product of any factory may be considered as something which the public ought to be able to buy, though in many cases it is an intermediate product of no use to individuals but only to a subsequent manufacturer." (*C.P. and D.*, page 22.)

No possible case can be made for presenting consumers with purchasing power equivalent to the goods in process of production, products which they cannot use and would not finance; and Douglas seems to have realized this, for he has never referred to the above "consideration" again, though his whole case rests on it. On the other hand, no Theorem is required to prove that short-term transactions are financed by credit, and the Major and his followers have merely confused themselves and the public by their absurd dichotomy of costs into A and B charges.

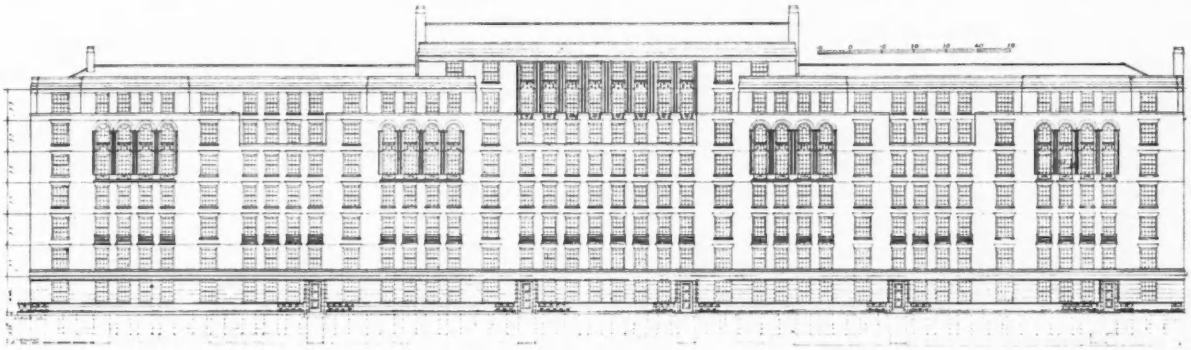
No scheme based on such an error deserves any criticism, but it may be mentioned that since Douglas proposed to estimate capital expenditure as "appreciation" in calculating his price discount, his figure for production would always be in excess of that for consumption—whatever the shortage of consumable goods—and hyper-inflation of a new kind would flourish amid the confusion of bogus sales (to secure more Government credit) and voluntary unemployment.

Certainly monetary policy should "represent the physical facts" and it often fails in this respect. But would a scheme based on errors like those of Douglas be an improvement? Mr. Robson follows his "Major" in assuming the significant relation to be that between "money and prices." But these loose terms beg the question. The volume of money is only one of the factors which determine the level of prices; its circulation, and the production and stocks of commodities are just as important. And "prices," by which the Douglasites mean the total value of transactions, is not comparable with income. Mr. Carden's dictum (a straight tip from "the Major") that "velocity of circulation has no importance" is like saying that, given sufficient food per meal, the number of meals eaten is immaterial.

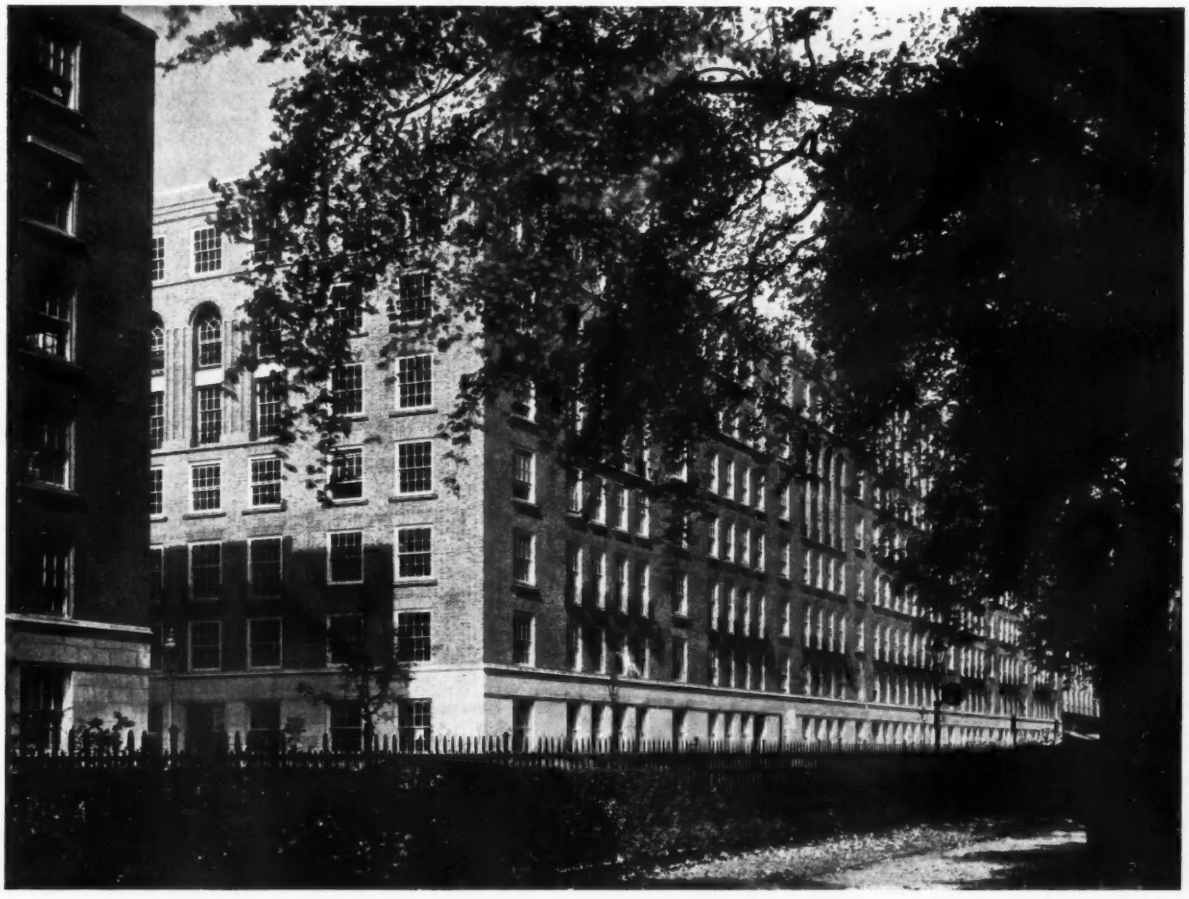
GEOFFREY BIDDULPH
London

[*The correspondence on this subject is now closed.*—ED., *A.J.*]

FLATS IN LOWNDES SQUARE, W.



THE MAIN ELEVATION

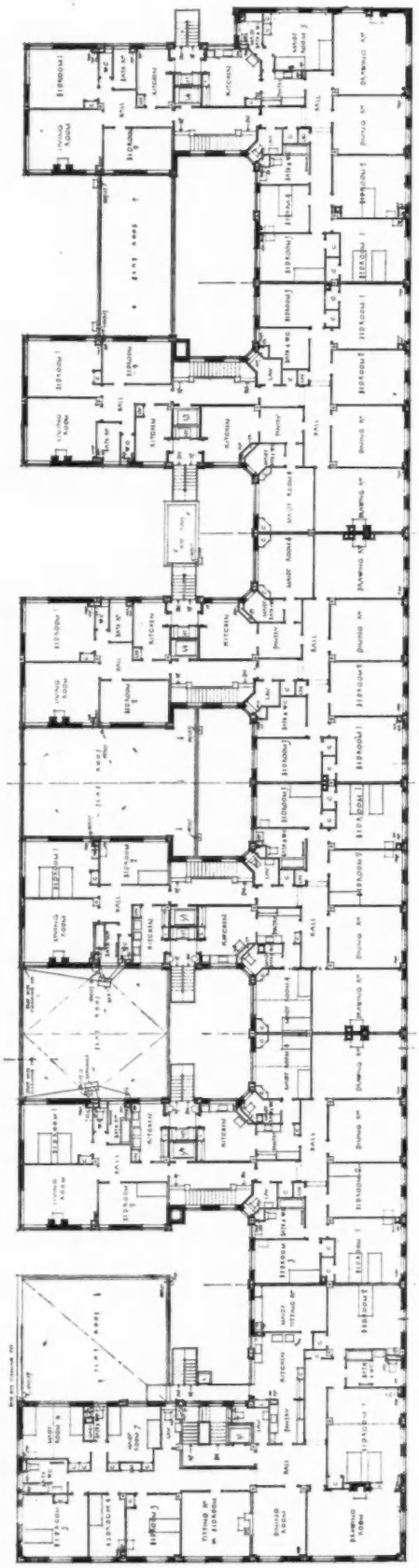


This block of flats, now completed, forms the greater part of one side of Lowndes Square. The first section, at the corner of Harriet Street and the Square was illustrated on completion some while ago, the rest of the scheme being on the other side of Harriet Street.

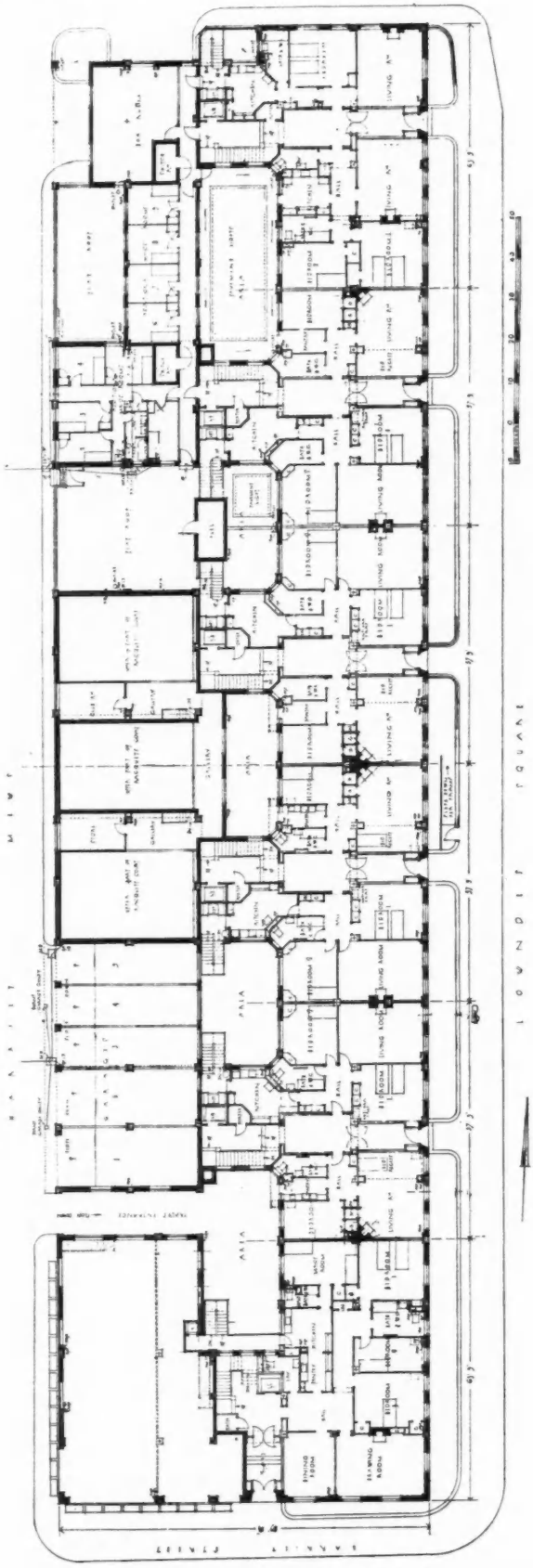
In the new block there are 79 flats in all : eleven on the ground floor and each of the upper floors, and two large flats in the centre feature on the seventh floor, facing the Square. The lay-out is arranged without internal courts so that all the principal rooms have a sunny aspect. Above are reproduced an elevational drawing and a photograph of the new block. A corner of the first completed section is shown on the left of the photograph.

DESIGNED BY MESSRS. JOSEPH

FLATS IN LOWNDES SQUARE, W.:

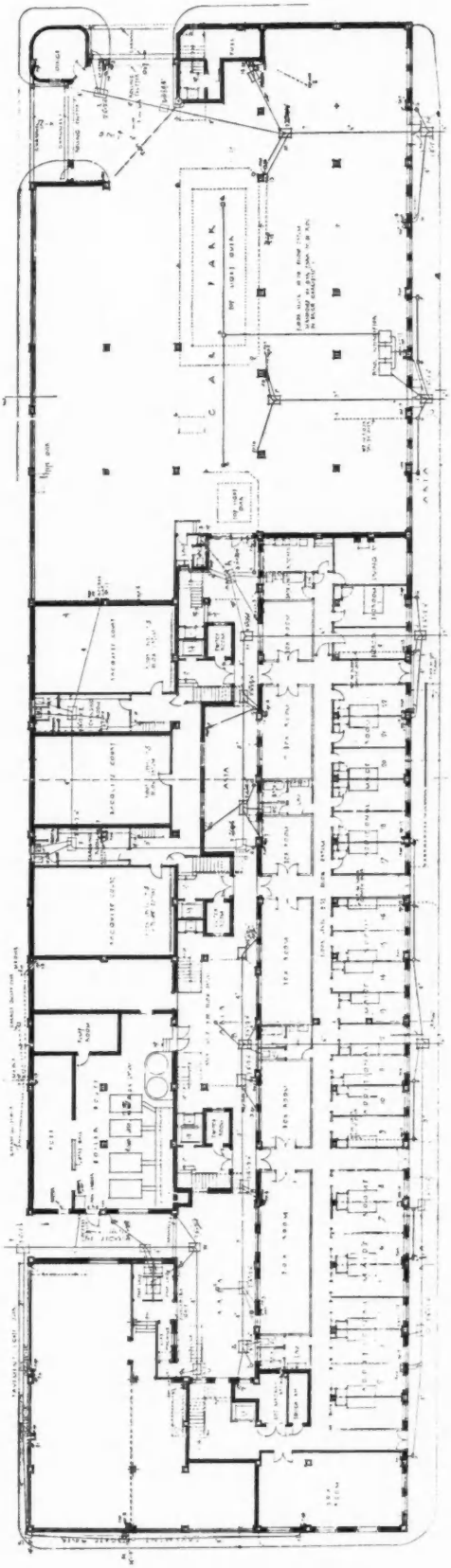


FIRST FLOOR PLAN



GROUND FLOOR PLAN

DESIGNED BY MESSRS. JOSEPH



BASEMENT PLAN

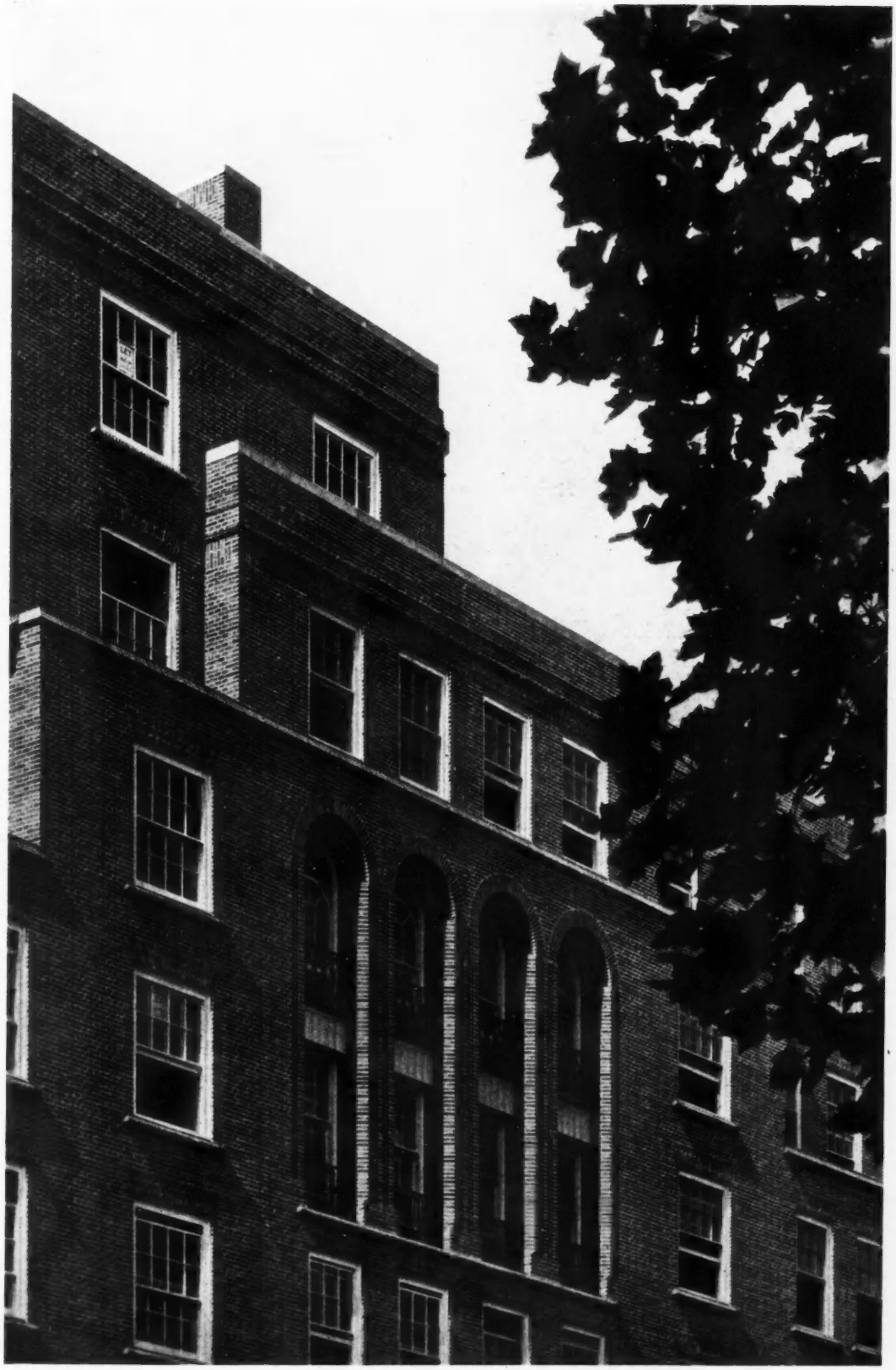
The flats are planned (see facing page) in three different types. The largest flats have three reception rooms, eight bedrooms, four bathrooms, kitchen and pantry; the medium sized have two reception rooms, hall and lavatory, four bedrooms, two bathrooms, kitchen and pantry, and the smaller ones have one living room, one bedroom, bathroom, and pantry. Additional servants' rooms are provided in the basement. The basement also contains a large covered parking space for cars, lock-up garages and three squash racquets courts. The photograph shows part of the Lowndes Square front, with the central windows lighting the large flats.

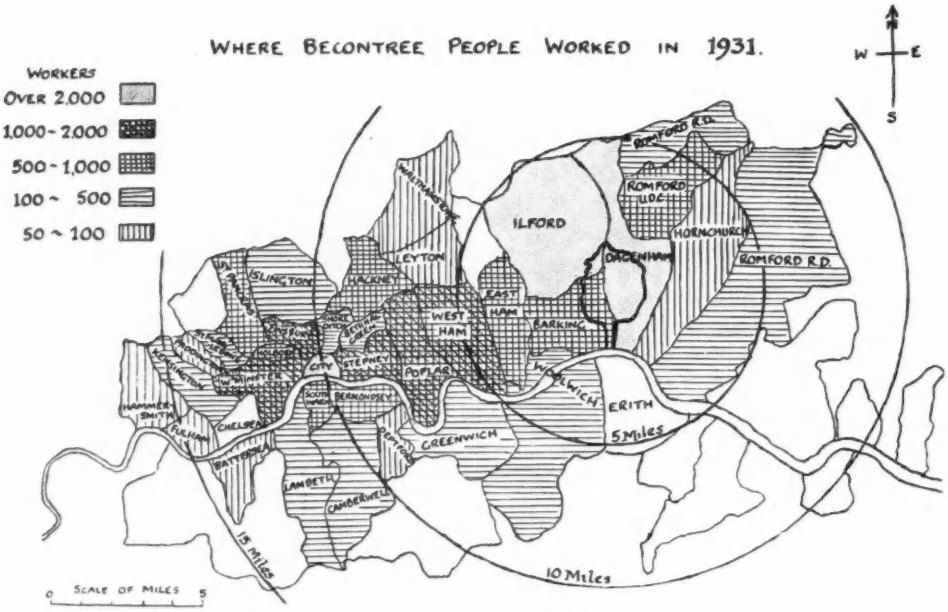
FLATS IN LOWNDES SQUARE, W.:

The building is steel framed, the exterior being carried out in Portland stone up to first floor level, with 2 in. purple grey facing bricks with white pointing on the principal elevations. Double-hung sashes are used on the Lowndes Square frontage and returns, and metal casements elsewhere. The exterior walls are built hollow, and all floors are provided with an air space and lined with eel grass quilt with a view to making the whole building equable in temperature and as soundproof as possible. The one pipe system of plumbing has been employed throughout.

The two photographs on this page are of the Lowndes Square and Harriet Street fronts of the first section completed—the other side of Harriet Street from the main block. On the facing page is a close-up view of the upper portion of the new block.

DESIGNED BY MESSRS. JOSEPH





From BECONTREE AND DAGENHAM, *by Terence Young.*

L I T E R A T U R E

THE LARGEST MUNICIPAL HOUSING ESTATE

[*BY PHILIP H. MASSEY*]
B.Sc.(Econ.), F.R.Econ.S.

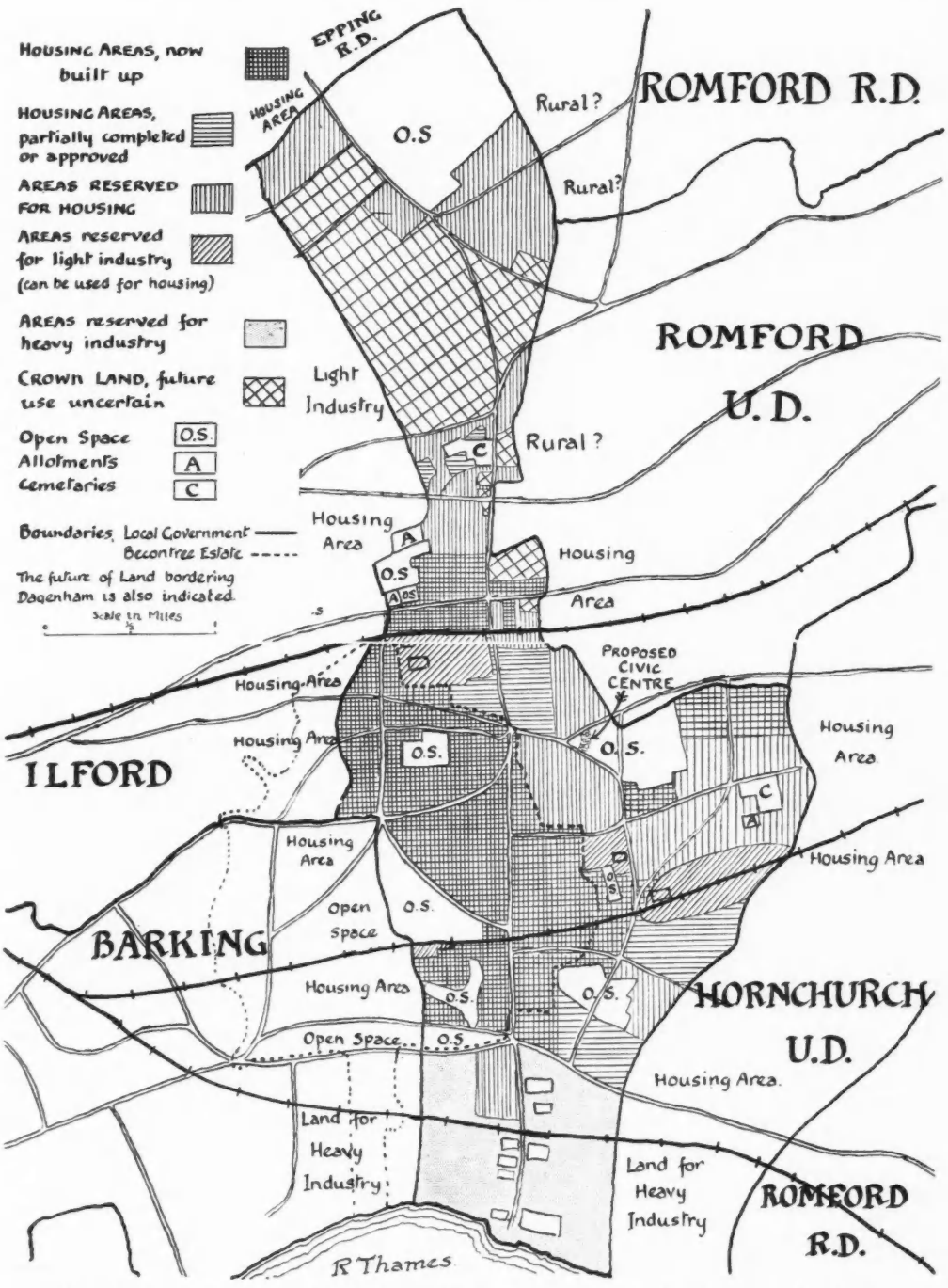
Becontree and Dagenham: The Story of the Growth of a Housing Estate. By Terence Young. London: Becontree Social Survey Committee. Price 10s. 6d. net.

THIS report on the Becontree Estate is one which should be welcome to the architect, the politician, the social reformer and the "intelligent man," be he specialist or not. As the author observes, if the estate had been situated in Vienna, or the U.S.A., or the U.S.S.R., we should, in one way or other, have heard plenty about it already. As it is, apart from occasional sensational and generally very misleading news items, and a few articles of a technical nature, appearing in more specialized publications, information concerning the Becontree Estate has simply not been available. Ignorance, indeed, is such that many quite knowledgeable people think there are two estates—Dagenham and Becontree—whereas the estate is all one, is properly called the Becontree Estate, and lies (now) in the three administrative areas of Dagenham, Barking and Ilford.

The author of this report, which was made for the Pilgrim Trust, and to which its chairman, Mr. Baldwin, contributes an introduction, presents *and interprets* the facts without attempting too many final judgments. Skilled and unbiased interpretation is one great need of all reports of a statistical nature. Becontree is, of course, statistically unusual. It contains abnormally high proportions of youngish and middle-aged married people and of children, and abnormally low proportions of old people and of young unmarried adults. It contains, broadly, no middle class. It has been, metaphorically, "built in a day." As a result of these peculiarities, and others, crude statistical comparisons with other areas would lead to the wildest conclusions. The fact that such crude comparisons are often perpetrated has probably been the cause of the saying that "figures will prove anything." The rates are high in the Dagenham Urban District. The dominating factors are, of course, the low rateable value (consequent on the absence of a middle class and of expensive shop-sites) and the "newness" of the area (which resulted in a need to borrow money, and start repayment, simultaneously for numerous purposes). Unemployment on the estate is low—partly because unemployed persons can very rarely move to it, while persons becoming unemployed often have to leave it, partly because the proportions of persons in the age-groups most liable to unemployment are abnormally low. Mr. Young makes it difficult for the most guileless, or guileful, to fall into elementary errors of interpretation and evaluation.

The book is copiously illustrated with maps, plans, photographs and "pictorial statistics." The text contains just enough tabular matter to make the story intelligible; the annotated statistical appendices, from which the examples in the text are partly derived, can be read in conjunction with it, or serve as material for later reflection.

There seems little doubt that the Becontree Estate was not planned in any real sense. The houses, the open spaces and the shops were planned. The public-houses, churches and schools were not. Transport facilities were not provided in advance, but were left to grow up later. The shops are still inadequate. Administratively, the estate now falls under three local authorities, or four including the Essex County Council. There would seem to have been a very strong case for defining it as a new metropolitan borough, outside the general L.C.C. boundary, from the start. Special provision for direct County Council government in the early stages could have then been made. As it is, the Essex County Council and the (belated) Dagenham U.D.C. had to cope with the provision of public services as best they could. Under the circumstances they have done their work remarkably well. The expense has been borne, largely, by the wrong people—the inhabitants of Essex instead of the inhabitants of London. There is every reason to suppose that the total of expenses, capital and annual, despite the inevitable lack of essential services in the early years, has been higher than if the whole had been planned from the start. Such an estate, more even than one of a "mixed" nature, needed



Map showing the Dagenham Provisional town plan of May, 1934, indicating the system of zoning for different purposes the area covered by the scheme and the land immediately surrounding it. From BECONTREE AND DAGENHAM, *by Terence Young.*

planning in advance. The degree to which the blame should be apportioned, as between the defective statutory facilities for such planning and the L.C.C. and the Parliament in existence at the crucial period, is a matter on which readers can form their own judgments. But the fact that a city of over 4,000,000 inhabitants can create another of over 100,000 without knowing how the latter is to be administered for the provision of public services, or how its inhabitants are going to get to their work-places, is almost cause for despair.

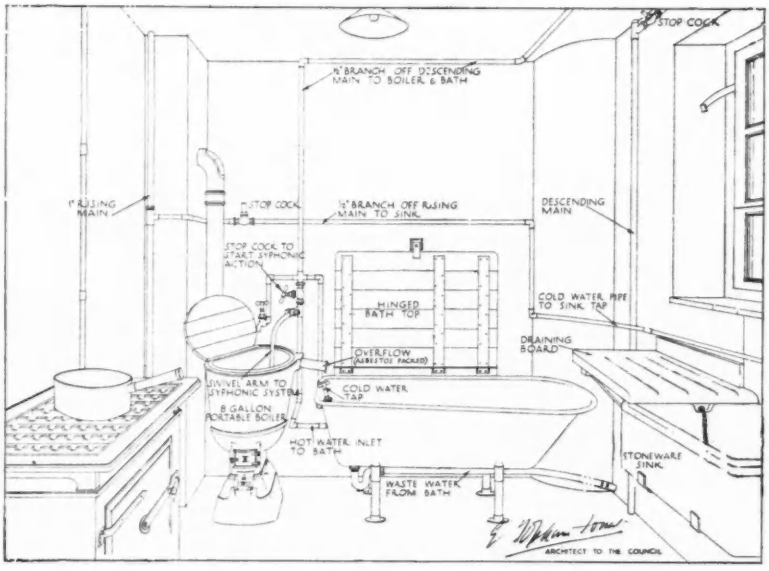
The reader would hardly guess that this report was the work of one man. The author is to be heartily congratulated upon the production of a report which, one hopes, will be considered sufficiently detailed to serve as a guide for future estate planning, yet compact enough to be read by a proportion of the general public. As the only account in existence of the largest municipal housing estate in the world it would in any event demand atten-

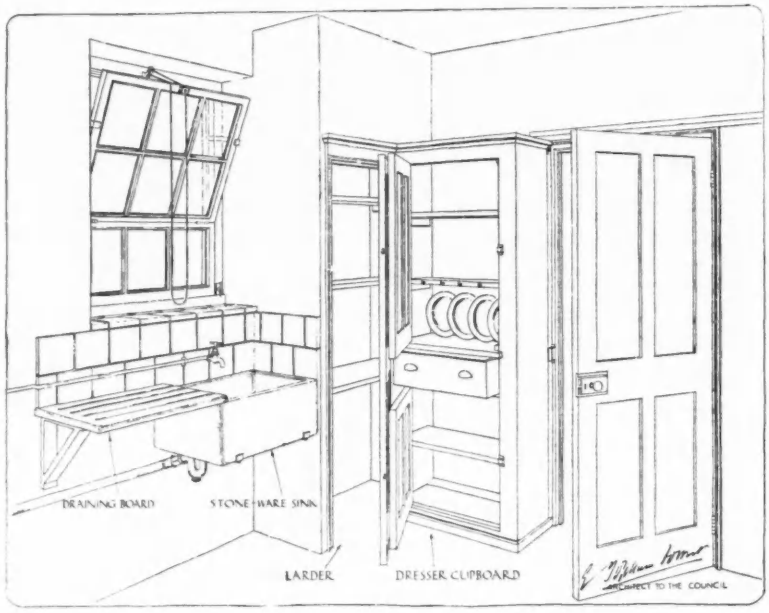
tion. As a very brilliant account it should prove, for books of this type, a "best-seller."

PRESENTING CONTEMPORARY IDEAS

The Outline of Modern Belief. Edited by J. W. N. Sullivan and Walter Grierson, in about 24 fortnightly parts; Part I. London: George Newnes, Ltd. Price 1s. each part.

THESE books, faintly reminiscent of the works published from time to time by the brothers Harmsworth, will be bought, one can safely say, in their tens of thousands. For such must always be the fate—or success, rather—of volumes of compressed knowledge. The 24 volumes are to be published fortnightly, each volume being three "Books"—*Modern Science, Modern Thought* and *Religious Thought.* Vol. 1 is amazingly full, amost frighteningly so, of the views and beliefs of men whose names are household words: Sir A. S. Eddington, Sir James Jeans, Sir Oliver Lodge, Professors Julian S. Huxley and J. B. S. Haldane, and Mr. C. Leonard Woolley. Their theories on the origin of the earth, the evolution of man, the solar system, the atom, the development of religious thought are, as the publishers say, like "reading a romance, so intensely interesting are they, even to the plain man who is not of a scientific turn of mind." There is a certain simplicity about it, too, which should appeal to the lay mind: "How did Man become Man? What process of Nature transformed ape into man? The biologist cannot give a definite answer, but he is *not without ideas.*" After having read Vol. 1, I tremble to think of the amount of knowledge I shall have absorbed when I reach Vol. 24, but that in no way lessens the intense admiration I feel for this comprehensive, concise and conscientious work. I was impressed by it, I think, almost as much as when I first saw *Encyclopædia Britannica* in my extreme youth. E. K.





Kitchen fittings of a typical L.C.C. cottage, such as forms the standard accommodation on the Becontree and Dagenham Estate. Here the cottages are mostly of the 2-storeyed, 4-room type, at a density of twelve to the acre. By July, 1933, 24,500 had been built, housing about 116,000 people. From BECONTREE AND DAGENHAM, *by Terence Young.*

Publications Received

Colour in Everyday Rooms. By Basil Ionides. London: Country Life, Ltd. 10s. 6d.

Historical Monuments: Herefordshire, Vol. 3. Royal Commission on Historical Monuments (England): H.M. Stationery Office.

The Work of the Birmingham Civic Society from June 1913 to June 1934. Birmingham Civic Society.

Rural Industries Autumn Number, 1934. Rural Industries Bureau. 2d.

Copper Through the Ages. Copper Development Association.

Garden Design of Today. By Percy S. Cane. London: Methuen & Co., Ltd. 15s.

Architecture in English Fiction. By Warren Hunting Smith. New Haven: Yale University Press. London: Humphrey Milford. 11s. 6d.

Houses Planned for Comfort. By G. Gordon Samson. London: Crosby, Lockwood and Son, Ltd. 4s. 6d.

China Architects and Builders Compendium. By J. T. E. Brooke and R. W. Davis. North-China Daily News and Herald, Ltd. 8s.

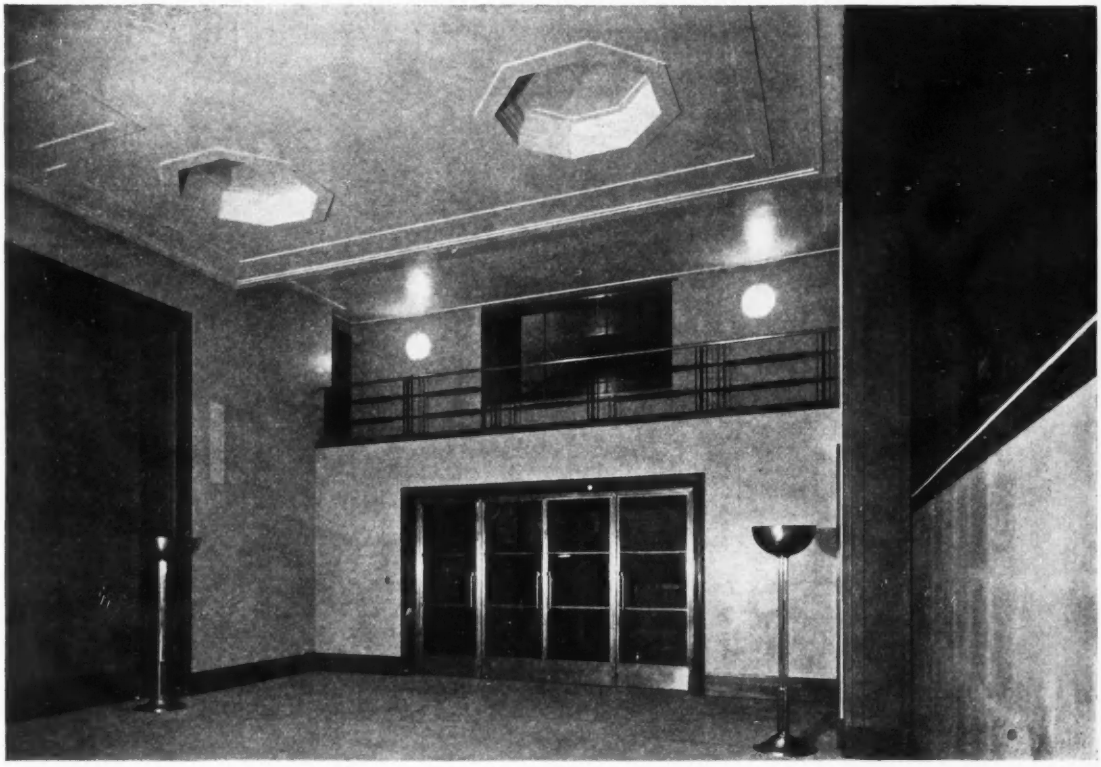
University of London College Calendar, 1934-35.

Outlines of the Law of Housing and Planning. By John J. Clarke. London: Sir Isaac Pitman and Sons, Ltd. 10s. 6d.

The Heart of Scotland. By George Blake. London: B. T. Batsford, Ltd. 7s. 6d.

WORKING DETAILS : 157

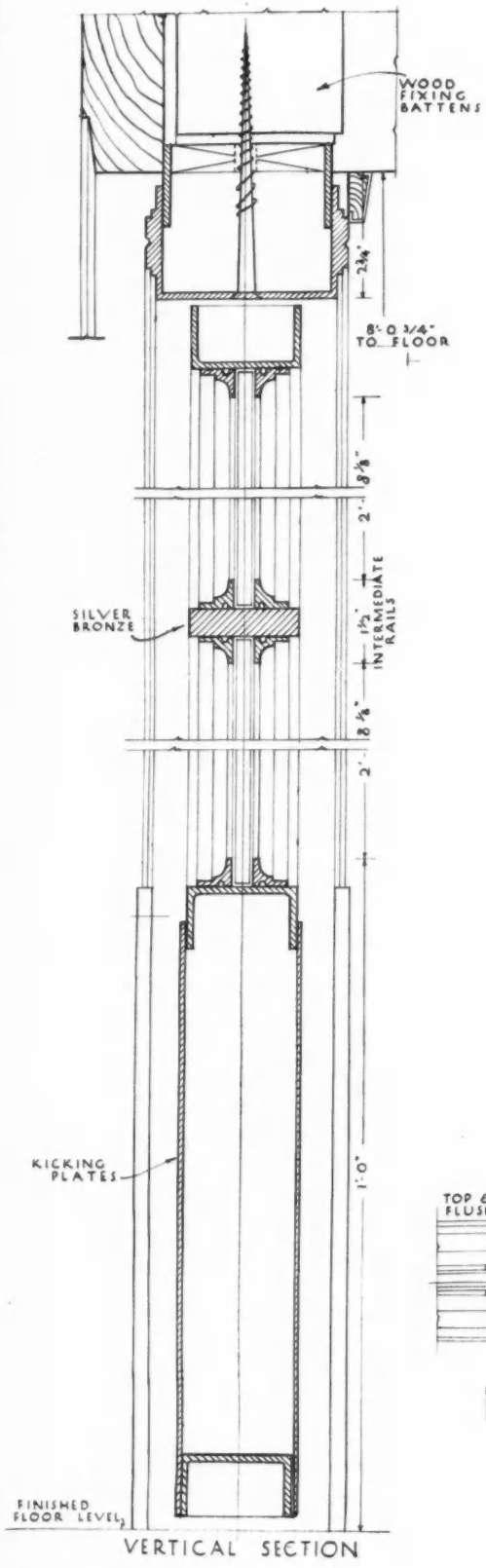
FOYER DOORS • R.I.B.A. BUILDING, PORTLAND PLACE, W.1 • G. GREY WORNUM



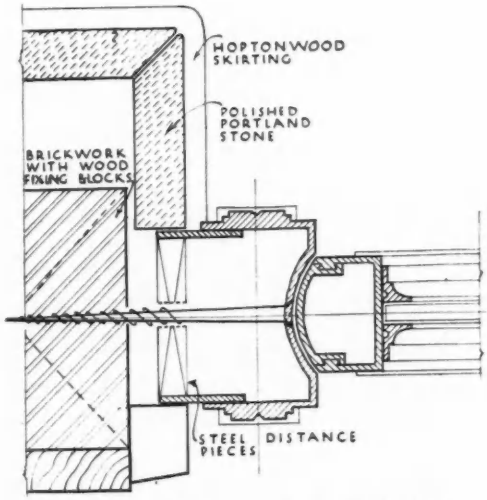
These doors, leading into the foyer of the Henry Jarvis Memorial Hall, are constructed in silver bronze, with a polished Portland stone surround. Similar doors are used in the main entrance hall, with a fanlight over, the fixing of which is shown overleaf, with drawings of the doors.

WORKING DETAILS : 158

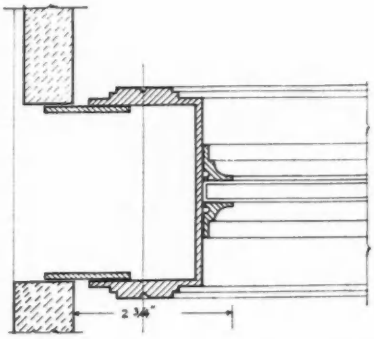
FOYER DOORS • R.I.B.A. BUILDING, PORTLAND PLACE, W.1 • G. GREY WORNUM



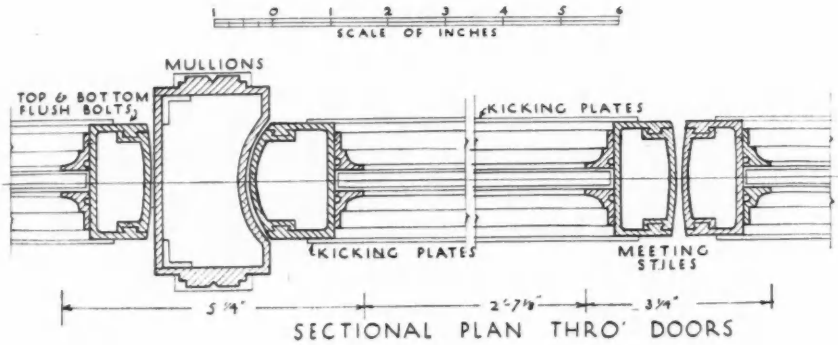
VERTICAL SECTION



SECTIONAL PLAN THRO' DOORS



SECTION THRO' FANLIGHT



SECTIONAL PLAN THRO' DOORS

Details of the foyer doors to the Henry Jarvis Memorial Hall.

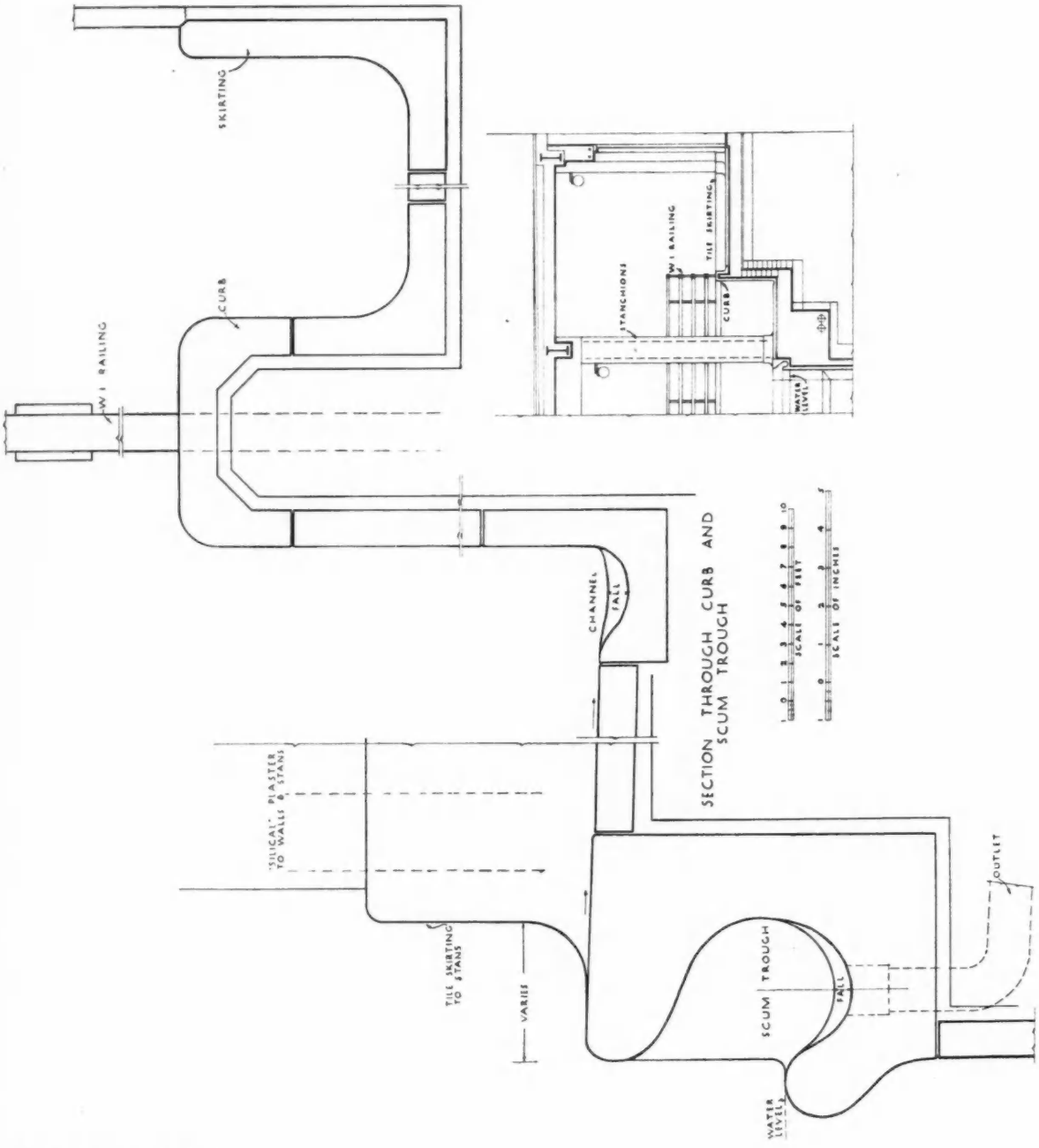
WORKING DETAILS: 159

BATH SURROUND • FLATS IN HIGH STREET, KENSINGTON • MICHAEL ROSENAUER

This swimming bath, in the basement of this block of flats, is constructed in reinforced concrete with a tile facing. The bath surround is arranged to fall away from the bath to a channel. The drawings overleaf show a section, starting at water level, through the surround and the upper gallery.

WORKING DETAILS : 160

BATH SURROUND • FLATS IN HIGH STREET, KENSINGTON • MICHAEL ROSENAUER



Sections through the bath.
See description overleaf.

PERIODICALS

OCTOBER ANTHOLOGY

AMERICA

American Architect
(Monthly, $1)

OCTOBER. A complete issue devoted to Bertram Goodhue's Nebraska State Capitol, one of the few competitions in which the assessors' names were not announced until after the closing date.

Architectural Forum
(Monthly, $1)

October. The Shushan Airport, New Orleans, by Weiss, Dreyfous and Seiferth : a good plan, less good elevations. More remodelling. The international section deals this month with England, the examples chosen including the Royal Masonic Hospital, Mr. Emberton's Yacht Club, Boots' Factory, one of Mr. Checkley's Cambridge houses and Fischers Restaurant.

Architectural Record
(Monthly, 50 c.)

October. New domestic work and modernization schemes. Messrs. Kocher and Frey publish a check list for new buildings and remodellings, including dimensions of essential equipment and furniture.

Pencil Points
(Monthly, 35 c.)

October. Measured drawings of eighteenth century American architecture in Gloucester, Mass., and an article on the latest Washington report on the Federal Housing Administration. It is pointed out that since the banks are lending up to 80 per cent. on new work it is probable that they will insist on sound workmanship in order to protect their interests, and the general discouragement of the jerry builder is prophesied.

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FRANCE

L'Architecture
(Monthly, 6 fr.)

October. L'Eglise du Saint Esprit, by M. Tournon, a reinforced concrete frame structure with brick in-filling. Housing and town planning in Stockholm, and a review of the 1934 Prix de Rome winners—planning in the grand manner for a permanent exhibition building.

La Technique des Travaux
(Monthly, 10 fr.)

October. Bohuslav Fuchs's sanatorium at Morava ; a new roof for Rheims station, reinforced concrete ribs with intermediate glazing arranged for easy cleaning.

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GERMANY

Baugilde
(Fortnightly, 1 m. 50)

October 10. A thorough analysis of the draught-producing qualities and gas discharge of various types of chimney top. Old and new examples of gateways.

October 25. Numerous schemes for amphitheatres, which seem to be under construction all over Germany for S.A. meetings or open-air plays.

Baukunst und Städtebau
(Monthly, 1 m. 90)

October. Otto Bartning's Gustav Adolf Church in Berlin. Good photographs, plans and sections, with constructional notes. Two private houses by Kuhnert and Pfeiffer, the second a well-planned week-end dwelling.

Bauwelt
(Weekly, 90 f.)

October 4. Italian theatres ; examples of work by Marcello Piacentini and Eugenio Faludi, in Rome and Milan.

October 18. Otto Bartning's Berlin church.

October 25. Technical information on heating stores ; more about Bartning's church.

Der Baumeister
(Monthly, 3 m.)

October. Small houses from various exhibitions at Munich and Nurnberg ; a few working details and useful price data.

Deutsche Bauzeitung
(Weekly, 3 m. 40 per month)

October 3. Peat coal for household use ; notes on floodlighting.

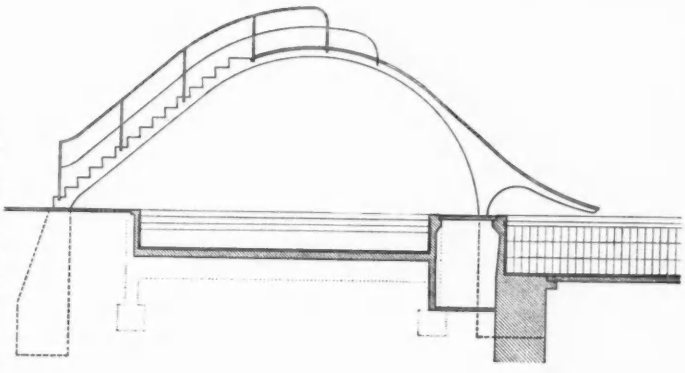
October 10. A history of town-planning in Brazil.

October 24. Bartning's church : a church in Homburg by Heinz Bley.

October 31. An article by Dr. Georg Rüth on the problem of attack from the air and the design of bomb- and gas-proof shelters.

Innen Dekoration
(Monthly, 2 m.)

October. Contemporary interior decoration in Germany. Steel furniture seems to be rapidly disappearing, and textile designs are fussier than they were a year ago.



A water chute at the Opel Baths, Wiesbaden. The chute passes over the children's paddling pool. [*From* MODERNE BAUFORMEN]

Moderne Bauformen
(Monthly, 3 m.)

October. The "Opel" baths at Wiesbaden: good lay-out and plan by Franz Schuster and Edmund Fabry. Interesting detail work, showers, water chutes, etc.; see illustrations overleaf.

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HOLLAND

Bouwkundig Weekblad Architectura
(Weekly, 15 florins per annum)

October 6. A 140 ft. tower in wood, for the "Stad Tilburg" Exhibition of 1934: designer Jan van der Valk.
October 27. House at Valkenswaard by L. C. Kalff.

de 8 en opbouw
(Fortnightly, 6 fl. per annum)

October 13. Bridge design by J. Emmen for a 300 metre span reinforced concrete bridge.

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HUNGARY

Tér és forma
(Monthly, 3 p.)

October. 1933 buildings in Athens, examples of work by P. Karantinos.

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ITALY

Architettura
(Monthly, 18 lire)

October. A children's seaside colony at Riccione, very much in the liner manner—so much so that there are even traces of a vestigial rudder; amusing but hardly impressive; a good plan.

Rassegna di Architettura
(Monthly, 12 lire)

October. Another seaside colony, at Calambrone, by Angiolo Mazzoni. Buildings of this type are being put up all over Italy, the unit including schools, refectories, dormitory blocks and athletic fields.

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POLAND

Architektura i Budownictwo
(Monthly, 8 zloty)

October. A complete issue devoted to schemes submitted in competition for a savings bank in Poznan.

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SPAIN

Viviendas
(Monthly, 2 pt.)

October. New work by Paul Laszlo, Stuttgart. Recent examples of garden lay-outs in Vienna and Berlin and Zurich. No Spanish work.

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SWEDEN

Boet
(Monthly, 1 kr. 50)

September. Recent work in Swedish pewter, some of it very attractive and simple. Contemporary American interiors, including some unfortunate Hollywood film sets.

Byggmastaren
(Weekly, 20 kr. per annum)

October 10. An article on reinforced concrete work in winter, with graphs showing the relation between temperature and strength at 28 days.
October 17. Carl Bergsten's State Theatre at Gothenburg. Luxurious stage equipment, rising and falling bridges, sub-stage scene docks: extremely liberal foyer and vestibule areas.
October 24. Notes on gas, electric and solid fuel cookers.

Form
(Monthly)

No. 7. Leather—from the tannery to the shoe. Numerous photographs of the various processes.

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SWITZERLAND

Schweizerische Bauzeitung
(Weekly, 1 fr.)

October 6. The technique of high frequency electricity distribution.
October 13. The same article continued.
October 20. New Spanish power stations.
October 27. The construction of swimming baths and filter plants.

Werk
(Monthly, 3 fr. 60)

October. Alvar Aalto's sanatorium at Paimio, with notes on the construction of his plywood furniture.

R. I. B. A.

R.I.B.A. CONFERENCE

FOLLOWING is the programme of the R.I.B.A. Centenary Celebration Conference, to be held in London from November 21 to November 24:—

HEADQUARTERS: The headquarters of the Conference will be No. 66 Portland Place, W.1. Members should call at headquarters as soon as possible after arrival to obtain any information, badges, etc., which may not have reached them by post. All correspondence on the subject of the Conference should be addressed to the Secretary, R.I.B.A., 66 Portland Place, London, W.1.

WEDNESDAY, NOVEMBER 21: 9 p.m. to 12 p.m.: A Reception will take place in the new building, 66 Portland Place, W.1. Members will be welcomed by the President and Lady Scott.

THURSDAY, NOVEMBER 22: 10.45 a.m. for 11 a.m.: The Conference will assemble for the Inaugural Meeting. 12.30 p.m.: Luncheon interval (luncheons will be arranged privately and independently). 2 p.m. to 5.30 p.m.: Alternative visits: Motor coaches will be available to convey Conference members on the various visits. Unless otherwise stated the cost of each visit, including tea, will be 4s. 6d. per head. *Visit A:* To the Custom House, Church of St. Magnus the Martyr, and the Hall of the Worshipful Company of Fishmongers. *Visit B:* To the Church of St. Lawrence Jewry, Church of St. Stephen's, Walbrook, and the Mansion House. *Visit C:* To St. James's Palace and Bridgwater House. *Visit D:* To the Bank of England, Midland Bank, Poultry, E.C., and the Banking Premises, 52 Cornhill, E.C. *Visit E:* To Broadcasting House, Portland Place, W.1 (cost, 2s. 3d. each, including tea). *Visit F:* To the block of new flats in Park Lane (Brook House) and the Dorchester Hotel. *Visit G:* To the Battersea Power Station, St. Anselm's Church, Kennington, and flats at Larkhall and Kennington. 7.15 for 7.45 p.m.: Centenary Celebration Conference Banquet in the Guildhall, E.C. The guest of honour will be H.R.H. The Prince of Wales, K.G., etc. (HON. F.). (Tickets, £2 each, inclusive of wines, cigars, etc.)

FRIDAY, NOVEMBER 23: 10 a.m. to 1 p.m.: Lectures and discussions in the new R.I.B.A. building. Luncheon interval (luncheons will be arranged privately and indepependently). 2.30 to 6 p.m.: Alternative visits: *Visit H:* To Trinity House, Church of All Hallows, Barking, St. Olave's Church, Hart Street, E.C., and the Port of London Authority Building. *Visit I:* To Inner Temple, Middle Temple, Temple Church, Hall of Law Courts, Lincoln's Inn and Gray's Inn. *Visit J:* To the Courtauld Institute of Art and the Italian Embassy. *Visit K:* To Lloyds Bank Headquarters, Glyn Mills Bank Headquarters, and London Life Association Head Office. *Visit L:* To the Freemason's Hall in Great Queen Street. *Visit M:* To Unilever House and the London County Hall. *Visit N:* To London Clubs including, it is hoped, the Athenæum, Reform, Travellers' and Boodle's. *Visit O:* To London theatres, including the Saville, Cambridge and Covent Garden Opera House (where members will have an opportunity of examining the stage). 9 p.m. to 2 a.m.: Dance. A dance will take place at No. 66 Portland Place. Tickets, 16s., including refreshments.

SATURDAY, NOVEMBER 24: 10 a.m. to 1 p.m.: Alternative visits: *Visit P:* To the Building Centre, 158 New Bond Street. *Visit Q:* To the Royal Masonic Hospital, Ravenscourt Park (inclusive cost, 3s. 6d. each). *Visit R:* To Merchant Taylors' School, Sandy Lodge (inclusive cost, 4s. each). *Visit S:* To the new stations on the Piccadilly Line extension to Cockfosters (inclusive cost, 1s. 6d. each). *Visit T:* To the William Booth Memorial Training College, and Dulwich College Picture Gallery (inclusive cost, 3s. 6d. each).

TRADE NOTES

[*BY F. R. S. YORKE, A.R.I.B.A.*]

Pre-fabricated Houses

IT appears from the fifty-two page booklet just issued by General Houses Inc., Chicago, that the American speculator who mass-produces small houses in brick has at least one formidable rival now actively engaged in the production of pre-fabricated parts for the mass-distributions of small houses built from standardized pressed steel components. A dozen or more firms exhibited pre-fabricated houses at the Chicago Century of Progress Exhibition in 1933 and 1934. These houses attracted the attention of the public and the press; but reports said the number of actual orders booked were few.

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However, it appears the booklet I have mentioned has been issued in response to some serious demand.

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General Houses are assembled from standard factory-produced components under the direction of distributors, who provide the house, complete with finishes and equipment, for an agreed all-in price. Standard plans are available, but no more difficulty is experienced in making new plans based on standard sizes of steel wall panels than in planning with the standard 9 in. brick.

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The walls consist of interchangeable rust-resisting steel panels, four feet wide, of several types, including window, door, and chimney members, etc. Heavy insulation between the inner and outer surfaces of each panel keeps the house "as heat- and cold-proof as a mechanical refrigerator."

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Reprinted on this and the page following is the questionnaire issued by General Houses to potential customers.

Sherardizing

I have been asked "what articles can be economically sherardized"? I must refer my correspondent to the new booklet issued by the Zinc Alloy Rust-Proofing Co., in which the process, limitations, advantages, etc., are explained, and the articles which can be economically sherardized are summarized and illustrated.

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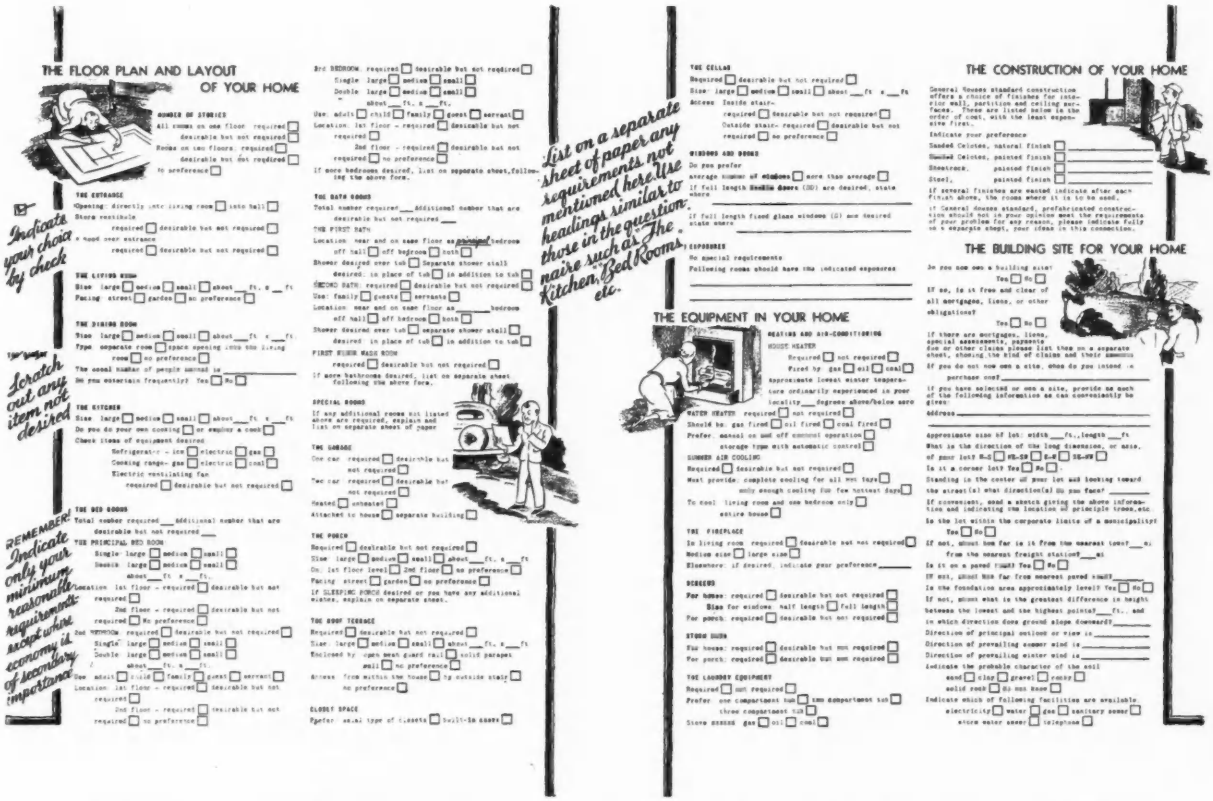
The articles are listed under four headings: architectural ironwork, electrical engineering material, motor-car material, and general.

Under architectural ironwork are:

Steel Casements.
Curtain Rail and Fittings.
Wood Screws.
Straining Screws.
Slate Nails.
Gutter Brackets.
Knobs.
Lock Cases.
Door Bolts.
Ventilating Gear Parts.
Chain and Pulleys.
Spring Washers.
Spike Chains.
Butt Hinges.
Strap Hinges.
Latches.
Casement Fasteners and Stays.
Letter Plates.
Hand Rail Brackets.
Stay Puts.
Floor Clips.
Ceiling Clips.
Etc., etc.



The two inner pages, reproduced to half-size, of a four-page leaflet issued by General Houses Inc. See note on this page.

The back page—reproduced to half size—of a four page leaflet issued by General Houses Inc. See note overleaf.

SOCIETIES AND INSTITUTIONS

WEST YORKSHIRE SOCIETY OF ARCHITECTS

Members of the above Society in Bradford and district have formed a new branch of the Society.

The Society has made the following awards in connection with their Student Competitions: Measured Drawings and Sketching Prize: Mr. A. Lumb; Design Prize, Mr. C. Watson. They are both students at the Leeds School of Architecture.

BRITISH STEELWORK ASSOCIATION

The annual luncheon of the British Steelwork Association was held at the Hotel Victoria, W.C, on November 9. Mr. Ernest A. Willson (president) occupied the chair and those present included: Lord Dudley, Sir Clement Hindley, Dr. Oscar Faber, Professor Walter Gropius, Sir Alfred Hurst, Sir William Larke, Sir Ian MacAlister, Sir Frank Smith, and Messrs. Maxwell Ayrton, Joseph Emberton, G. Topham Forrest, E. Maxwell Fry, Francis Lorne, G. Val Myer, Sydney Tatchell and C. J. Kavanagh (secretary).

Lord Dudley, proposing the toast of "The British Steelwork Association," said: "Most of our large cities require radical reconstruction. Practically all the old commercial and industrial and factory buildings have passed their useful span of life and no longer represent standards of efficiency, comfort, light and air, fitting to modern ideas, or modern necessities. The great diversity of building regulations and the static concepts of site development which have prevailed in the past have caused the existing pattern of street lay-out to be perpetuated with increasing traffic congestion. The time has arrived when every possible stimulus should be given to the rebuilding of central London and other large cities on lines which modern constructional technique has made possible, and thus tackle the traffic problem at its source.

"An increase in the height of buildings, intelligently utilized, can do much to rectify the ill-balance between built-up space and street, or garden area.

"The amount of free space wasted in internal wells of buildings built to an antiquated pattern is phenomenal. By turning these buildings inside out and projecting sterile space, badly ventilated and badly lighted, on to the streets, we should soon see an amazing transformation of civic amenities. But this transformation, if it is to be brought about, must take cognizance of the fact that narrow and small properties, which satisfied the needs of a by-gone age, require an economic impetus to consolidation, and it is here that the authorities can help by a progressive policy of encouragement.

"The building industry is one which occupies, like steel, a key position in our economic life, and employment generated at this source radiates employment in practically every industry throughout the country. This fact has, to my mind, been too little appreciated in the problems which face us in the unemployment of our workers. The conception and launch of a great ocean liner inspires us all with the spirit of romance in our technical achievements, and I see no reason why the conception and launch of a magnificent block of buildings should not inspire the same emotional feelings, in spite of the mundanity of its legal, its financial, its technical and its architectural commitments."

Mr. E. A. Willson responded.

The toast of "Our Guests" was proposed and seconded by Mr. William MacLellan, C.B.E., and Mr. H. Berry, L.C.C., respectively.

At the annual general meeting of the association, held on the same day, Mr. H. J. Jacks, O.B.E., was elected president for the year 1934-1935.

Manufacturers' Items

All the entrance halls of flats and the whole floor area of the double flats in Mount Royal Flats, Oxford Street, illustrated in our issue for November 1, have been covered with oak flooring, laid and serviced by Noel Floors, Ltd., of Windsor House, Westminster, S.W.1.

An area of approximately 5,000 sq. yds. was laid with Noel Hardwood Mosaic flooring, which combines mosaic construction with parquet designs. The wood was laid direct on to the structural concrete, to a pattern designed by the architects, and approximately 1,500,000 pieces were used, the work taking about three months.

Messrs. Noel Floors, Ltd., were also responsible for the floors in the Living Room and Circular Dining Room in the Exhibition of Contemporary Industrial Design in the Home, held recently at Dorland Hall, S.W.

*

We regret that in the list of contractors for Mount Royal Flats, Oxford Street, illustrated in our issue for November 1, we inadvertently stated that the lime sand bricks were supplied by the Sevenoaks Brick Co. We are informed that these bricks were supplied by Messrs. Ames and Finnis.

Messrs. H. H. Martyn & Co., Ltd., inform us that they were responsible for the pressed steel door frames, skirtings, window cills and radiator enclosures in Mount Royal Flats, Oxford Street, W., re-illustrated in our issue for November 1.

The Marbolith Flooring Co., Ltd. (a branch company of Messrs. Carter and Co. [London] Ltd.), have removed their offices to No. 29 Albert Embankment, S.E.11. Telephone No.: Reliance 2062-3.

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

The following is a list of the general and some of the sub-contractors for the flats at Lowndes Square, S.W.1, illustrated on pages 739-743 of this issue.

General contractors, Higgs and Hill, Ltd.; Quantity Surveyor, A. J. H. Sprague; Engineer, Alfred S. Grunspan. Sub-contractors: Rippers Ltd., joinery; W. N. Froy and Sons, Ltd., sanitary fittings; H. and C. Davis & Co., Ltd., iron staircases, railings and grilles to entrance doors; McIntyre and Sons, Ltd., steelwork: Plastering, Ltd., plastering; South Western Stone Co., Ltd., stonework; Waygood-Otis, Ltd., lifts; J. H. Nicholson & Co., Ltd., heating and hot water; Ragusa, Ltd., asphalt; J. Starkie Gardner, Ltd., external iron balcony railings and metal balustrades to staircases; F. H. Wheeler, electrical work; Henry Hope and Sons, Ltd., metal casements; Caxton Floors, Ltd., hollow tile flooring; Hemel Hempstead Patent Brick Co., Ltd., partition blocks; London Brick Co. and Forders, Ltd., Phorpres fletton bricks; G. Tucker and Son, "Tudorstyl" bricks for facings; Shaws Glazed Brick Co., faience cills; Dent and Hellyer, Ltd., internal plumbing and drainage; Haywards, Ltd., pavement lights; Horsley Smith & Co., oak flooring; Roberts Adlard & Co., slating; J. Gardner & Co., Ltd., sheet metal sash linings and radiator casings; G. H. Carter & Co., squash racquets courts; Bratt Colbran & Co., grates and fireplaces; N. F. Ramsay, locks and door furniture, synthetic glass grips, glass cupboard handles; Nettlefold and Sons, Ltd., Guardian tubular locks; Henry Boyer & Co., demolition; Frazzi, Ltd., Paropa roofs.

THE WEEK'S BUILDING NEWS

[LONDON & DISTRICTS (15-MILE RADIUS)

ACTON. *Flats.* Messrs. Brown and Henson, architects, are to proceed with a scheme for the erection of a block of flats at Horn Lane. Mr. J. Spencer Narroway proposes to erect a block of flats for the working classes on the site Nos. 1 to 4 Friars Cottages.

ACTON. *Municipal Offices.* The General Purposes Committee of the Corporation has considered a number of schemes for the extension of the Municipal Office, and has now approved a scheme for the work at an estimated cost of £29,000, and instructed the Borough Engineer to prepare detailed final plans and estimate in connection therewith.

BRENTWOOD. *Shops and Flats.* Mr. J. A. Scrivener is to erect shops and flats on a site in King's Road.

CATFORD. *Houses.* Mr. L. A. Culliford is to erect 31 houses in Bromley Road.

DARTFORD. *Houses.* Mr. J. Franklin is to erect 168 houses on a new estate in the vicinity of Princes Road.

DEPTFORD. *Cemetery.* The B.C. reports having received the Minister of Health's sanction to borrow sums totalling £27,540 in connection with the lay-out of the new cemetery at Mottingham.

EALING. *Houses, Flats, Factories, etc.* Plans passed by the Corporation: Two houses, Beechwood Gardens, for Messrs. Lancaster and Sons; 128 houses, Wadham Gardens, for Messrs. Swannell and Sly, on behalf of Hillingdon Estate Co.; 44 bungalows, Moatfarm Road, for Romford and District Estates, Ltd.; 30 houses, Middleton Avenue and Conway Crescent, for Mr. A. E. Murdoch; 32 houses, Conway Crescent, for Messrs. B. Smith and Son (Builders), Ltd.; 40 houses, Conway Crescent, for Messrs. R. Lancaster and Sons; four shops and flats, Market Parade, for Messrs. Hillier, Parker, May and Rowden, on behalf of Midland Shop Properties, Ltd.; eight houses, Harewood Avenue, for Mr. A. J. Bond; three houses, Beaufort Road, for Messrs. Haymills, Ltd.; flats, the Grove, for Messrs. Herbert W. Dunphy and Son; factory, Wadsworth Road, for Central Joinery Co.; lay-out for 21 shops and 72 flats, Spring Bridge, for Housing Corporation of Great Britain, Ltd.; cinema theatre, Ruislip Road, for Mr. B. Crewe, on behalf of Mr. J. Wrightson Bateson; lay-out for 18 flats, Montpelier Road, for Messrs. Burnett and Eprile; lay-out for 128 flats, Hanger Lane, for Messrs. Toms and Partners; flats, Lavington Road, for Messrs. Woodward and Son; 111 houses, Reading Road and Wood End Lane, for Hayes Bridge Estates, Ltd.; 40 houses, Conway Crescent, for Messrs. R. Lancaster and Sons, 16 houses, Conway Crescent, for Hillside Estates, Ltd.; 98 houses, Brunswick Road, Sandall Road, etc., for Mr. J. M. Wilson, on behalf of Bloomfield Building Co., Ltd.; eight houses, Hill Rise, for Unity Building Co.; 10 shops and flats, Mandeville Road, Northolt, for Mr. A. Starkey; 120 flats, Queen's Drive, for Mr. D. H. Smith, on behalf of Hanger Hill Garden Estates, Ltd.; 42 houses, Clare Road, Rothesay Avenue, etc., for Messrs. Swannell and Sly, on behalf of Clayton Farm Estate Co., Ltd.; 20 houses, Sandringham Road, for London and Provincial Building Co., Ltd.; 20 houses, Greenford Avenue and Mayfield Gardens, for Great Western Land Co.; 12 houses, Brookbank Avenue, for Mr. R. J. Ward, on behalf of Messrs. Tucker and Warren; 24 houses, Greenford Road, for Mr. R. J. Ward, on behalf of Bindon Building Co.; 106 houses, Ainsdale Road, etc., for London and Provincial Building Co., Ltd.; 132 flats, pavilion and 62 garages, Hanger Lane, for Messrs. Toms and Partners, on behalf of Bell Property Trust, Ltd.; six shops, Wood End Gardens, for Messrs. F. Taylor, Junr. & Co.; 212 houses, Conway Crescent, Calder Avenue, Tees Avenue and Thames Avenue, for Messrs. R. Lancaster and Sons; 24 houses, Corringway, for Messrs. Haymills, Ltd.; factory, Hanger Lane, for Messrs. S. Wolf & Co.; factory, Long Drive, for Messrs. Joseph, on behalf of Premier Yeast Co.; showroom, offices, etc., Uxbridge Road, for Mr. F. E. Simpkins, on behalf of Car Mart, Ltd.; 74 houses, Twyford Avenue, Rossall Crescent, etc., for Messrs. R. Lancaster and Sons; 10 shops and 12 flats, Northfield Avenue and Windmill Road, for Mr. H. H. Winder; 38 flats and showrooms, Uxbridge Road, for Mr. E. Schaufelberg, on behalf of Messrs. Balbus, Ltd.; lay-out for 66 flats, Uxbridge Road, for Mr. R. G. Cox.

SOUTH-WESTERN COUNTIES

CHELTENHAM. *Swimming Pool.* The Corporation reports receipt from the Minister of Health of sanction to borrow £13,937 for the construction of the new swimming pool.

CHELTENHAM. *Airport.* At the General Purposes Committee of the Corporation the town clerk reported that practically all the purchases of land required in connection with the airport had been completed, the lease to the Westgate Motorhouse (Gloucester), Ltd., had been entered into and the work of levelling, etc., had begun. He stated that negotiations were in progress for the sale or lease of a site on the airport frontage for the erection of a factory.

CHELTENHAM. *Housing.* The Corporation is in negotiation for the purchase of about 80½ acres at Whaddon Farm estate for housing purposes.

MIDLAND COUNTIES

GLOSSOP. *Houses.* The Corporation has approved plans by the Borough Engineer for the erection of 16 houses in Simmondley Lane and has decided that gas only be installed therein.

MANSFIELD. *Houses.* Plans passed by the Corporation: Five houses, Robin Down Lane, for Mr. J. P. Smith; two houses, Hermitage Lane, for Mr. G. Hutchinson; four houses, Moody Lane, for Messrs. H. Blyth and Son; 49 houses, Firbeck Avenue, for Mr. F. T. Fowler; two houses, Sandhurst Avenue, for Mr. F. Mann; eight houses, Laurel Avenue, for Mr. W. Brelsford. The Corporation is to erect a further 13 houses by direct labour on the Ravensdale Estate at a cost of £4,000.

NORTHERN COUNTIES

JARROW. *Housing.* The Corporation reports that the Minister of Health has approved the erection by the Corporation of 160 houses by direct labour at an estimated cost of £47,190.

MANCHESTER. *Houses and Flats.* The Housing Committee of the Corporation has instructed the Housing Director to obtain tenders for the erection of houses and flats on various estates and to carry out the erection of 140 houses on residue estates by direct labour.

MANCHESTER. *Reservoir Works, etc.* The Water Committee of the Corporation is to proceed with the construction and extension of waste weirs for a number of reservoirs and other works at Longdendale and other districts, at a total estimated cost of £70,000. Works at Haweswater are to be undertaken at an estimated cost of £34,600.

STRETFORD. *Garage, Flats and Houses.* Plans passed by the Corporation: Service station and garages, Chester Road, for Refil Ltd.; flats, Talbot Road, for Residential Flats Ltd.; 10 houses, Bradfield Road, for Messrs. Freeman, Evans & Co.

SHIPLEY. *School.* The Education Committee is in communication with the Board of Education with regard to the proposed open-air school.

SHIPLEY. *Houses.* Plans passed by the U.D.C.: Four houses, Nab Lane, for Mr. H. Chippindale; two bungalows, Wrose Road, for Messrs. A. and F. Mellor; eight houses, Low Ash Grove, for Messrs. Walton Bros.; three shops, Prospect Walk, for Mr. J. Lord; 11 houses, Beamsley Road, for Mr. J. Chippindale.

TODMORDEN. *Houses and Bungalows.* The Housing Committee of the Corporation recommends the erection of 84 houses and eight bungalows at Ashenhurst, Cowhurst, and Cross Lee, at an estimated cost of £34,000.

SCOTLAND

GLASGOW. *Hospital extensions.* The Health Committee of the Corporation recommends a scheme by the Joint Committee for the West of Scotland on the Administration of the Blind Persons Act, 1920, for extensions at the Royal Glasgow asylum for the blind, at an estimated cost of £24,000.

GLASGOW. *Housing.* The Corporation is in negotiation with the agents to His Grace the Duke of Montrose for the purchase of approximately 102½ acres at Balornock, for housing purposes.

GLASGOW. *Houses.* The Corporation has approved plans by the Director of Housing for houses, shops and roads at the Blackhill extension scheme.

WALES

CARDIFF. *Flats.* Mr. A. E. Protheroe is to erect a block of 10 flats at Coldsteam Terrace.

CARDIFF. *Rehousing.* The Corporation has authorised the City Engineer to obtain tenders for the erection of 40 houses at Sloper Road and 60 houses on other sites to be selected by the Engineer.

CARDIFF. *Water Supply.* The Water Committee of the Corporation recommends a scheme for the provision of a water supply to the British (Guest, Keen, Baldwins) Iron and Steel Co., Ltd., at its works at East Moors, at an estimated cost of £22,000.

CARDIFF. *Rehousing.* In connection with slum clearance schemes, the Housing Committee of the Corporation recommends the erection of 88 houses at Sloper Road and 62 houses on other sites belonging to the Corporation, for re-housing purposes.

CARDIFF. *Offices.* The Corporation Electricity Committee reports that the Minister of Health and the Electricity Commissioners have approved the scheme for the appropriation of the fish market and its conversion into offices, works, etc., for the electricity department, at an estimated cost of £25,000.

The accompanying photograph shows how the underside of the Truscon floor provides effective concealment for the many domestic services.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A	Aberdeen ..	Scotland	1 6	1 1½
A_2	Abergavenny ..	S. Wales & M.	1 5	1 0½
A	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
C	Airdrie ..	Scotland	*1 5½	1 1½
A	Aldeburgh ..	E. Counties	1 1½	10½
B	Altrincham ..	N.W. Counties	1 5½	1 1½
A	Appleby ..	N.W. Counties	1 2	10½
	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_3	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham ..	Mid. Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton	N.W. Counties	1 5½	1 1½
A_2	Boston	Mid. Counties	1 4	1 0
A	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A	Brighton ..	S. Counties	1 4	1 0
A	Bristol	S.W. Counties	1 5½	1 1½
B	Brixham ..	S.W. Counties	1 2½	11
A^2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B^2	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
A	Burslem ..	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury	N.W. Counties	1 5½	1 1½
A	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE ..	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A	Chelmsford ..	E. Counties	1 4	1 0
A	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A	Colchester ..	E. Counties	1 4	1 0
A	Colne	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorches ..	S.W. Counties	1 2½	11
A	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley	Mid. Counties	1 5½	1 1½
A_2	Dumfries ..	Scotland	1 5	1 0½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N E. Coast	1 5½	1 1½
A_2	EASTBOURNE ..	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorgan-shire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE	E. Counties	1 4	1 0
A	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S. W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A	Glasgow ..	Scotland	1 6	1 1½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	Gosport ..	S. Counties	1 4½	1 0½
A_2	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln ..	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLES-FIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_2	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middlesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid Counties	1 5½	1 1½
A	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_3	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth	Scotland	*1 5½	1 1½
A_2	Peterborough ..	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	Slough ..	S. Counties	1 4½	1 0½
A_1	Solihull ..	Mid. Counties	1 5	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stirling ..	Scotland	1 6	1 1½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist. ..	N.E. Counties	1 5½	1 1½
A_2	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby	Yorkshire	1 4½	1 0½
A	Widnes	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop	Yorkshire	1 4	1 0
A	Wrexham ..	N.W. Counties	1 5	1 0½
A_1	Wycombe ..	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

		s.	d.
Bricklayer	per hour	1	7
Carpenter	"	1	7
Joiner	"	1	7
Machinist	"	1	8
Mason (Banker)	"	1	7
" (Fixer)	"	1	8
Plumber	"	1	7
Painter	"	1	6
Paperhanger	"	1	6
Glazier	"	1	7
Slater	"	1	7
Scaffolder	"	1	3
Timberman	"	1	3
Navvy	"	1	2½
General Labourer	"	1	2½
Lorryman	"	1	5
Crane Driver	"	1	6
Watchman	per week	2	10

MATERIALS

EXCAVATOR AND CONCRETOR

		£	s.	d.
Grey Stone Lime	per ton	2	2	0
Blue Lias Lime	"	1	16	6
Hydrated Lime	"	3	0	9
Portland Cement, in 4-ton lots (d/d site, including Paper Bags)	"	1	18	0
Rapid Hardening Cement, in 4-ton lots (d/d site, including Paper Bags)	"	2	4	0
White Portland Cement, in 1-ton lots	"	8	15	0
Thames Ballast	per Y.C.		6	3
¾" Crushed Ballast	"		6	9
Building Sand	"		7	3
Washed Sand	"		8	3
2" Broken Brick	"		8	0
¾" " "	"		10	3
Pan Breeze	"		6	6
Coke Breeze	"		8	9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

		4" s.	4" d.	6" s.	6" d.
Straight Pipes	per F.R.	0	9	1	1
Bends	each	1	9	2	6
Taper Bends	"	3	6	5	3
Rest Bends	"	4	3	6	3
Single junctions	"	3	6	5	3
Double "	"	4	9	6	6
Straight channels	per F.R.	1	6	2	6
¾" Channel bends	each	2	9	4	0
Channel junctions	"	4	6	6	6
Channel tapers	"	2	9	4	0
Yard gullies	"	6	9	8	9
Interceptors	"	16	0	19	6
IRON DRAINS:					
Iron drain pipe	per F.R.	1	6	2	6
Bends	each	5	0	10	6
Inspection bends	"	9	0	15	0
Single junctions	"	8	9	18	0
Double junctions	"	13	6	30	0
Lead wool	lb.		6		—
Gaskin	"		5		—

BRICKLAYER

		£	s.	d.
Flettons	Per M.	2	18	0
Grooved do.	"	3	0	0
Phorpres bricks	"	2	17	3
" Cellular bricks	"	2	17	3
Stocks, 1st quality	"	4	11	0
" 2nd "	"	4	2	6
Blue Bricks, Pressed	"	8	17	6
" Wirecuts	"	7	17	6
" Brindles	"	7	0	0
" Bullnose	"	9	0	0
Red Sand-faced Facings	"	6	18	6
Red Rubbers for Arches	"	12	0	0
Multicoloured Facings	"	7	10	0
Luton Facings	"	7	10	0
Phorpres White Facings	"	3	17	3
" Rustic Facings	"	3	12	3
Midhurst White Facings	"	5	0	0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:				
Stretchers	"	21	0	0
Headers	"	20	10	0
Bullnose	"	27	10	0
Double Stretchers	"	29	10	0
Double Headers	"	26	10	0
Glazed Second Quality, *Less*	"	1	0	0
" Buffs and Creams, *Add*	"	2	0	0
" Other Colours	"	5	10	0
2" Breeze Partition Blocks	per Y.S.		1	7
2½" " " "	"		1	10
3" " " "	"		2	1
4" " " "	"		2	6

MASON

The following d/d F.O.R. at Nine Elms:

		s.	d.
Portland stone, Whitbed	F.C.	4	4½
" " Basebed	"	4	7½
Bath stone	"	2	10
York stone	"	6	6
" " Sawn templates	"	7	6
" " Paving, 2"	F.S.	1	8
" " " 3"	"	2	6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

		£	s.	d.
24" × 12" Duchesses	per M.	28	17	6
22" × 12" Marchionesses	"	24	10	0
20" × 10" Countesses	"	19	5	0
18" × 10" Viscountesses	"	15	10	0
18" × 9" Ladies	"	13	17	6
Westmorland green (random sizes)	per ton	8	10	0
Old Delabole slates d/d in full truck loads to Nine Elms Station:				
20" × 10" medium grey per 1,000 (actual)		21	11	6
" " green " "		24	7	4
Best machine roofing tiles	"	4	10	0
Best hand-made do.	"	5	0	0
Hips and valleys	each			9½
" hand-made	"			10
Nails, compo	lb.		1	4
" copper	"		1	6

CARPENTER AND JOINER

		s.	d.
Good carcassing timber	F.C.	2	2
Birch	as 1" F.S.		9
Deal, Joiner's	" "		5
" " 2nds	" "		4
Mahogany, Honduras	" "	1	3
" African	" "	1	1
" Cuban	" "	2	6
Oak, plain American	" "	1	0
" Figured "	" "	1	3
" Plain Japanese	" "	1	2
" Figured "	" "	1	5
" Austrian wainscot	" "	1	6
" English	" "	1	11
Pine, Yellow	" "	1	0
" Oregon	" "		4
" British Columbian	" "		4
Teak, Moulmein	" "	1	3
" Burma	" "	1	2
Walnut, American	" "	2	3
" French	" "	2	3
Whitewood, American	" "	1	1

Deal floorings,		Sq.											
	⅝"									1	18	6	
	¾"									1	1	6	
	1"									1	2	0	
	1¼"									1	5	0	
	1½"									1	10	0	
Deal matchings	⅝"										14	0	
	¾"										15	6	
	1"									1	4	0	
Rough boarding	⅝"										16	0	
	1"										18	0	
	1¼"									1	6	0	

Plywood, per ft. sup. —Thickness	⅜"	½"	⅝"	¾"
Qualities	AA. A. B.	AA. A. B.	AA. A. B.	AA. A. B.
	d. d. d.	d. d. d.	d. d. d.	d. d. d.
Birch	4 3 2	5 4 3	7½ 6 4½	8½ 7 6
Alder	3½ 3 2	5 4 3	6½ 5½ 4½	8 7 6
Gaboon Mahogany	4 3 3	6½ 5½ 4½	9½ 7½ –	1/0½ 10 –
Figured Oak 1 side	8½ 7 –	10 8 –	11½ – –	1/6 – –
Plain Oak 1 side	6½ 6 –	7½ 7 –	9½ – –	1/– – –
Oregon Pine	5 4 –	5½ 5 –	6 – –	– – –

		d.
Scotch glue	lb.	8

SMITH AND FOUNDER

Tubes and Fittings:
(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	⅛"	¼"	½"	1"	1¼"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10	
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9	
" 3"-11½" long "	7	9	1/3	1/8	3/–	
Long screws, 12"-23½" long "	11	1/3	2/2	2/10	5/3	
" " 3"M-½" long "	8	10	1/5	1/11	3/6	
Bends "	8	11	1/7½	2/7½	5/2	
Springs not socketed "	5	7	1/1½	1/11½	3/11	
Socket unions "	2/–	3/–	5/6	6/9	10/–	
Elbows, square "	10	1/1	1/6	2/2	4/3	
Tees "	1/–	1/3	1/10	2/6	5/1	
Crosses "	2/2	2/9	4/1	5/6	10/6	
Plain Sockets and nipples "	3	4	6	8	1/3	
Diminished sockets "	4	6	9	1/–	2/–	
Flanges "	9	1/–	1/4	1/9	2/9	
Caps "	3½	5	8	1/–	2/–	
Backnuts "	2	3	5	6	1/1	
Iron main cocks "	1/6	2/3	4/2	5/4	11/6	
" " with brass plugs "	—	4/–	7/6	10/–	21/–	

Discounts:

TUBES.

	Per cent.		Per cent.
Gas	65	Galvanized gas	52½
Water	61½	" water	47½
Steam	57½	" steam	42½

FITTINGS.

Gas	57½	Galvanized gas	47½
Water	52½	" water	42½
Steam	47½	steam	37½

SMITH AND FOUNDER—*continued*

		s.	d.
Rolled steel joists cut to length	cwt.	10	9
Mild steel reinforcing rods, ⅜"	"	8	6
" " ½"	"	8	3
" " ⅝"	"	8	0
" " ¾"	"	7	6
" " ⅞"	"	7	6
" " 1"	"	7	6
" " 1¼"	"	7	6
" " 1½"	"	7	6

Cast-iron rain-water pipes of ordinary thickness metal	3" s. d.	3" s. d.	4" s. d.
	F.R. 8		10
Shoes	each 2 0	3 0	4 0
Anti-splash shoes	" 4 6	8 0	
Boots	" 3 0	4 0	
Bends	" 2 7	3 9	
" with access door	" —	6 3	
Heads	" 4 0	5 0	
Swan-necks up to 9" offsets	" 3 9	6 0	
Plinth bends, 4½" to 6"	" 3 9	5 3	
Half-round rain-water gutters of ordinary thickness metal	F.R. 5		6
Stop ends	each 6		6
Angles	" 1 7		1 11
Obtuse angles	" 2 0		2 6
Outlets	" 1 9		2 3

PLUMBER

		£	s.	d.
Lead, milled sheets	cwt.	18	6	
" drawn pipes	"	17	0	
" soil pipe	"	18	6	
" scrap	"	10	6	
Solder, plumbers'	lb.			9½
" fine do.	"	1	0	
Copper, sheet	"			8½
" tubes	"			11

L.C.C. soil and waste pipes:	3" F.R.	4" F.R.	6"
Plain cast	1 0	1 2	2 6
Coated	" 1 1	1 3	2 8
Galvanized	" 2 0	2 6	4 6
Holderbats	each 3 10	4 0	4 9
Bends	" 3 9	5 3	10 3
Shoes	" 2 10	4 4	9 6
Heads	" 4 8	8 5	12 9

PLASTERER

		£	s.	d.
Lime, chalk	per ton	2	5	0
Plaster, coarse	"	2	10	0
" fine	"	4	15	0
Hydrated lime	"	3	0	0
Sirapite	"	3	6	0
Keene's cement	"	5	0	0
Gothite Plaster	"	3	6	0
Thistle Plaster	"	3	6	0
Sand, washed	Y.C.		11	6
Hair	lb.			6
Laths, sawn	bundle		2	4
" rent	"		3	9
Lath nails	lb.			3½

GLAZIER

		s.	d.
Sheet glass, 21 oz., squares n/e 2 ft.	s. F.S.		2½
" " 26 oz. " " "	"		3
Flemish, Arctic, Figured (white)*	"		7
Blazoned glasses	"	2	6
Reeded; Cross Reeded	"		11
Cathedral glass, white, double-rolled, plain, hammered, rimpled, waterwite			6½
Crown sheet glass (n/e 12 in. x 10 in.)	"	2	0
Flashed opals (white and coloured)	"	1 0 and	2 0
¼" rough cast; rolled plate	"		5½
¼" wired cast; wired rolled	"		9½
¼" Georgian wired cast	"		11
¼" Polished plate, n/e 1 ft.	"	†10 to	‡1 1
" " 2 "	"	†1 2 "	‡1 4
" " 4 "	"	†2 3 "	‡2 6
" " 8 "	"	†2 9 "	‡3 2
" " 20 "	"	†3 7 "	‡4 2
" " 45 "	"	†3 11 "	‡4 7
" " 100 "	"	†5 0 "	‡5 7
Vita glass, sheet, n/e 1 ft.	"		1 0
" " " 2 ft.	"		1 3
" " " over 2 ft.	"		1 9
" " plate, n/e 1 ft.	"		1 6
" " " 2 ft.	"		3 0
" " " 5 ft.	"		4 0
" " " 7 "	"		5 0
" " " 15 "	"		6 0
" " " over 15 "	"		7 6
"Calorex" sheet 21 oz., and 32 oz.	"	2 6 and	3 6
" rough cast ⅛" and ¼"	"	8½ "	1 0
Putty, linseed oil	lb.		3

* *Colours, 1d. F.S. extra.*
†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

		£	s	d.
White lead in 1 cwt. casks	cwt.	2	6	0
Linseed oil	gall.		2	2½
Boiled oil	"		2	4½
Turpentine	"		4	1½
Patent knotting	"		14	0
Distemper, washable	cwt.	2	6	0
" ordinary	"	2	0	0
Whitening	"		4	0
Size, double	firkin		3	0
Copal varnish	gall.		13	0
Flat varnish	"		14	0
Outside varnish	"		16	0
White enamel	"	1	15	0
Ready mixed paint	"		13	6
Brunswick black	"		7	6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR

		£ s. d.
Digging over surface n/e 12" deep and cart away	Y.S.	2 9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.	8 6
" to form basement n/e 5' 0" deep and cart away	"	9 0
" " 10' 0" deep and cart away	"	9 6
" " 15' 0" deep and cart away	"	10 0
If in stiff clay	add "	6
If in underpinning	" "	4 0
Planking and strutting to sides of excavation	F.S.	1 0
" " to pier holes	"	5
" " to trenches	"	5
" " extra, only if left in	"	3
Hardcore, filled in and rammed	Y.C.	10 0
Portland cement concrete in foundations (6-1)	"	1 6 0
" " (4-2-1)	"	1 12 6
" " underpinning	"	1 16 0
Finishing surface of concrete, spade face	Y.S.	7

DRAINLAYER

		4" s. d.	6" s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
" " junctions	"	3 9	4 6
Gullies and gratings		16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER

	£ s. d.
Brickwork, Flettons n lime mortar	Per Rod 27 10 0
" " in cement	" 28 15 0
" Stocks in cement	" 35 0 0
" Blues in cement	" 52 0 0
Extra only for circular on plan	" 2 0 0
" backing to masonry	" 1 10 0
" raising on old walls	" 2 0 0
" underpinning	" 5 10 0½
Fair Face and pointing internally	F.S. 1½
Extra over fletton brickwork for picked stock facings and pointing	" 8
" " " red brick facings and pointing	" 11
" " " blue brick facing and pointing	" 1 4
" " " glazed brick facings and pointing	" 3 6
Tuck pointing	" 7½
Weather pointing in cement	" 3
Slate dampcourse	" 10
Vertical dampcourse	" 1 1

ASPHALTER

	s. d.
½" Horizontal dampcourse	Y.S. 4 6
½" Vertical dampcourse	" 6 9
½" paving or flat	" 4 0
1" paving or flat	" 5 6
1" × 6" skirting	F.R. 1 0
Angle fillet	" 2
Rounded angle	" 2
Cesspools	Each 5 0

MASON

	s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C. 17 9
Bath stone and do., all as last	" 13 6
Artificial stone and do.	" 13 0
York stone templates, fixed complete	" 10 6
" thresholds	" 13 6
" sills	" 1 0 6

SLATER AND TILER

	£ s. d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr. 3 10 0
Do., 18" × 9"	" 3 7 0
Do., 24" × 12"	" 3 17 0
Westmorland slating, laid with diminished courses	" 6 0 0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	" 3 0 0
Do., all as last, but of machine-made tiles	" 2 16 0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	" 4 6 0
" " " " " " (green)	" 4 15 0

CARPENTER AND JOINER

	£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr. 2 5 0
Shuttering to sides and soffits of beams	F.S. 8
" to stanchions	" 8
" to staircases	" 1 8
Fir and fixing in wall plates, lintols, etc.	F.C. 3 9
Fir framed in floors	" 4 6
" " roofs	" 6 6
" " trusses	" 7 6
" " partitions	" 8 6
½" deal sawn boarding and fixing to joists	Sqr. 1 14 6
1" " " " "	" 1 17 6
1½" " " " "	" 2 3 0
¾ × 2" fir battening for Countess slating	" 9 6
Do. for 4" gauge tiling	" 12 0
Stout feather-edged tilting fillet	F.R. 4½
Patent inodorous felt, 1 ply	Y.S. 2 3
" " " 2 "	" 2 9
" " " 3 "	" 3 3
Stout herringbone strutting to 9" joists	F.R. 10½
1" deal gutter boards and bearers	F.S. 1 2
1½" " " "	" 1 6
2" deal wrought rounded roll	F.R. 8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr. 2 1 0
1¼" do.	" 2 10 0
1½" do.	" 2 17 0
1" deal moulded skirting, fixed on, and including grounds plugge to wall	F.S. 1 6
1½" do.	" 1 9

CARPENTER AND JOINER—*continued*

	s. d.
1½" deal moulded sashes of average size	F.S. 1 9½
2" " " "	" 1 11½
1½" deal cased frames double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ⅝" parting beads, and with brass faced axle pulleys, etc., fixed complete	" 3 7
2" " " "	" 3 10
Extra only for moulded horns	Each 6
1½" deal four-panel square, both sides, door	F.S. 2 0
2" " " "	" 2 8
1½" " but moulded both sides	" 2 4
2" " " "	" 3 0
4" × 3" deal, rebated and moulded frames	F.R. 1 0
4½" × 3½" " " "	" 1 4
1½" deal tongued and moulded window board, on and including deal bearers	F.S. 1 9
1½" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	" 2 6
1½" deal moulded wall strings	" 2 1
1½" " outer strings	" 2 4
Ends of treads and risers housed to string	Each 1 9
3" × 2" deal moulded handrail	F.R. 1 3
1" × 1" deal balusters and housing each end	Each 2 0
1½" × 1½" " " "	" 2 9
3" × 3" deal wrought framed newels	F.R. 1 3
Extra only for newel caps	Each 6 0
Do., pendants	" 6 0

SMITH AND FOUNDER

	£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt. 15 6
Riveted plate or compound girders, and hoisting and fixing in position	" 19 6
Do. stanchions with riveted caps and bases and do.	" 19 0
Mild steel bar reinforcement, ¼" and up, bent and fixed complete	" 17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S. 11
Wrot-iron caulked and cambered chimney bars	Per cwt. 1 10 0

PLUMBER

	£ s. d.
Milled lead and labour in flats	cwt. 1 12 0
Do. in flashings	" 1 15 6
Do. in covering to turrets	" 2 3 0
Do. in soakers	" 1 7 6
Labour to welted edge	F.R. 3½
Open copper nailing	" 3
Close " "	" 4

Lead service pipe and fixing with pipe hooks	F.R.	½" s. d. 10	¾" s. d. 1 0	1" s. d. 1 3	1½" s. d. 2 0	2" s. d. 2 10	4" s. d. —
Do. soil pipe and fixing with cast lead tacks		—	—	—	—	—	5 6
Extra, only to bends	Each	—	—	—	—	2 0	6 9
Do. to stop ends	"	6½	8	9	11	1 0	—
Boiler screws and unions	"	3 3	3 9	5 0	8 0	—	—
Lead traps	"	—	—	—	6 3	8 9	—
Screw down bib valves	"	6 9	9 6	11 0	—	—	—
Do. stop cocks	"	7 0	9 6	12 6	—	—	—

		s. d.
4" cast-iron ½-rd. gutter and fixing	F.R.	1 0
Extra, only stop ends	Each	1 0
Do. angles	"	1 6
Do. outlets	"	2 9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.	1 2
Extra, only for shoes	Each	1 3
Do. for plain heads	"	5 6

PLASTERER AND TILING

	s. d.
Expanded metal lathing, small mesh	Y.S. 2 0
Do. in n/w to beams, stanchions, etc.	" 2 9
Lathing with sawn laths to ceilings	" 1 3
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	" 1 5
Do. vertical	" 1 7
Rough render on walls	" 1 2½
Render, float and set in lime and hair	" 1 9
Render and set in Sirapite	" 1 11
Render, backing in cement and sand, and set in Keene's cement	" 2 9
Extra, only if on lathing	" 4
Keene's cement, angle and arris	F.R. 6
Arris	" 1½
Rounded angle, small	" 3
Plain cornices in plaster, including dubbing out, per 1" girth	" 1½
1" granolithic pavings	Y.S. 3 6
1½" "	" 4 6
6" × 6" white glazed wall tiling and fixing on prepared screed	" 17 6
9" × 3" " " "	" 1 2 6
Extra, only for small quadrant angle	F.R. 8

GLAZIER

	s. d.
21 oz. sheet glass and glazing with putty	F.S. 7½
26 oz. do and do.	" 8½
Flemish, Arctic Figured (white) and glazing with putty	" 1 1
Cathedral glass and do.	" 1 2
Glazing only, British polished plate	" 7
Extra, only if in beads	" 2
Washleather	F.R. 4

PAINTER

	s. d.
Clearcolle and whiten ceilings	Y.S. 6
Do. and distemper walls	" 9
Do. with washable distemper	" 1 1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	" 3 3
Do. on woodwork	" 3 6
Do. on steelwork	" 3 0
Do. and brush grain and twice varnish	" 5 6
Stain and twice varnish woodwork	" 1 11
Stain and wax-polish woodwork	" 4 6
French polishing	F.S. 1 2
Stripping off old paper	Piece 2 0
Hanging ordinary paper	from " 2 9

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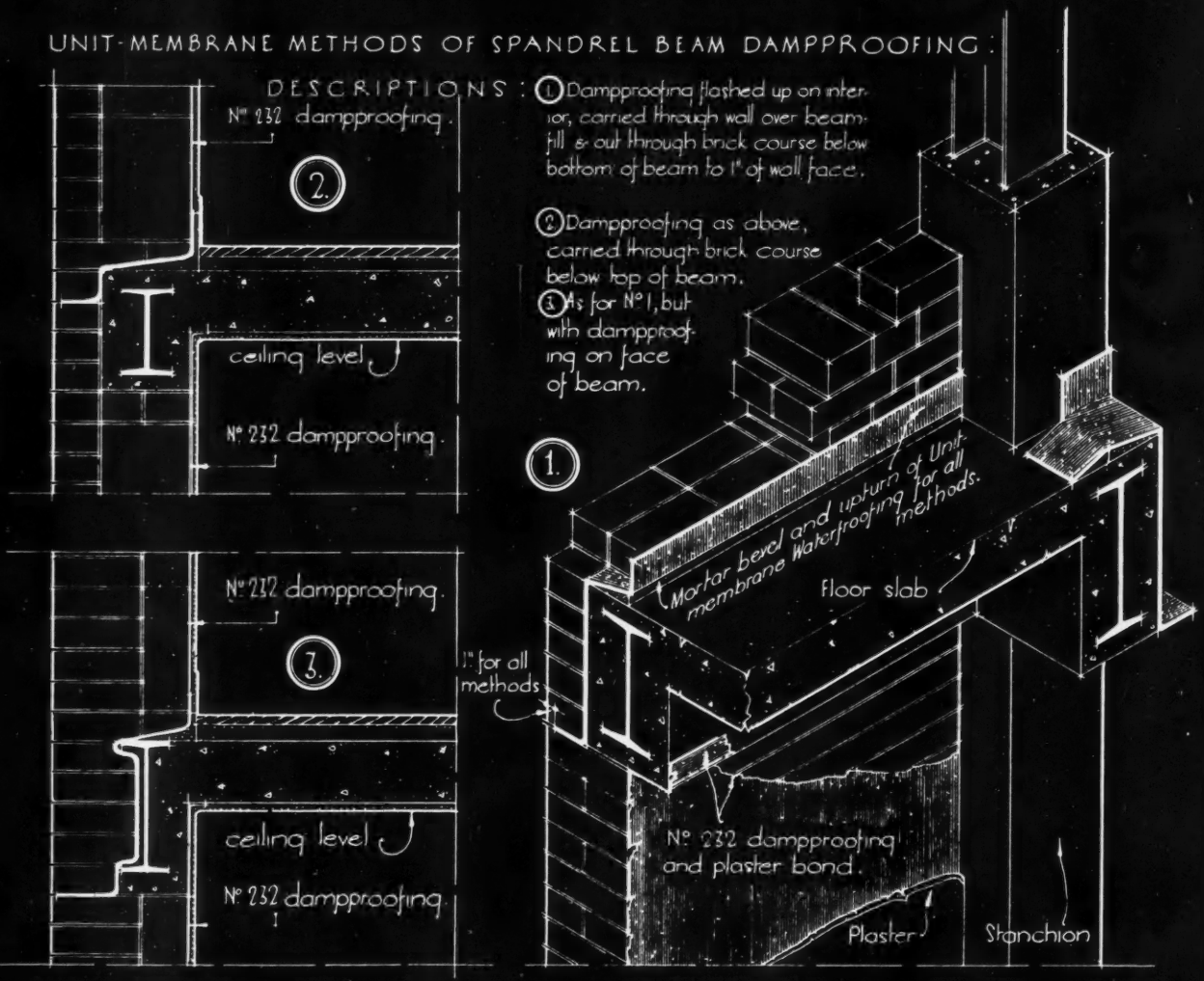
UNIT-MEMBRANE METHODS OF SPANDREL BEAM DAMPPROOFING:



UNIT MEMBRANE METHOD OF SPANDREL BEAM DAMPPROOFING (by mastic compound). This method of dampproofing spandrel beams in steel or concrete structures assures positive dampproofing and prevention of plaster staining due to entry of moisture through the masonry walls where floor slabs abut into beams and cannot otherwise be protected against moisture infiltration. By using Mastic Dampproofing Compound (Plastertex) in conjunction with tarred felt paper, treated fabrics or 7-oz. open mesh burlap, an elastic, waterproof and dampproof sheath is provided over the spandrel beam surfaces, and is coherent, adherent and elastic at low temperatures.

In the use of the Unit-Membrane Spandrel Beam Dampproofing System no loss of bricklayers' time results, as all required materials (tarred felt or fabric etc., cut to proper lengths and then the mastic buttered thereon) are prepared on the job in advance of the Masons, and can therefore be speedily installed when required.

See reverse side of this sheet for typical Specifications of the methods of application shown above, preparation of surfaces, etc.

N° 232 DAMP-RESISTING PAINT AND PLASTER BOND (by brush or spray coat). This is a black, elastic, full-bodied, tacky and dampproof paint for application to the interior surfaces of weather-exposed brick or terra-cotta walls to which any type of plaster is to be applied.

This material forms a perfect bond for direct wall plaster application and prevents the penetration of dampness while also rendering the insides of the walls vermin and stainproof.

By using N° 232 on wall surfaces the cost of furring and lathing is saved, and the material is also an effective medium for use under artificial Caenstone to protect it from chemical action, staining and discoloration.

N° 232 is not recommended for use on concrete walls or on ceilings of any kind, nor should Portland Cement mortar or concrete be applied over this dampproofing.

For covering capacity, preparation of moist or broken surfaces etc., and typical specifications for the application of this material for one or two-coat work, see notes on the reverse side hereof.

Information from The R.I.W. Protective Products Co Ltd.

INFORMATION SHEET: DAMPPROOFING PAINTS AND COMPOUNDS: 1.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1

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INFORMATION SHEET

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DAMPPROOFING PAINT AND PLASTER BOND

Name of Product: "R.I.W." Water Proofing

Interior Masonry Walls (Brick or Terra Cotta Above Ground Only)

Covering capacity one coat by spray up to 12 yards per gallon—brush application 8 yards first coat, 13 yards second coat per gallon.

Specification Clauses:

The interior surfaces of either brick or terra cotta walls shall be dampproofed with "R.I.W." No. 232 Damp Resisting Paint and Plaster Bond in accordance with the directions of the manufacturers.

All holes and voids in the brick or terra cotta walls shall be carefully filled with Portland cement mortar, all joints shall be struck flush, previously to the application of "R.I.W." No. 232. When the walls are dry and free from any foreign matter which would interfere with the penetration and bonding properties (concrete wall surfaces shall be wire brushed to remove cement dust and laitance or roughened up), the "R.I.W." No. 232 shall be applied uniformly and thoroughly with a good bristle roofer's brush, or with a spray gun, to the interior of the outside walls of the entire building from ground level to wall plate so that the finished walls present an even black appearance.

The second coat shall be applied after a lapse of not less than 12 hours. "R.I.W." No. 232 shall be applied in the same manner between the floor level and ceiling below. If arches of floor slabs are placed prior to the application of "R.I.W." No. 232, this material shall be carried back 6 in. to 1 ft. on the rough floor slab and the underside of the ceiling.

Cut-outs, wall chases or recesses shall be thoroughly coated with "R.I.W." No. 232 before installing pipes, etc. Plastering shall be started not less than 24 hours after the application of "R.I.W." No. 232 to the walls.

Cost: 10s. per gallon. One good Spray Coat, 1s. per yard.

"R.I.W." Unit Membrane Method Spandrel Beam Dampproofing (Mastic Compounds).

Specifications:

The exterior face of all exposed beams shall be dampproofed by the "R.I.W." Membrane Method of spandrel beam dampproofing in accordance with the directions of the manufacturers.

Method No. 1.

When the beam surfaces are ready and free from any foreign matter same shall then receive a layer of tarred felt paper, treated fabric or 7 oz. open mesh untreated burlap, cut to convenient lengths, the face of which shall receive a trowel coat of "R.I.W." Mastic dampproofing, which shall be applied uniformly and thoroughly. This treated felt or fabric shall be smoothly placed over the spandrel beam surfaces so that no wrinkles show and shall be lapped at joints not less than three inches, and wherever necessary apply "R.I.W." Plastertox (Mastic) dampproofing to portions abraded in placing the spandrel dampproofing membrane.

Method No. 2.

The face of the steel or concrete beam surfaces when ready, shall receive a trowel coat of "R.I.W." Mastic dampproofing, which shall be applied uniformly and thoroughly. Upon this, a layer of tarred felt paper, treated fabric or 7 oz. open mesh untreated burlap, cut to convenient lengths, shall be smoothly placed so that no wrinkles show and shall be lapped at joints not less than 3 in. The felt paper or fabric shall receive in turn a heavy coat of "R.I.W." Plastertox (Mastic) dampproofing. The "R.I.W." Membrane spandrel system shall be carried down the face of the beam filling or beam for depth of same and out on the course of brick below the bottom of the beam to within 1 in. of the face of brick.

Preparation of Surfaces.

The surfaces to which the "R.I.W." spandrel dampproofing is to be applied should be finished sufficiently smooth so that no sharp edges protrude. The membrane shall extend over a bevel of cement mortar (placed over the top of the beam surfaces by the mason contractor), and the membrane shall be carried over same, extending through the entire wall and carried sufficiently beyond same to lap or bond in with the "R.I.W." dampproofing and plaster bond which is to be applied to the interior of the exterior walls. The dampproofing contractor installing this method shall take precautions to see that the spandrel dampproofing membrane is properly flashed up on all walls, columns, etc.

Cost: 10s. per gallon. Covering capacity, 90 ft. per gallon one coat.

Name of Manufacturers: The R.I.W. Protective Products Co., Ltd.
Address: 16 Devonshire Square, E.C.2.
Telephone: Avenue 4735

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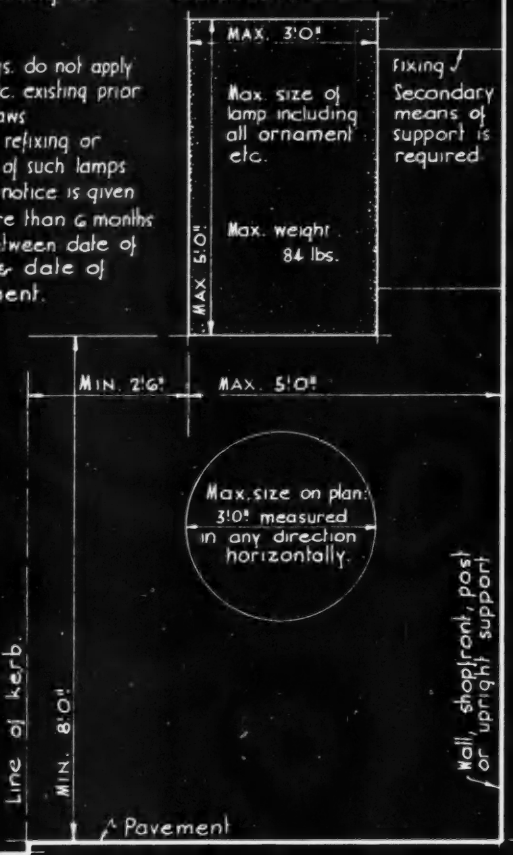
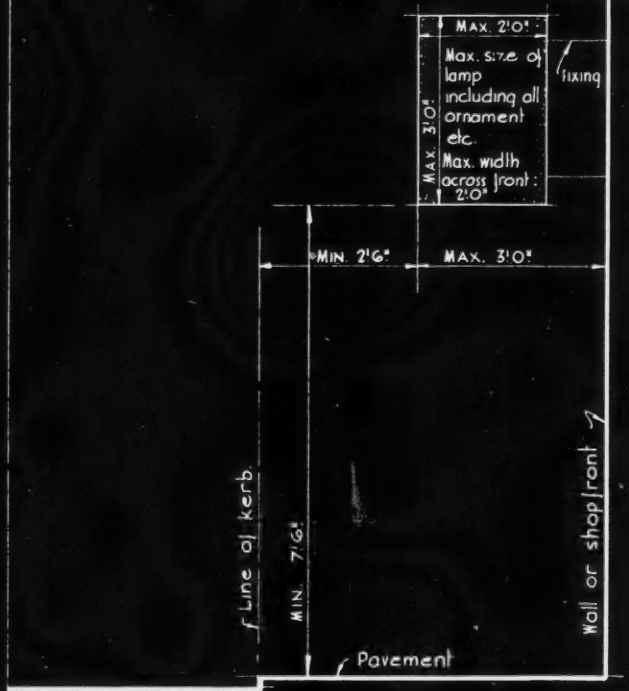
LAMPS & STRUCTURES,
London Building Act 1894 Section 164. Subsections 1. & 2.

These reqs. do not apply to lamps etc. existing prior to the By-laws nor to the refixing or replacing of such lamps provided notice is given & not more than 6 months elapses between date of removal & date of replacement.

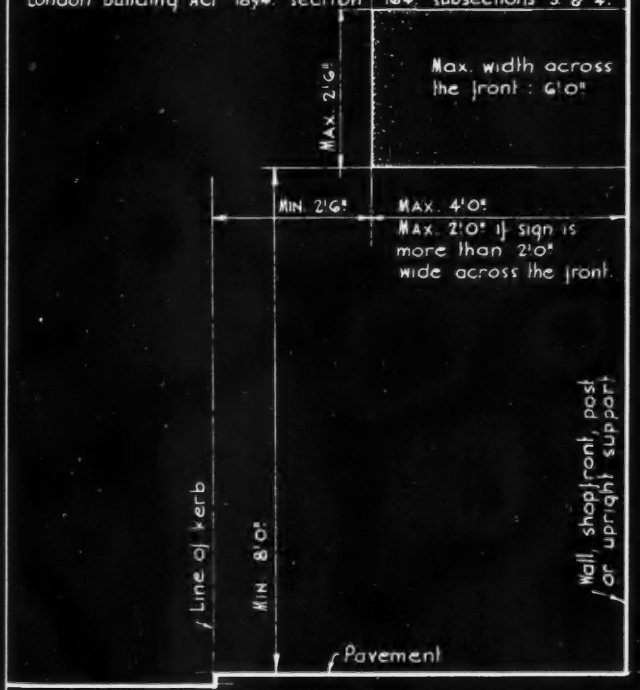


LAMPS & STRUCTURES, Subsection 8.

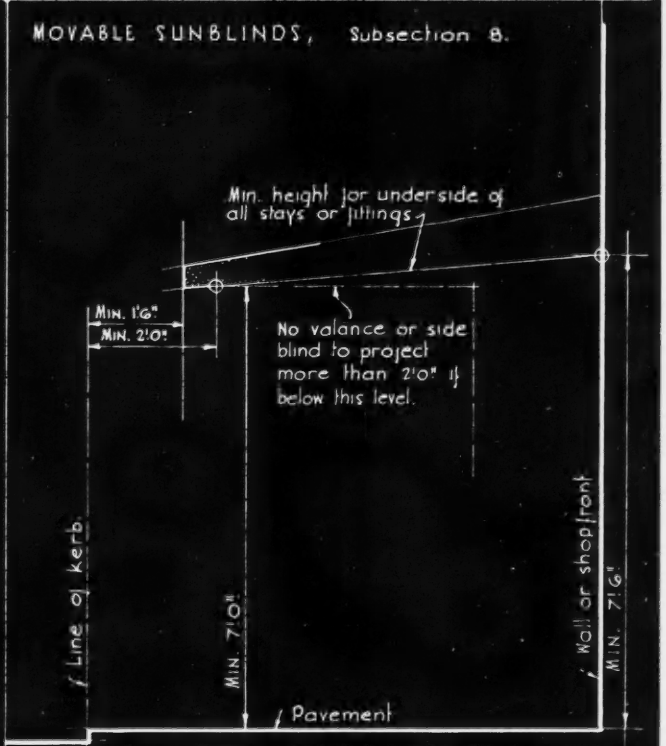
Lamps & structures which conform to these requirements are exempt from the requirements of subsections 1. & 2. (given opposite)



SIGNS & OTHER STRUCTURES,
London Building Act 1894. Section 164. Subsections 3 & 4.



MOVABLE SUNBLINDS, Subsection 8.



NOTE: These diagrams give a summary only, for full detail see the London Building Act 1894. Section 164.

INFORMATION SHEET: DIGEST OF L.C.C. REQUIREMENTS: PROJECTIONS OVER THE PUBLIC WAY.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1.

INFORMATION SHEET • 164 • PROJECTIONS OVER THE PUBLIC WAY

Supplement to THE ARCHITECTS' JOURNAL for November 15, 1934

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 164 •

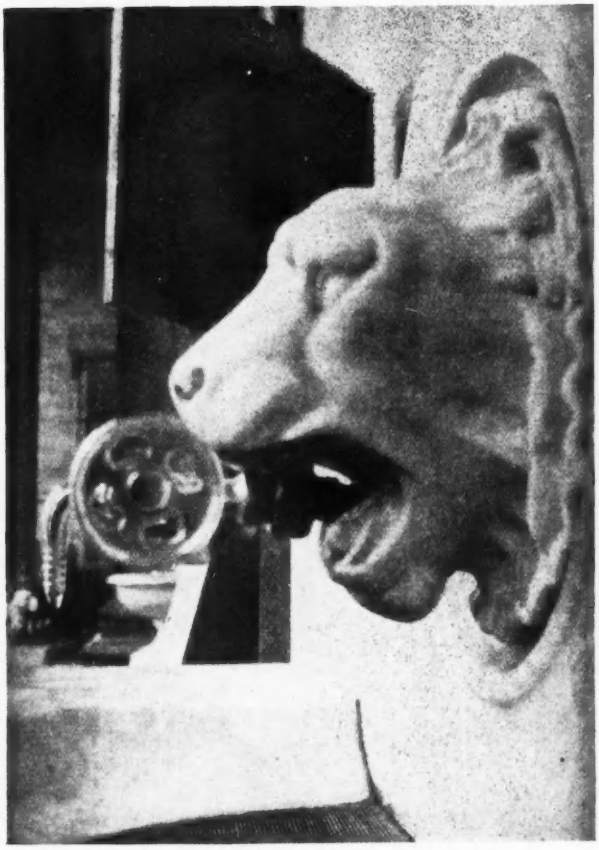
PROJECTIONS OVER THE PUBLIC WAY

THIS Sheet represents graphically the provisions of Section 164 of the London Building Act, governing the dimensions and weights of lamps, signs and other projections over the public way. The drawings represent the strict letter of the law, though, under paragraph 6 of the section, the London County Council, after consultation with the local authority "may in any case in which it may consider it expedient so to do, dispense with the observance of any of the foregoing bye-laws on such terms and conditions (if any) as it may think proper." The date of this section is 1914.

The provisions under this Act may also be quoted with advantage in country districts where no definite regulations for projecting signs exist.

ART AND INDUSTRY: THE LION'S SHARE

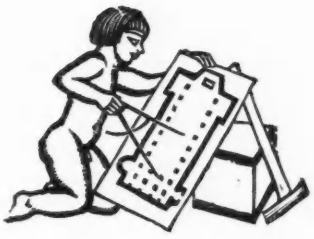
OFFICIAL SUCCESS AT THE BRITISH MUSEUM



THE pictures above do not represent either a Pavlov experiment in conditioned reflex or an exhibit from a demonstration of animal dentistry. They show a front and side view of the familiar fountain in the portico of the British Museum which the authorities, in the interests of hygiene or economy, have just equipped with chromium-plated taps. Now the lunch-hour visitors who daily consume their sandwiches under the portico can learn how industry can be reconciled with art—and who says the authorities are taking no measures about the drought?

RANK AND FILE: 1850

"Conditions in the industry may change," we said below the frontispiece to our centenary issue a fortnight ago, when we printed a portrait of the foreman ganger on the R.I.B.A. building, "but there is one immutable element—the rank and file—always to be relied on." Conditions have *changed, as the picture above shows. In such a manner were the masterpieces of the Institute's early members erected—painstaking though primitive—but Tom and Dick, the bricklayer and his mate, and Harry the foreman ganger adhere to the same tradition of thorough workmanship. The picture is reproduced from a drawing of about 1850. "Irishmen are chiefly employed to carry bricks," say the description accompanying it, "because they are stronger than Englishmen."*



THE CONFERENCE AND THE BUILDING INDUSTRY

WE make no apology for returning to the question of planning in the building industry. Its unplanned condition at the moment is such that measures for its organization are of the utmost urgency. The demand for new buildings, that shows every sign of increasing still further during the next few years, is such that proper organization is the only way of ensuring the adequate fulfilment of the demand —adequate from the point of view of providing a social necessity, and adequate from the point of view of providing a satisfactory and stable economic existence for the thousands of our population that depend on the industry for their welfare. That building shows signs of returning prosperity—that the imminence of a boom is announced on every side—is not a reason for complacent satisfaction about the industry's and architecture's prospects ; rather is it an added reason for ensuring the permanence of prosperity by taking all possible precautions against the slump that too often follows such a period. A boom is, in fact, a particularly dangerous thing—a sign of instability rather than prosperity.

As we said last week, it is a familiar axiom among economists that in the early days of a boom the subsequent depression is manufactured. In the rush to take advantage of increased demand, far more production units are set up, far too much new labour hopefully engaged, than the industry over a longer period can absorb. Unstable companies with no more backing than their immediate turnover are born to imminent bankruptcy, and stocks of material accumulated which any change in methods of construction and types of building required will render superfluous. Unemployment and general disorganization result, together with a loss of confidence that is the surest precursor of a new depression. This vicious circle of economic instability is inevitable *unless planning prevents it.* The chaotic condition of the present no one denies—no one pretends that the optimism with which the industry regards the future hides anything but a vague confidence that better times are ahead—but the necessity seriously to prepare for better times by intelligent anticipation is absolutely ignored.

Usually, at any rate in governmental circles, when a crisis such as this arrives—when it is evident that something should be done to solve some current problem, a conference of some sort is called, of interested parties. Oddly enough, this week there is a conference being held—of architects who, if they have any sense of social responsibility, are interested parties in the welfare of the building industry. The organization of the industry's, and therefore (for their interests are inseparably linked) of the architectural profession's, future should be one of the subjects most thoroughly discussed, while so representative a gathering of the profession is meeting in London. The subjects included in the conference programme are, however, much more of an academic nature : "Ornament in Modern Architecture" is a typical title ; but this seems an occasion when concentration on the practical side of the Institute's work would be really beneficial.

We do not wish to accuse the Institute on this occasion of ignoring their responsibilities to the community to indulge in festivities of their own : of fiddling while Rome burns. Their record of serious attention to important public questions is too well known a one to be disregarded ; but the profession as a whole should temper its celebrations, however seasonable, with serious consideration of the part it ought to play in turning a merely destructive Roman conflagration into the first spectacular step towards the making of a new order. When the profession has set the necessary machinery in motion that will convert this fire, like the Great Fire of London, into an agency that will clear away the chaos of mediæval makeshift and unplanned growth, and prepare the ground for an era of order and civilized forethought, then it can resume its fiddling, and enjoy its conference, banquets and discussions on ornament, free from the prickings of its social and economic conscience.

What the building industry needs, we repeat once more, is an intelligent forecast of the demand for building in the future—its extent, its nature and its distribution. The provision of this is a vital service that, in a well-ordered community, would have been provided long ago from official sources. According to our own haphazard habit, it must be undertaken by unofficial enterprise ; who undertakes it is unimportant, but the whole architectural profession, as well as the building industry, must realize the necessity of supporting such an enterprise. Otherwise a continuation of the present chaotic economic circumstances is the only future to which we can look forward.

The Architects' Journal
Westminster, S.W.1
Telephones: Victoria
0212-7
Telegrams:
Buildable
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London

NOTES & TOPICS

SELF-GOVERNMENT OF INDUSTRY

THE "Good old days" are over. So opens the current number of *Planning*, which describes P.E.P.'s scheme for the self-government of industry, a scheme which has been in the making for the last three years.

*

Briefly, this scheme assumes that if industry will be freed from the interferences of government officialdom, it must recognize that the complications of the modern industrial system are the *cause* of such interferences; that they must continue as controls upon a system balanced between the three interests, manufacturer, labour, consumer; and that they may be supportable only if industry will itself take up the burden of control and apply its own safeguards, work out its own rationalization and be its own Walter Elliot.

CIGARETTE CULTURE NOTES

Facts about "Famous British Liners" are now presented to smokers of Gold Flake cigarettes, and very educational they are. Length, tonnage, power, date, and service engagements are related on the back of the coloured cigarette cards that the enterprise of Messrs. W. D. and H. O. Wills causes to be inserted into each packet of fags.

*

But when it comes to dealing with the luscious interiors of the "Ocean Greyhounds" we get some choice tit-bits of cultural meat. For instance, we learn that aboard the Royal Mail Line's motor vessel *Alcantara*, "The first-class quarters are magnificently fitted out, the decorations being in typical period styles of the great mansions of many countries."

*

A nice little touch of cosmopolitanism; but what can you expect when the Cunard White Star line openly issues a booklet entitled "*De Luxe* Atlantic Service" about the *Majestic*, *Olympic* and the *Homeric*, and presents this form of disguise as an attraction. "Crusaders in chain mail flank the wide stone hearth, and the oak frieze bears arms of English colleges," is the description attached to the illustration of the smoking-room of the *Majestic*.

*

An architectural critic I know, who has just been broadening his mind (or confusing it) in America, tells me that he heard a sprightly American lady remark about that smoking-room fireplace and its basket fire of monotonously flickering glass logs: "Stooard, if you can't put another log on, will you just turn the darned thing off; it's doing no good anyway."

*

Another gem from the *De Luxe*, etc., booklet is: "Tall pillars and lofty arched windows, as in some splendid country house, create a pleasing illusion." (That concerns the Palm Court of the *Majestic*.) I do hope that the *Queen Mary* will be kept free from such pleasing illusions. I shall have to ask Mr. John de la Valette what he proposes to do about it, as he will clearly be the *arbiter elegantiarum* of all such industrial-cum-commercial-cum-cosmopolitan-prestige matters in the future.

*

But I see that Lady Essendon, wife of the Chairman of Furness, Withy and Co., has been invited to collaborate with Lady Bates, wife of the Chairman of the Cunard White Star Company, in the task of planning the schemes of decoration for the passenger quarters of the *Queen Mary*; so perhaps I needn't trouble Mr. de la Valette after all.

SIR ANDREW DUNCAN'S NEW RESPONSIBILITY

Sir Andrew Duncan, who has just been appointed chairman of the British Iron and Steel Federation, is a very young man for all the responsibilities he has collected and carried, for he is only fifty; but then he is a Scot, and they are used to running things south of the Border. I suppose Sir Andrew has left more visible evidence of his control of the shiftless Sassenach than most of his compatriots, for we owe to his forcible planning those towers and cables that bring light to the home of the rustic.

*

I remember meeting him one evening at the Architectural Association, when the effect of the Grid upon the

Sir Andrew Duncan, Chairman of the Central Electricity Board, who has been appointed Chairman of the British Iron and Steel Federation.

P. Malcolm Stewart, who has recently been appointed Commissioner for the Depressed Areas of England and Wales.

town and countryside was discussed with animation by several members of the Central Electricity Board, a number of eminent electrical engineers, Mr. Yerbury, and half a dozen A.A. students.

*

Sir Andrew impressed me as a quiet, wise little man, with an undimmable twinkle in his eyes. He was one of those unfortunately rare people, who never say anything unless they are using words as garments for really robust thoughts. I suppose that is why, in spite of our national game of fitting square pegs into round holes, he has been given so many responsible jobs in the past where thinking, as opposed to mere ability to conduct a meeting with non-committal urbanity, has been essential.

DEPRESSED AREAS

There is another new appointment this week to talk about. Whatever one may think of the insufficiency of the Government grant for the relief of the Depressed Areas, one can have nothing but praise for their choice of a man to administer it. Mr. P. Malcolm Stewart, the new Commissioner for England and Wales, has a reputation for sound judgment, boldness and vision—with plenty of unsentimental Scottish realism behind it ; and these are just the qualities the position demands—particularly the vision.

*

Although he has the air of a successful business man he is actually, I am told, retiring, and takes pains to avoid the limelight. His greatest interests, I am also told by someone who knows him, are motor-cars and works—of any kind ; he is always in possession of the latest Bentley, and there is a story of his even giving one away as a present.

*

I was told another story to illustrate his large way of doing things, that seems to me to have a moral : of his turning up at his home with twenty companions, expecting dinner for all of them. Now he can work on an even larger scale, demanding dinner from the Government (or the means of earning it) for a million unemployed.

*

His credentials as an experienced organizer couldn't be bettered. From 1917 to 1919 he was Director for the Ministry of Munitions of the Government Rolling Mills at Southampton. Today he is head of an impressive list of concerns ; he is president of the Cement Makers' Federation and chairman of the Associated Portland Cement Manufacturers Association, of the British Portland Cement Manufacturers and of the London Brick Company and Forders. Oddly—I imagine uniquely—of the last company his father (Sir Halley Stewart) is vice-chairman. In his new enterprise he has everyone's good wishes.

THE CITE UNIVERSITAIRE

Here is a picture of the English Hostel which forms a part of the Cité Universitaire, Paris. It was, I think, Professor Patrick Geddes who brought this scheme to fruition. On paper how noble ! In the flesh—in the brick, the stone, the concrete and glass of a dozen warring nationals, how ineffective.

*

Imagine a wide boulevard, rather pleasant and American because of the odd things that are happening on one side. No, not altogether American. I know what is—Exhibition. That's what it is. An exhibition of nationalism. You can pick out each nation by its style. No mistaking the English, for instance !

*

In the whole depressing length of it there is but one building that is both contemporary and international, and that is Le Corbusier's Swiss Hostel, by far the most intelligent and the completest work of modern architecture I know in the whole of Paris.

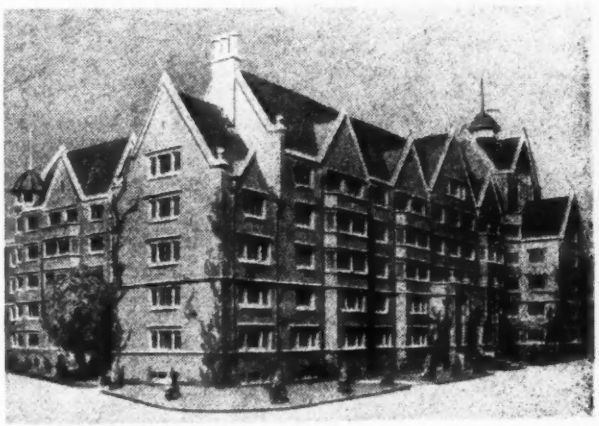
*

How right Le Corbusier is will not be discovered by this generation. Gradually as we probe more deeply into the financial implications of modern urbanism we shall find ourselves bearing steadily towards his too brilliant solutions, which, thrown down in profusion before us, we have been able only to admire, and have been fearful to use.

*

In the skyscraper towers of Drancy are the first clumsy movements towards Le Corbusier's crystalline intuitions. I have lived before these ideas were given to the world, but I doubt that I shall live to see the world using them freely and grandly as its own.

ASTRAGAL



A model of the English Hostel of the Cité Universitaire, Paris. It is expected that the building will be finished early next year.

NEWS

POINTS FROM THIS ISSUE

"Irishmen are chiefly employed to carry bricks, because they are stronger than Englishmen" 760

Measures will be introduced in Parliament, if time permits, for the control of building development along the main thoroughfares 764

In the middle of lower East Side, New York, the first experiment in cheap housing financed by Government has been made. It is called Knickerbocker Village 779

THE ARCHITECTS' DIARY

Thursday, November 22

R.I.B.A. *At 66 Portland Place, W.1. Centenary Celebration Conference. Until November 24. (See Supplement to this issue.)*

L.C.C. GEFFRYE MUSEUM, KINGSLAND ROAD E.2. *"Period and Modern Furnishing Fabrics." By H. Woodman, A.T.I* 7.30 *p.m.*

Tuesday, November 27

ARCHITECTURAL ASSOCIATION. *At 36 Bedford Square, W.C.1. "The A.A. Excursion to Norway, 1934." By E. R. Jarrett, A.R.I.B.A.* 8 *p.m. Exhibition of Photographs taken on the Annual Excursion. Opening day.*

Wednesday, November 28

ROYAL SOCIETY OF ARTS. *At John Street, Adelphi, W.C.2. "British Art in British Pottery." By Gordon M. Forsyth, R.I., A.R.C.A.* 8 *p.m.*

L.C.C. CENTRAL SCHOOL OF ARTS AND CRAFTS. *At Southampton Row, W.C.1. "French Renaissance, 1. A Comparative Analysis of French and Italian Renaissance." By Sir Banister Fletcher, M.Arch., F.S.A., PP.R.I.B.A.* 6 *p.m.*

BILL TO PREVENT OVERCROWDING

Following are some extracts from the King's Speech at the opening of the new session of Parliament on Tuesday last :—

"My Ministers, in conjunction with the local authorities, are pressing forward with the task of clearing the slums in regard to which the national conscience has been so deeply stirred. So great a measure of progress is being attained that my Ministers are able to contemplate the next step in the process of improving the housing conditions of the people. A Bill will accordingly be submitted to you for preventing overcrowding and making provision for the rehousing of those found to be living in overcrowded conditions. A similar Bill applying to Scotland will also be introduced.

"Measures will be introduced, if time permits, for the control of building development along the main thoroughfares, for providing better housing of the Metropolitan Police and other subjects."

E.D.A. FILM PREMIERE

The premiere of the Electricity Development Association's National Publicity Talking Films was held at the Prince Edward Theatre, Old Compton Street, W.1, on November 21. Three films were shown, bearing the following titles : *The Wizard in the Wall ; Well, I Never ! ;* and *Plenty of Time for Play.* The first deals with the past, the second with the present, and the third with the future of electricity.

ARTERIAL ROADS

A report by the Liverpool City Engineer on the question of improving a number of arterial roads was considered by the Corporation Finance Committee last week and referred to the Speke Estate sub-committee. The report deals with the steps that may be taken to secure more direct access by road between Liverpool airport at Speke and the centre of the city and the East Lancashire Road, on which the Corporation proposed to lay out a large exhibition centre; communication between the centre of the city and the East Lancashire Road is also discussed, and in this scheme the proposed Everton tunnel road, emerging near the mouth of the Mersey Tunnel, figures prominently.

MODERN CHURCH ARCHITECTURE

A paper on "Modern Church Architecture" was read by Mr. Edward Maufe, F.R.I.B.A., at a meeting of the Manchester Society of Architects last week.

ANOTHER HOUSING PROBLEM

Dozens of live bugs were exhibited at a meeting held to discuss the bed-bug as a housing problem which took place at the Royal Sanitary Institute last week. They had been collected by officers of the Woolwich Borough Council and they were part of an exhibit showing the life history of the bed-bug, its place of lodgment and methods of disinfestation.

Another interesting feature was the display of a film which had been prepared by the lecturer, Mr. McKenny Hughes, with the aid of Mr. Leonard Day. This showed the bed-bug in its accustomed habitat and included photographs of the insect feeding on the lecturer's arm and the effect of the bites. The film also showed the various steps necessary to eradicate the insect from furniture and houses.

MALMESBURY ABBEY

Sir Harold Brakspear, F.R.I.B.A., has been appointed advisory architect for the Malmesbury Abbey restoration, concerning which he has recently been compiling a report.

APPLIED ARTS

The Applied Arts and Handicrafts Exhibition is to be held at the Royal Horticultural Hall, Vincent Square, S.W., from November 28 to December 8. The opening ceremony is to be performed by the Marchioness of Cambridge at 12 noon on November 28.

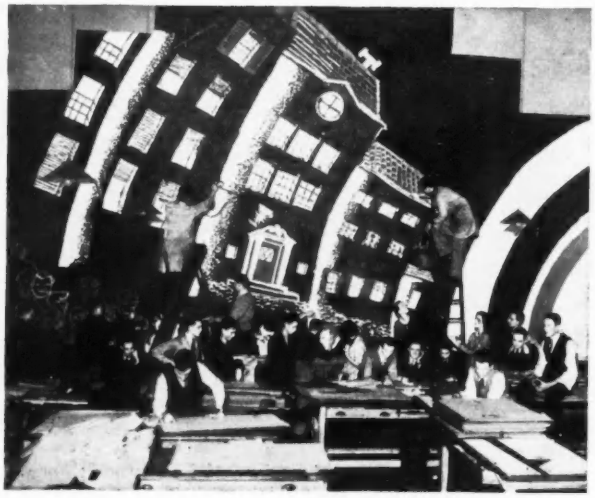
INSTITUTION OF STRUCTURAL ENGINEERS

Prof. J. F. Baker, M.A., D.SC., ASSOC.M. INST.C.E., (Professor of Civil Engineering at the University of Bristol) gave a lecture on "A Study of the Regulations Governing the design of Steel Frame Buildings" at a meeting of the Institution of Structural Engineers (Western Counties Branch) at Bristol on November 16.

The lecturer discussed the various codes of practice, particularly the L.C.C. 1909 (General Powers) Act, and the 1932 Code of Practice and, after giving some examples of the latest thought in the design of beams and pillars, he concluded by suggesting that a new method of design based on the results of recent research work would probably soon be put into operation.

ARCHITECTS' DANCE AT OLYMPIA

The Architects' Dance at Olympia, which was given by Mr. H. Greville Montgomery in aid of the Architects' Employ-



The students of the Leeds School of Architecture decorating the main studio of the School for the dance held last week. The dance was called "In Town Tonight." The whole of the decorations were designed and carried out in colour by the students.

ment Scheme during the Building Trades Exhibition in September, realized the sum of £270.

CHANGE OF ADDRESS

Messrs. Robert Atkinson and A. F. B. Anderson, FF.R.I.B.A., have removed their offices to 13 Manchester Square, W.1. Telephone No.: Welbeck 4147.

THE LATE C. S. JAGGER

We regret to record the death of Mr. Charles Sargeant Jagger, M.C., A.R.A., which took place last Thursday at his home in London.

He was born in 1885 at Kilnhurst, in Yorkshire, a mining village, where his father worked as the manager of a local pit. He received his first training at the School of Art, Sheffield, where, besides drawing and modelling, he studied metal engraving. A scholarship brought him to the Royal College of Art, South Kensington, where he won several prizes and the travelling scholarship for a bronze door design, which enabled him to spend some months in Rome and Venice. In 1914 Jagger won the Rome Scholarship in Sculpture, but the outbreak of the war prevented his taking advantage of it. He fought with distinction in Gallipoli and France, was wounded more than once, and was awarded the Military Cross. He was elected an Associate of the Royal Academy in 1926. In 1932 he was appointed an additional member of the Royal Mint Advisory Committee on Coins, Medals, Seals and Decorations.

Jagger's best-known work was the Artillery Memorial at Hyde Park Corner, for which he was awarded, in 1926, the medal for the best work of the year by the Royal Society of Sculptors. He was awarded also the 1933 Medal of the Society for a stone group on Imperial Chemicals House, Millbank, S.W. His other works included the following: British Memorial to Belgium, Brussels; G.W.R. Memorial, Paddington Station; figure of Sir Ernest Shackleton, in a niche on the building of the Royal Geographical Society, Exhibition Road, S.W.; designs for a figure of "Christ the King" for the new Roman Catholic Cathedral at Liverpool, etc. At the time of his death Jagger was engaged upon a statue of the King for New Delhi, the sketch model for which was exhibited in the Royal Academy Exhibition of 1933.

THIS ARSHETECTURE

GENIUS WHO THINKS HE IS DEAD AND DESIGNS WONDERFUL HOUSES

Queer cases of mental freaks will be cited at the Public Health Congress Exhibition which opens to-morrow at the Royal Agricultural Hall, London.

Among the exhibits at the congress will be a number of little houses.

They are designed by an architect genius who thinks he is dead.

He draws up the plans almost without knowing it. They are models of modern architecture.

—From *The Sunday Express* for November 18.

THE INSTITUTE

DEFECTS AND REMEDIES

[*BY ICONOCLAST*]

[*This is the second of a short series of articles in which the function and constitution of the R.I.B.A. is discussed and suggestions put forward for its even more valuable organization. The first article was published in last week's issue. The author, who is a Fellow of the Institute, has contributed to this* JOURNAL *in the past on similar subjects: further discussion now seems timely, at the time of the Institute's move into its new building and the celebration of its centenary.* —ED., *A.J.*]

II. COMPLETING THE FEDERATION

IN considering the part that should be played by London, in the administration of Institute affairs, it would be losing a sense of proportion if the metropolis were considered as merely a "bloc" of members. London is still the point of concentration where the talents meet in the greatest numbers. We still advise our students to try and get up to London before they imagine their education is complete. Going down the membership list for the most talented architects of the day, it is safe to say that the Londoner would predominate.

The formation of an Allied Society for London, to be placed proportionately on a level with the provincial societies, would need to be carried out with sufficient care to ensure that London representation would not thereby be relegated to a strength below its importance.

The first consideration, therefore, is a matter of voting strength. How would it compare with the present representation which London actually secures? Looking through the constitution of the Council as shown in a recent Kalendar it will be found that out of a Council of 71 (excluding Ireland and the Dominions) there are 29 who practise in London, viz., 40 per cent. of the Council. The number of voters in the London area is 1,857, out of a voting strength of 6,129, excluding the same areas as the above.* This percentage of 40 is thus below the percentage of representation on the Council, but if those special Council seats such as the Chairman of Standing Committees, representatives of the A.A. the A.A.S.T.A., etc., be ignored as direct representatives of London, it will be seen that any system of proportional representation based on membership would have slight effect numerically upon the representation of London. Naturally those special places referred to will be more likely to be filled by men near the spot.

I am aware that these facts appear to contradict one of my main arguments for reorganization, showing as it does that London secures little more than its fair representation in Council. My argument is not that London is unfairly favoured in representation, but that the direct representation, to which the provinces now have a prescriptive right, is numerically inadequate. The fact that there are other provincial representatives is merely a matter of accident.

I quote the narrower figures to show that any alarm among London members at the idea of a revision, possibly putting their area in a less advantageous position than they now hold, has no basis in fact if the suggested constitution is based as nearly on proportional representation as possible.

This clears the air of any suspicion of provincial wire-pulling, by leaving a London vote as effective as possible, and as effective as the importance of London makes necessary in the mind of anyone who cares for the proper administration of professional affairs.

The point we may now examine is whether another professional body is going to complicate matters in fact, however right it may be in principle. If there is any fear whatever that such a foundation would kill interest by its redundant nature, it would be far better to drop the matter altogether. But I do not think for one moment that this will be the case.

At the present moment we have the Architectural Association alive and flourishing side by side with the Institute, and to it belong very many London members of the latter body. I have no figures available as to A.A. membership, but I should be surprised to hear that a substantial number of London Institute members do not belong. Assuming that this is the case we have very clear evidence that the existence of two highly organized and friendly professional bodies side by side in the same area, though covering an entirely different scope of activity, is

* The figures quoted in this and subsequent articles were prepared before the last election and before the recent issue of the Kalendar.

neither impossible nor self-destructive. If, therefore, we are to form one into an entirely London organization, and the other into a Central Federal organization, the favourable atmosphere for their existence side by side would appear to be improved rather than otherwise.

I do not suggest that the social and educational activities of the A.A., which cover a much wider area than London, should be discontinued and exchanged for purely local activities. But I do suggest that because the Association represents one of the most important London schools, and because, by territorial convenience, its social activities must be preponderantly London, here is an obvious nucleus for the new Society And I suggest it, not to interfere in the domestic business of the Association, but as a means of mutual convenience whereby the R.I.B.A. constitution and the A.A. organization could be usefully served. In other words, I suggest that the Architectural Association and the Architectural Association of London might very well live under the same roof and share much the same machinery.

London members would then continue to share their interest between Portland Place and Bedford Square.

All this however is a comparative detail, which, though I regard it as the smoothest procedure, is not a vital peg upon which the scheme must hang or fall.

It would be wise, therefore, to consider alternative methods.

The federal scheme, if it worked efficiently, would naturally reduce the work of the central organization very materially. It would, perhaps, be too optimistic to forecast that the work of the London Society, plus the work of the Federal Council, would no more than equal the present work of the Institute, but such a supposition would not be utterly unreasonable.

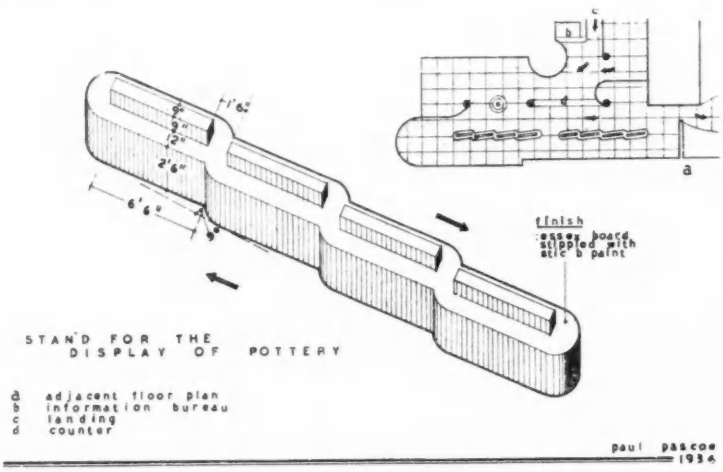
Assuming that results would not vary widely from these calculations, there would be no harm done if the new London Society were administered from under the same roof as the Central organization. By such means London would occupy a privileged position which all fair-minded people would consider it deserved ; while the accommodation and staffing which has been built up or provided for in advance, upon the present basis, could be made use of in a dual capacity under a revision. The defect of this latter alternative is obvious, but not prohibitive.

The main point remains, however, that there is a great work before a new London Society of Architects, which may concentrate upon working conditions in London alone, and devote energies to those problems which barely affect the provincial members, but are the domestic concern of the London practitioner.

It need hardly be added that, though this would be the youngest of the Societies, all provincial societies would wish to look upon it as their model of an architectural society in conduct and effect.

One word may be added as to qualification for membership. There are a number of architects who have offices both in London and the provinces. The point will arise as to which area society should represent him or whether he should be given the choice. Under existing rules, architects of the Central London area may belong to a provincial society, but the latter receives no grant from headquarters on their account. Another rule discourages a member from belonging to two Allied Societies at one and the same time. My feeling is that an architect should have the power to vote in any area where he has an organized centre of practice, and that he should therefore be eligible to belong to two societies if he has offices in each. This would define membership of the London Society. The financial corollaries will be dealt with in the following articles defining the New Constitution.

(To be continued)



From the recent Exhibition of Contemporary Industrial Design in the Home. Designer of stand : Oliver Hill. The shape of the stand enabled visitors to view—from the entrance doorway—each individual group of pottery without mutual interference.

COMPETITION NEWS

PUBLIC OFFICES, WELWYN

We understand that over 200 applications have been received by the Welwyn U.D.C. for conditions of their competitions for proposed public offices. The latest date for submission of designs is December 22. See Competitions Open below.

Competitions Open

Dec. 7.—Proposed municipal offices, public library, free library and fire station, for the Wembley U.D.C. (Open to architects of British nationality resident in the British Isles.) Assessor : Stanley Hamp, F.R.I.B.A. Premiums : £300, £250, £150 and £100, for designs placed first, second, third and fourth, respectively. Conditions etc., are obtainable from E. R. Royle, O.B.E., Clerk to the Council, Council Offices, Wembley, Middlesex, on or before December 7. (Deposit £1 1s.) Latest date for submission of designs : March 1, 1935.

Dec. 22.—Proposed Public Offices, Bridge Road, Welwyn Garden City, for the Welwyn Garden City U.D.C. (open to architects of British nationality). Assessor : C. H. James, F.R.I.B.A. Premiums : £75, £35 and £25, for designs placed first, second and third, respectively. Conditions, etc., obtainable from B. H. Deamer, Clerk to the Council, Council Offices, Bridge Road, Welwyn Garden City (deposit £1 1s.).

January 19.—Designs for five-storey blocks of working-men's flats suitable for construction in reinforced concrete for the Cement Marketing Company. Assessors : Joseph Emberton, F.R.I.B.A., Burnard Geen, M.INST.C.E., and L. H. Keay, O.B.E., F.R.I.B.A. Premiums : £300, £200 and £100 for designs placed first, second and third, respectively. Copies of the conditions will be forwarded on application to the Publicity Department, the Cement Marketing Co., Portland House, Tothill Street, S.W.1. Latest date for submission of designs : January 19.

April 30.—The Croydon Corporation invite the submission of designs for laying out an area in Central Croydon which is to provide an extension of the Civic Centre of the Borough and to improve central means of communication. Assessor : Dr. Thomas Adams, F.R.I.B.A., F.S.I., M.T.I. Premiums : £500 for the design placed first ; £350 to be divided (in proportions to be determined by the Assessor) for not more than three designs placed next in order of merit. A copy of the conditions is obtainable on application to the Town Clerk, Town Hall, Croydon (deposit of one guinea). Designs are to be submitted not later than April 30.

REJECTED DESIGN: THE CUCKFIELD CASE

ANOTHER instance has occurred of an architect's design being rejected on grounds of appearance by a local authority. On the left is the architects' perspective sketch of a series of houses proposed for the neighbourhood of Haywards Heath, Sussex. The plans have been refused sanction by the Cuckfield Urban District Council. In this case the local Advisory Panel of Architects, to whom the plans were submitted, recommended the acceptance of the designs—subject to certain minor modifications which the architects (in this case Messrs. Tecton) agreed to make—but the Council decided to persist in their rejection.

The matter was reported as follows in *The Mid-Sussex Times*, in an account of a meeting of the Cuckfield Council :

PROPOSED HOUSES UNSUITABLE

The following report was received from the Advisory Panel of Architects in regard to houses proposed to be erected on land west of Wood Ride, Haywards Heath : " That as these houses are to be erected in a secluded, undeveloped area, they should be approved, subject to certain modification of their alignment and that the texture, details and colouring of the brick work should be submitted for approval by the Council."—It was decided to recommend the Council not to grant an Interim Development permit in respect of the proposed houses, because the elevations and general character of design were unsuitable for this district.

Discussion of this case is not at the moment possible, as we understand that an appeal is being made to the Minister of Health and the matter is therefore *sub judice*, but from the design point-of-view it represents an interesting example of unrecognized return to the Regency tradition. A contemporary house designed on rational grounds bears a remarkable resemblance, as is often nowadays the case, to the small house of the later renaissance. Modern design seems to be picking up the English domestic tradition at the very point where it left off a hundred years ago. The continuous balcony and large windows to the main rooms with smaller windows to the bedrooms above, are common to both. The roof, tendency towards elimination of which was characteristic of the Regency period, now disappears altogether, modern materials (in the case of the house illustrated, concrete slabs) having made possible what the builders of a hundred years ago were only prevented from achieving by technical limitations. To illustrate the similarity between the contemporary house and the traditional we reproduce photographs of some small houses of the late eighteenth and early nineteenth centuries with the same horizontal skyline and similar fenestration, two of which are within a short distance of the proposed new ones.

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2

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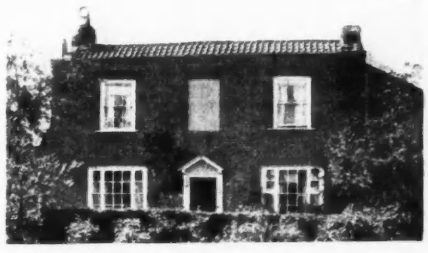


4

1 : Perspective sketch of houses by Messrs. Tecton, the plans of which have been refused sanction by the Cuckfield Urban District Council.

2 and 3 : Traditional houses at Tunbridge Wells, 30 miles from the site of the above, with remarkable similarity of outline and fenestration : Regency precedent for modern design.

4 : Another example showing the traditional trend towards a horizontal silhouette ; this one, like Messrs. Tecton's, is in brick, at Cobham, Surrey.

Illustrations 2 and 3 are from photographs by Donald Pilcher, and 4 is reproduced from "Small Houses of the Late Georgian Period."

LETTERS FROM READERS

MIDNIGHT OIL

FREDERICK BARBER, L.R.I.B.A.

P. C. HARRIS, F.R.I.B.A.

KEITH AITKEN, F.R.I.B.A.

The Institute: Defects and Remedies

SIR,—Having read the article under the above title in your issue for November 15, I wish to ask the following questions and make reference to the paragraph on page 730:

"Surely the next step . . . . . another inch or two without disaster."

1. Has not the Institute extended the Licentiate class on more than one occasion in the past?
2. Is this policy detrimental to those Associates who have to "toe the line" in order to obtain admission to the Institute, i.e., by examination?
3. Has this policy any incentive to young probationers and students to work for examinations when others may obtain some form of membership on payment of fees?
4. How much does the average layman know of the difference in status of a Fellow, Associate or a Licentiate, and the necessary qualifications for each class?
5. Admission to the Surveyors' Institute can only be gained by examination; does this not help to uphold the prestige of their Institute?
6. What are other readers' views on these questions?

In conclusion, the last sentence of the paragraph states "while the elasticity which the Licentiate class has suffered can surely stand another inch or two without disaster." This elasticity which may not be proportional like a popular formula, "Youngs," i.e., strain divided by stress, might even take a permanent set.

Should not the future be considered for those people who may some day dictate the Institute's policy, i.e., the Associates and Students of the present day.

MIDNIGHT OIL
Darlington

[*The paragraph in "Iconoclast's" article to which our correspondent refers read as follows:*

"*Surely the next step to be taken is to replace alliance by amalgamation as integral federal units, even though such a step would involve a choice between the expulsion of unattached members from the Allied Societies, or a further extension of the Licentiate Class.*

"*Neither of these things need alarm us unduly, since it is inconceivable that a man can be fit for membership of an Allied Society, and yet unfit to be a member of the Institute; while the elasticity which the Licentiate Class has suffered can surely stand another inch or two without disaster.*"]

Standardized Information

SIR,—Referring to Messrs. C. W. Glover and Partner's letter on this subject, it may be of interest to state that I lose no opportunity of mentioning this matter to representatives of firms, and have suggested loose leaf catalogues of standardized dimensions. In one instance I have been successful in getting my suggestion adopted, but the following objections have been raised:—

1. Expense. It is agreed that the cost of binders would be heavy in the first instance, but the reduced cost of loose leaves as compared with the elaborate brochures, etc., many firms send out would probably compensate this item.
2. It has been said that many architects are not sufficiently interested to file the leaflets when they receive them. This, surely, would largely depend upon the information given.
3. One representative suggested that the office boy would obtain possession of the binder and not the architect.

Personally, I should prefer all sheets arranged in the form of your own information sheets, which meet a very definite need.

FREDERICK BARBER
Kingston-on-Thames

Arabian Nights

SIR,—It is possible that the enclosed copy of an Asiatic's letter (which was passed to me for action when a Colonial official architect) may be sufficiently amusing for insertion in your correspondence columns. Portions have been omitted for brevity.

The writer, an Arab, wished to saddle the collapse of part of his house (during the rains) upon the power station and has coined some colourful expressions—probably aided by a public letter-writer.

By the Name of The Most Merciful God

God rewarded you and thanked you for feeling my trouble and vexed which knocked me and to God. I implore and ask him to preserve you from evils and not to show you bad. I wrote to you and myself in very much humbleness and checkness and losing patience and power for which cannot be mentioned and how can I bear its load and the sadness is still.

To his presence compession, His Lordship and the proprietor of the great possession and the loved of the British Kingdom and his believed and obtainer for it every good character and good act. The Lord God made by him fair days and conducted him to the good acts and to remove the miserableness of the days. To ———— the machine of the Electric Lits of the Government fell aside of my house the behindside which I am in it—and now I am in bad state and have nothing to do for it. Whereas after the death of my father Seyyied Ahmed my state became weak and distress by missing the moneys—and now happened this matter by this house.

A wind when it blows sometimes it shakes the trees and sometimes it falls the trees this Machine of the Electric Lits when it is going it shakes my house and until my sleeping bed and the doors of the rooms also and this my house built by sand, clay, stones and limes how it was well built it cannot be strong as great iron Machine of the Electric Lits which extends the whole town and this my house happened for it this matter because it is near this machine.

From your most obedient servant, hopes your Merciful

(sd.) ABUBAKER BIN AHMED BIN SMETT

P. C. HARRIS
Shrewsbury

Circular Planning

SIR,—I think your correspondents on the subject of Circular Planning have failed to mention the question of Aspect. The attractions of a building planned on the lines indicated are very great but it cannot be denied that half its occupants get a varyingly good aspect and the other half a varyingly bad one.

The tolerance of the average middle-class flat dweller is unbelievable; for he gladly pays large sums for a dwelling that never sees the sun from one year's end to the next. I take it, however, that the claims of Circular Planning are advanced on social rather than speculative grounds and it, therefore, seems necessary to point out the anti-social side of this plan form.

KEITH AITKEN
London

1. *Portland Place in the eighteenth century.*

1850 CONFERENCE

A TOUR ROUND NINETEENTH-CENTURY LONDON

[*BY A. TRYSTAN EDWARDS*]

The present occasion of the R.I.B.A. centenary conference in London, together with the interest in the past century that celebration of the centenary has engendered, makes it interesting to speculate what sort of London would have occupied the attention of an architects' conference of the last century; say, of 1850. This week's conference includes a programme of visits to buildings of interest and importance in London. On the following pages are illustrations of some buildings such as a programme of visits might be expected to have included in 1850, many of them the predecessors on the same site of those that are being visited this week. The illustrations are taken from contemporary prints and drawings. They are preceded by an introduction which takes the form of description and commentary by the guide who is conducting the group of architects on their tour round mid-nineteenth-century London.

GENTLEMEN,—It is my privilege to be your guide to some of the architectural beauties of our Metropolis. It is no exaggeration to say that in this year 1850 London is the most beautiful city in the whole World. Nowhere else can be found architectural elegance continuously spread over such a wide area of territory. This vast assemblage of buildings is for the most part the product of a hundred years of development, and for this reason it has a degree of harmony not to be found in Cities of which the greatest of eminence is a merely historical interest. Not that London also does not still possess its ancient Fragments which specially appeal to the sentimental mind. But we owe it to the Great Fire that the citizens of London are not unduly encumbered by legacies from the past. What is left of mediæval London—our Westminster Abbey and a few other Churches—we have reason to regard with pride; but with how much greater satisfaction can we contemplate the works of our own contemporaries and their predecessors of the last century! Even in the realm of Ecclesiastical Architecture, in which the Gothic designers had their greatest triumphs, we can lay claim to an even superior accomplishment. St. Paul's Cathedral it would indeed be impertinent to praise, but in one respect the spires designed in the Classic style by Sir Christopher Wren and others following his footsteps represent a still more remarkable achievement, because, while the cities of Italy and France may show some stately domes, it is in England alone that the church spire has been closed with Classic grace. It may be said that the Renaissance architects made a complete conquest over the Mediævalists when they snatched from the latter their favourite and specially private feature and adapted it to their own usages. But, Gentlemen, I would not have you believe that I belong to those ignorant and ungrateful people who have never learnt how to pay proper tribute to the genius of their mediæval Forebears. The seeds of the civic architecture which we now admire were sown in a period which knew not columns and entablatures. As early as the sixteenth century the English had already begun to show signs of becoming urban-

minded. From whence did we derive the idea of the fine residential Squares which we shall visit during our tour through London? Surely not from the Continent, but from the lovely Collegiate quadrangles, which in their grand scale and harmonious composition were the first examples of a domestic architecture expressing the communal spirit in a formal and self-conscious manner. The architectural change between the sixteenth and seventeenth century was not in a nature of revolution, as it has so often been represented to be, but a transition in a form of a gentle glide. I do not here speak of stylistic matters, such as the use or non-use of the repertory of Classic ornament, but rather of the main civic quality of buildings, such as are indicated in their proper degree of emphasis in the pattern of the town as a whole and in the friendly mutual relationship between buildings which happen to be contiguous. It is these qualities which I shall try to expound to you in my comments on the buildings we are about to visit, and I do not propose to say much about questions of detail. In my youth architecture used to be described as a polite art, and I suppose it earned this title because it reflected the manners of a civilised society by our capacity to make our buildings reflect the social qualities we as architects shall be judged.

It is suitable that we start our journey from Portland Place (Fig. 1), for this is one of the noblest streets of the Metropolis. Observe how, in the vista which you see before you, the buildings are disposed in orderly array, yet this grand Composition exhibits just enough diversity to prevent it appearing a product of mechanical repetition. The group of pilasters surmounted by a pediment is repeated at intervals, and thus the long street façade is divided in a manner which, so far from impairing the unity of the whole, gives it a rhythm and cohesion. It is not necessary for me to inform you that a fine street is the greatest of all artistic achievements. It may be hoped that if the Institute ever has occasion to leave its present home it will not seek the status of eminent detachment but will be proud to show the superior social quality which may apertain to a structure which knows how to take its proper place in a street Composition.

Our first visit is appropriately to the heart of the City of London, where we pay our respects to the Bank of England. Who can doubt that this building (Fig. 2), designed by our late esteemed President, Sir John Soane, must rank as one of the half-dozen noblest architectural designs to be found in London? Indeed, I should be inclined to go even further, and to say that it is one of the most distinguished buildings of the whole World. This decorative screen wall is not only impressive by virtue of its columnar adornment, which shows such an admirable contrast between the pilasters of the main part of the wall surface and the columns standing free at certain points requiring special emphasis, but the façade as a whole is extraordinarily subtle in its Symbolism. Three separate concepts have here found expression. In the first place, the building, being a storehouse of much gold, must possess a character of impenetrability. Therefore, of course, there must be no windows on the façade. Yet the façade should indicate clearly that the building is not just a storehouse, but is in point of fact a *habitable* building. The blind windows successfully symbolize this attribute of habitability. Thirdly, it is a very grand and important building, and in order to make the dignity of its function evident, the building is dressed up in full panoply of the Classic style. Upon any body who shall hereafter presume in the slightest degree to modify the exterior of this building or touch with vandalistic hands the noble halls inside, let us pronounce our solemn execration.

Leaving the City, we follow the banks of the River Thames, to visit the next of our great Classic possessions. I need scarcely tell you that Somerset House (Fig. 3), the masterpiece of Sir William Chambers, ranks with St. Paul's Cathedral, the Bank of England and the New Regent Street of John Nash as among the principal glories of the Metropolis. Somerset House is the riverside building *par excellence*. The stately arcaded podium through which barges from the river have access to the interior of the building form a fitting lower terminal to the Composition; while the fine long terrace adds to the dignity of the main portion of the façade, which is 700 ft. in length. This is indeed a magnificent piece of masonry. The contrast between the various kinds of rustication and surface treatment is so skilfully managed that the very stones appear to speak. This noble stretch of wallage, in order to create its vastly imposing effect, does not require the aid of conspicuous features which would break the skyline; and it will be noticed that the little dome surmounting the central projection of the façade is of very modest proportions and does nothing more than provide with the minimum of architectural obtrusiveness a certain focal interest. The building has the grace not to attempt to compete with the lordly dome of St. Paul's Cathedral, a splendid view of which is visible from here.

But a little further along the Riverside we stop to admire another delightful view (Fig. 4). On the right we see how well Adelphi Terrace stands out from the surrounding buildings. Other prominent landmarks are the spires of St. Martin's-in-the-Fields and the Nelson Column. It is fitting that on this occasion I pay tribute to the work of Mr. Brunel, the eminent engineer who was responsible for the design of Hungerford Bridge. While it would be impertinent of me to comment upon the excellence of the structure in its mechanical aspect I may yet be permitted to express my admiration of the elegant towers which support these suspension chains. They combine the appearance of strength with a lightness and grace which is most becoming.

Not far away from the River, which we now leave, is the subject of our next visit—Trafalgar Square. Let us stand in the corner of this noble Place, which has but lately been completed by its crowning monument—Mr. Railton's column—and admire the prospect towards Charing Cross and the West End of the Strand. This view (Fig. 5) is of fascinating interest. Behind the famous equestrian statue of Charles I (the pedestal designed by Sir Christopher Wren) is the façade of Northumberland House. On the left we see the church of St. Martin's-in-the-Fields, with the noble spire and columnated portico, the architectural dignity of which is enhanced by being contrasted with the extremely reticent although graceful stucco façade of Morley's Hotel. Glancing down the Strand we see on the left the highly attractive groups of shops designed by Sir Robert Smirke, which are distinguished by the delightful small domes at the corners. Turning our gaze to the left of St. Martin's-in-the-Fields we see the National Gallery designed by Wilkins. This long, low façade with its dome of moderate size surmounting a pediment admirably presides over Trafalgar Square. On the left is the elegant Union Club designed by Sir Robert Smirke, and this building, although different in character from Morley's Hotel yet nicely balances it, so that the Square as a whole has the shapeliness of symmetricality without being rigidly repetitive. It will be observed that the Nelson Column is superbly placed in relation to its architectural environment.

And now we make our way to Regent Street. This is a truly magnificent specimen of modern London which, within a few years, has risen to beautify and exalt the Town. What would be the wonders of our ancestors, even those who lived so recently as the early part of George III's reign, could they look upon the grand view before us (Figs. 7 and 8) with its spacious Circus in front and the avenue of Classical building branching from its termination or on the stupendous column of granite "Pointing to the skys in memory of the Duke of York"? The scene altogether is a noble one worthy of the Capital of a great Nation. Who that remembers the narrow, dingy, dirty thoroughfare called Swallow Street, with its adjacent poverty-stricken alleys, can forbear to

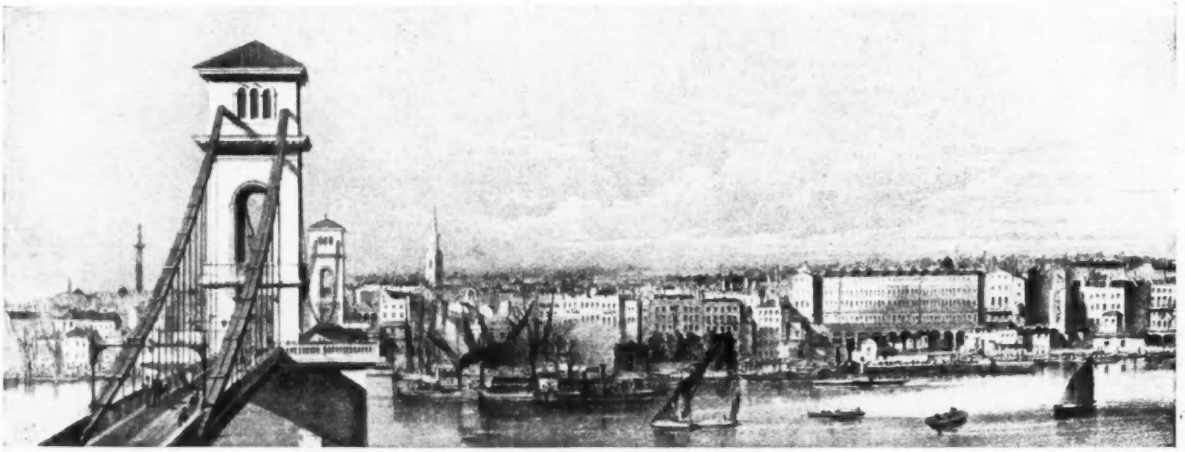
2. *The Bank towards the Mansion House, by Thomas Shotter Boys. From "Original Views of London As It Is," 1842.*

rejoice on seeing the wide, noble and decorative vista of costly shops and other buildings which has arisen on its site? Regent Street is the mart whence fashion derives her ornament, the favourite haunt of "Men about Town," the region where architecture does not disdain to lavish upon mere shops her columns and entablatures and porticos; the glory of the trading section of the West End.

From Regent Street we proceed to another example of noble civic planning of which London is so justly proud; this time devoted not to Trade (which the Heavens forbid), but to the residences of the Aristocracy. We come now to Hanover Square (Fig. 9), an assemblage of stately Mansions laid out in a formal style. Few Cities in the world have such delightful pleasaunces in their central areas, for here we have a quiet residential quarter in the very heart of the Metropolis. Here we find no vulgar particularity of design in the various dwellings but a polite conformity. Let us hope that at no future date will such harmony be disturbed by architectural growths of an unseemly kind; so that the square instead of being, as it now is, a spectacle of architectural order will degenerate into a jumble of unrelated parts.

Our next expedition brings us back again to the River, from which indeed in London it is hard not to return, but this time to a part higher up the stream where we have the privilege of visiting the celebrated Millbank Penitentiary

3. *Somerset House from the River, before the construction of the Embankment at its base. From an old print, c. 1848.*



4. *Hungerford Suspension Bridge (now demolished) and the river front. The Adelphi survives but otherwise the scene is wholly changed. The bridge was constructed by Brunel and opened in 1845. From a lithograph, c. 1862.*

(Fig. 13). This building was begun in 1813 and finished in 1816 as a Penitentiary on the humane system of Jeremy Bentham. The round towers at the corners give to the building something of the external appearance of a fortress, but you will observe, Gentlemen, what generous window area is here provided ; it is obvious that the Authorities in charge of this Institution have a fine regard for the health of the inmates. The rusticated archway gives dignity to the entrance, and the enclosing wall with cast-iron railings in front is of aristocratic design. The building as a whole is a highly attractive Composition, which fact should serve as an admirable solace to any of my audience should they, on account of a professional misdemeanour, find themselves within its walls.

On our return to our starting place, after viewing with interest some of our Royal Parks (Fig. 14) and one of the residences associated with the name of Royalty, we again come to Piccadilly, and there is one small structure abutting on to it to which I would direct your observation before finally I take my leave of you. This elegant little essay in taste (Fig. 15), the Burlington Arcade, was designed by Samuel Ware in 1819. It is acknowledged to be a great asset to the Town for here we find a fashionable promenade for the benefit of the young exquisites from Piccadilly ; and I recommend that you spare some time to share in their recreation before you must return to your various stations in the Provinces.

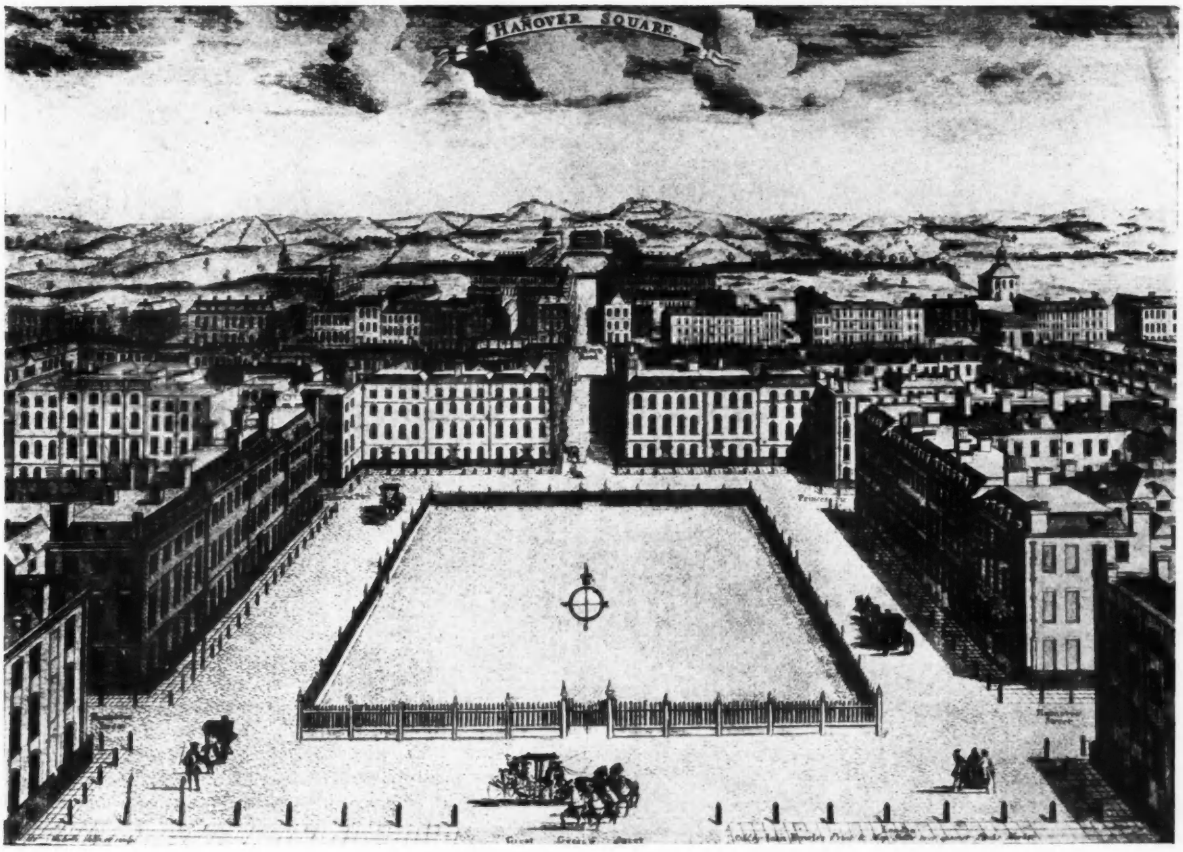
Gentlemen, I thank you for your attention.

5. *Trafalgar Square, begun in 1829 and finished in 1841, the Nelson Column being completed eight years later. On the left is the Union Club House on the site now occupied by Canada House. The site on the right is now occupied by the new South Africa House. From a picture by G. Moore, dated 1849.*

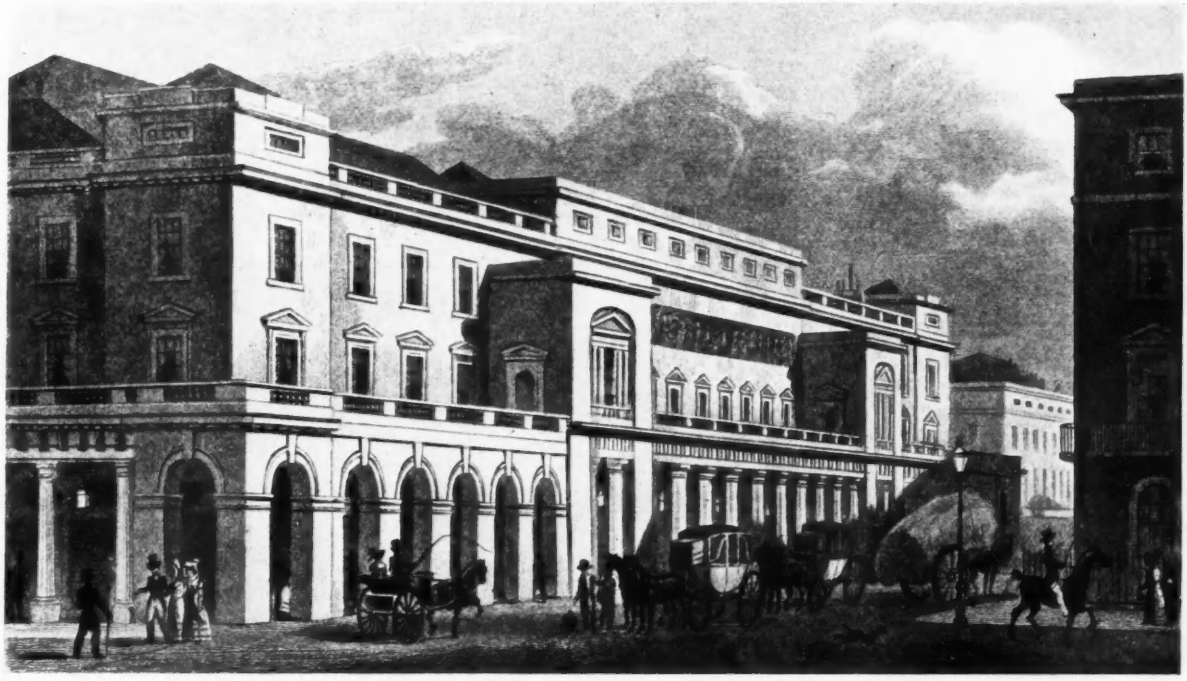
6. *The opening of the new Hungerford Market in 1833. Its site is now occupied by Charing Cross Railway Station. From a lithograph by R. W. Billings.*

7. *Regent Street, looking towards the Quadrant.*

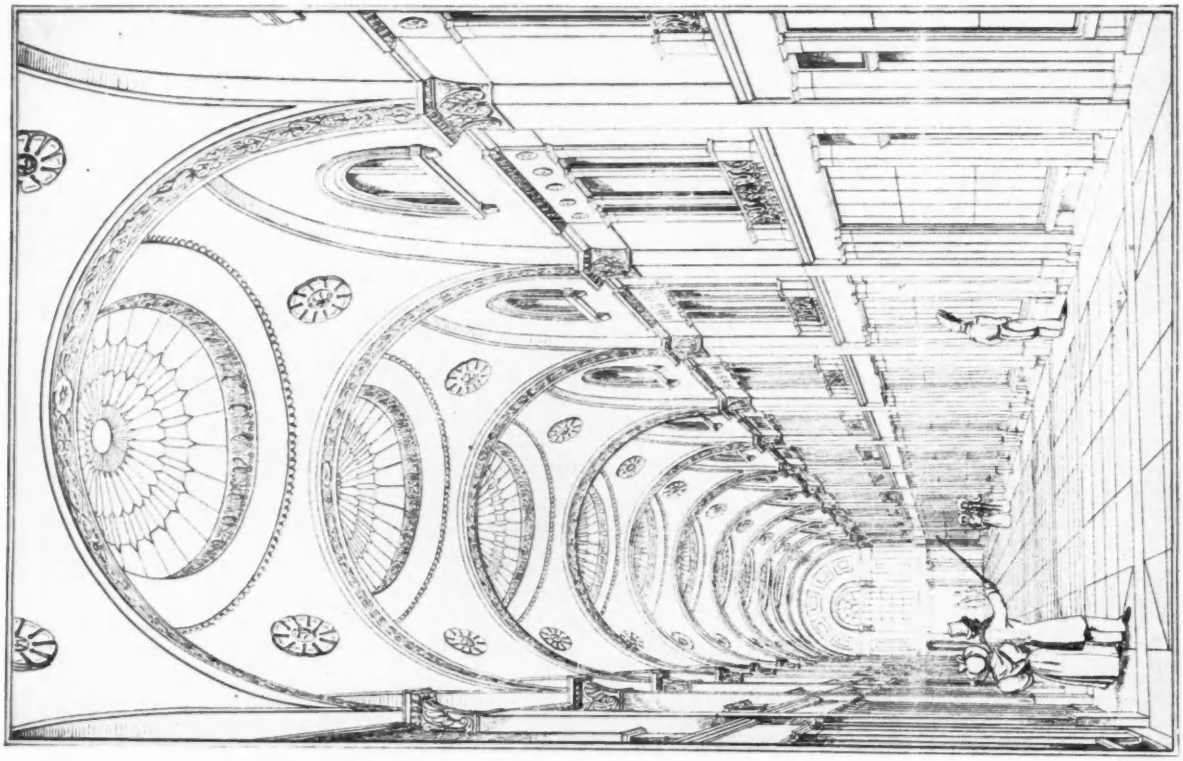
8. *Regent Street, looking towards the Duke of York's column. This and the illustration above are by Thomas Shotter Boys, from "Original Views of London As It Is," published in 1842.*



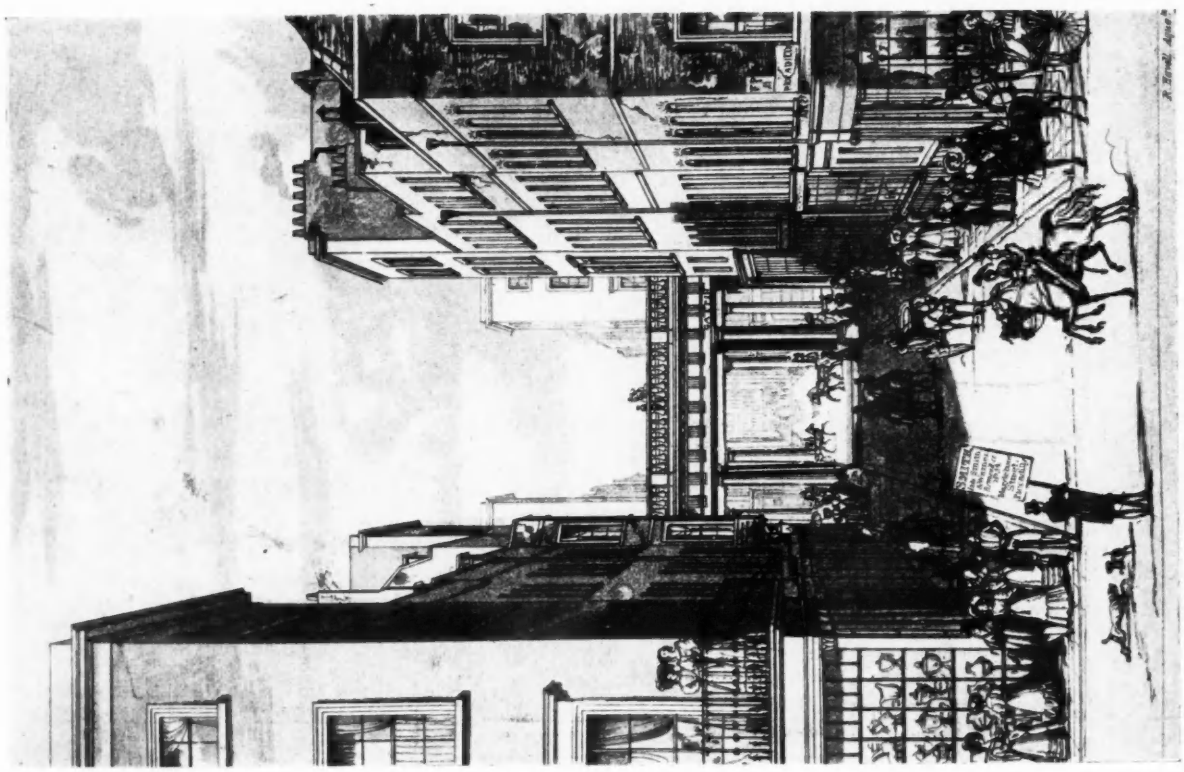
9. *Hanover Square. From a print by Sutton Nicholls, dated 1720.*



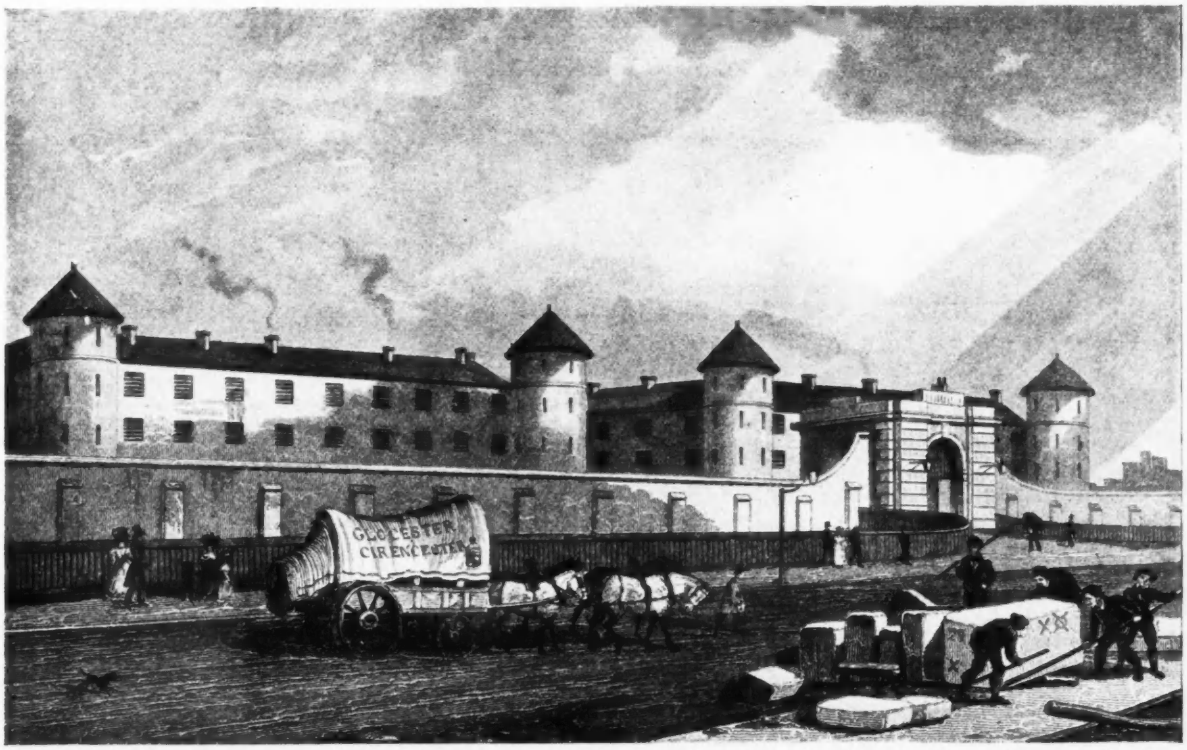
10. *The old Italian Opera House, on the site in the Haymarket, now occupied by the Carlton Hotel. From a drawing by T. H. Shepherd, 1820.*



12. *The Lowther arcade, designed in 1830 by Witherden Young. The site is now occupied by a bank. From a lithograph by R. Martin, dated 1830.*

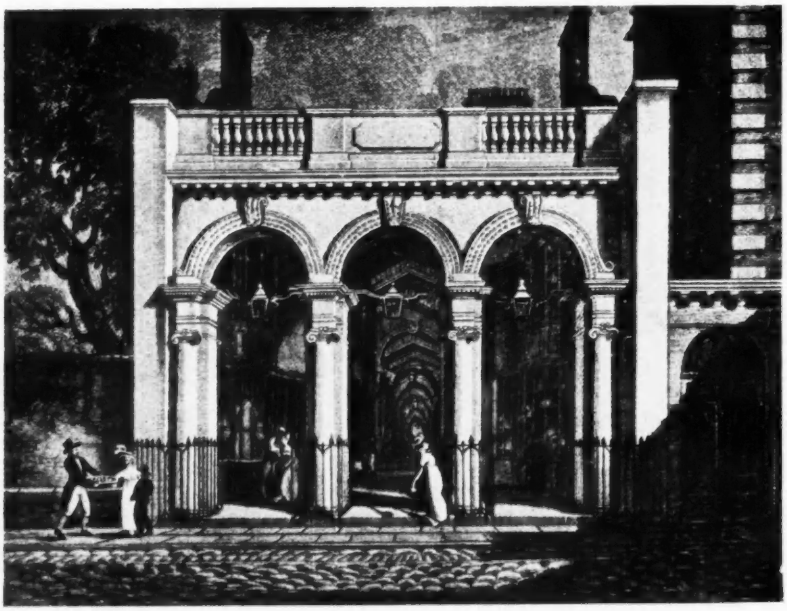


11. *A view looking from Piccadilly towards Air Street, Regent Street, showing the work of Nash, now demolished. From a print by Havell, c. 1840.*



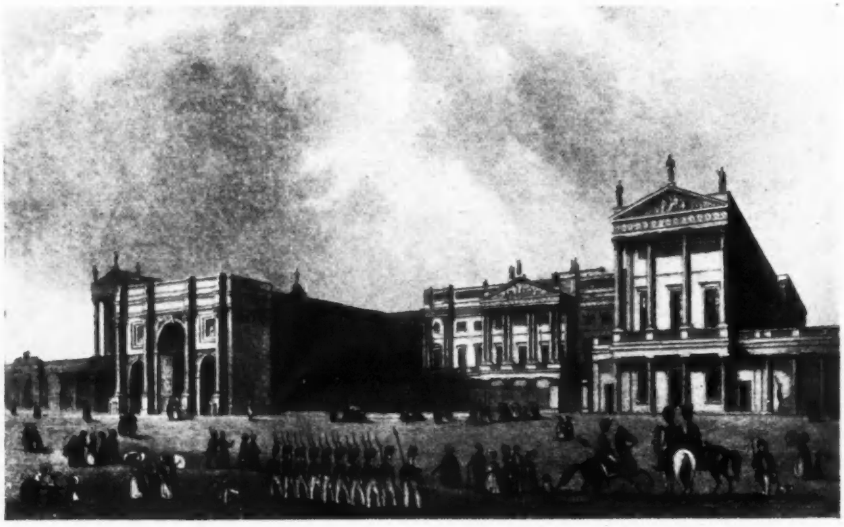
13. *The Millbank Penitentiary, completed in 1816, converted into an ordinary prison in 1843 and into a military one in 1870; subsequently demolished and the Tate Gallery erected on its site. From a print dated 1829.*

14. *Green Park, Piccadilly, from the reservoir, with the fountain of the Chelsea Waterworks (now removed) in the foreground, showing the site of the Ritz Hotel. From a water-colour drawing dated 1824.*



15. *The Burlington Arcade, Piccadilly, as originally designed by Samuel Ware in 1819 : now considerably altered.*

16. *The Houses of Parliament as they were before the erection of the present buildings by Sir Charles Barry. The entrance to the House of Lords is in the foreground, and in the background is the roof of old Westminster Hall. From a contemporary print, c. 1820.*



17. *Buckingham Palace, as reconstructed in 1825, by John Nash for George IV. At this date there was no east façade, which was added by Blore in 1850, in which year the Marble Arch (seen in front of the palace) was removed to Hyde Park. From an old print, c. 1828.*

DESIGN IN AMERICA

[BY JOHN GLOAG]

The author of this article has just returned from a visit to the United States of America. During his visit he wrote a series of articles under the above title, based on his observations and experiences, of which this is the first. The remaining articles will be published weekly in the JOURNAL.

I. "AMERICA CAN'T HAVE HOUSING"

ON Monday, October 15, I attended the private view of the Housing Exhibition of the City of New York, and all my mounting enthusiasm for American building, for the architectural audacity of New York as a city, for the superbly regulated traffic, and for the non-stop pageant of high-powered competent salesmanship which is enacted not only in the great stores and the shop windows, but upon the very sidewalks themselves, was delicately punctured by the most pessimistic array of facts that I have ever seen assembled to indict lack of national foresight in any country. The tone of the exhibition was set by the title of the catalogue: *America Can't Have Housing.* To that catalogue, which was really a symposium of ideas rather than a guide to the exhibits, a number of authorities had contributed essays, including Sir Raymond Unwin (whose regional studies found a place in the "Planning Data" section of the exhibition), Walter Gropius, Catherine Bauer, and Lewis Mumford, who has written the most readable book on architecture that ever came out of America, *Sticks and Stones.*

The exhibition was held at the Museum of Modern Art, 11 West 53rd Street; and it might have been a replica of the MARS exhibit at the Building Trades Exhibition at Olympia last month, only the facts it presented were charged with greater horror, and they were presented with a note of despair. Ever since I landed in New York I have been feeling that the greatest mistake in history was made by George III; for if architecture reflects the mind of man now, as it has always reflected it in the past, a stupendous adventure has taken place in this country; and, but for the folly of a monarch a century and a half ago, we might have shared that adventure. It is impossible to believe that the nation that could sponsor and create such soaring glories in steel should be daunted by any problem of housing; but Mr. Philip Johnson, who was responsible for bringing the Exhibition of Housing to the Museum of Modern Art, assured me that it was incredibly difficult to awaken interest in the festering squalor of the New York slums. Everything is on a big scale here, including the slums.

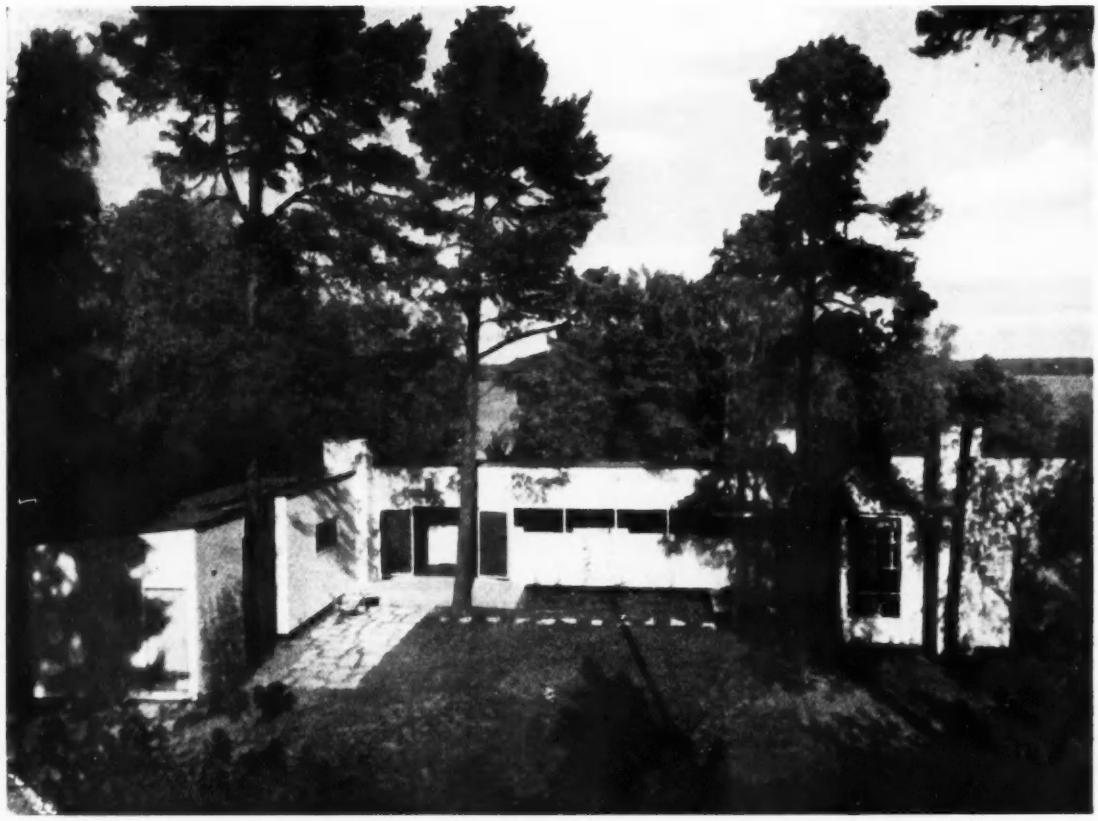
I examined the exhibition in detail. I mingled with the intelligentsia of New York. The intelligentsia always looks the same wherever you find it. There is a faint, aloof air of moth-eaten rectitude about it; a saddened superiority that seems to say (though not, of course, in such commonplace language): "I told you so!" I had been hearing earlier in the evening (for the private view was at night) some crisp views on Greenwich Village and the intellectual pretensions of the "art-minded" from a most entertaining and truculent author who, oddly enough, thought that architects were the best company in the world. "But they make a mistake when they allow these design sharps to boost them, or tell 'em where to get off," he said. There was a difficult pause. When I saw the spectators at that exhibition I knew exactly what he meant. But in the work of the New York Housing Authority there is no room for the costive patronage of the semi-intellectual type. The authority is created "to investigate into substandard conditions, to engage in slum-clearance, and to plan, erect and operate low-cost housing."

There was a strong emotional note throbbing through the exhibits. The organizers did their stuff with tear-appeal, and got after the heart-throbs with an intent brutality, that was occasionally incongruous. There was a specimen slum flat of three filthy rooms where eight people had to eat, sleep and wash. There were models of congested housing blocks; photographs of street scenes; winter snapshots of foul water closets, draped with icicles; glimpses of family life that could not be published in England because with characteristic tenderness we regard some representations of unpalatable truths as "obscene"; 30,000,000 people live in sub-standard homes in the U.S.A.; homes that are "obselete in construction, inefficient in design, lacking in primary decencies." Posters and charts shouted the hideous facts from every wall. I learned that in this city of towering achievement in building, that "building codes are antiquated, unsuited for cheap construction, weighted with obsolete, wasteful, impractical, rigid regulations." Accompanying a somewhat inexplicable picture of French soldiers on guard outside the doorway of a cathedral, and some typical American buildings alongside was the challenge: "We have the courage to destroy beautiful things for private gain—have we no courage to destroy ugly things for social good?"

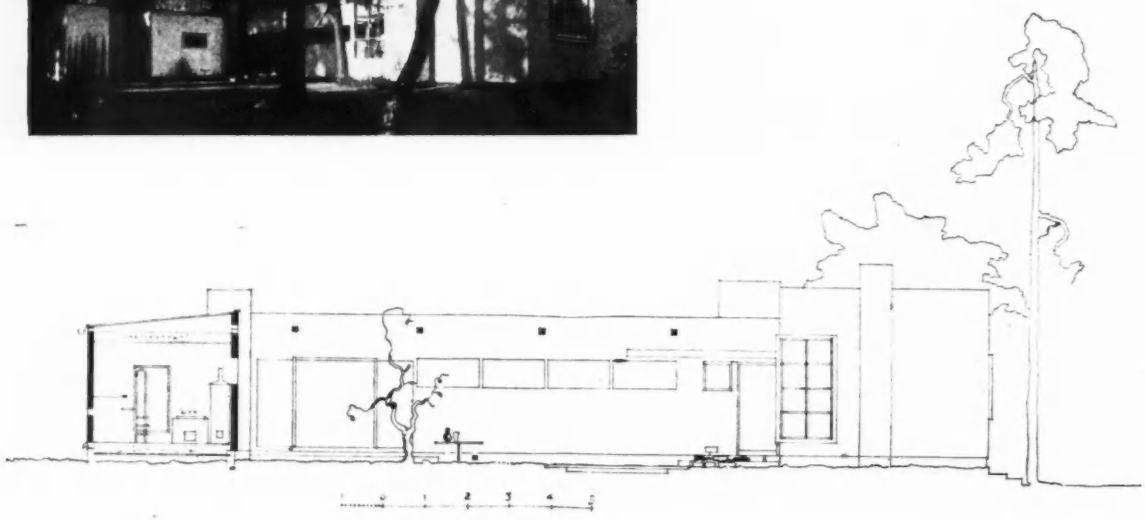
And then, surprisingly: EUROPE HAS FOUND A WAY—CAN WE? Of course, there were the inevitable pictures of the Vienna housing schemes, since destroyed by the reactionaries, and attached to that fleeting glimpse of a lost brave new world was the statement: "The City of the Future must provide safe living, efficient labour and creative leisure." There were statistics of rehousing in various countries between 1919 and 1932, the percentages of the populations rehoused being given as follows: Vienna, 11.74 per cent.; Holland, 10.75 per cent.; Great Britain, 8.9 per cent.; Germany, 5.38 per cent.; U.S.S.R., 5.4 per cent.; Sweden, 2.1 per cent. Photographs of German and even English housing schemes. Europe everywhere lauded as an example of how housing problems could be solved: a finger of warning shaken at the American nation. And yet in the middle of lower East Side the first experiment in cheap housing financed by Government has been made. It is called Knickerbocker Village, and consists of four city blocks twelve storeys high, with a concrete playground and garden space between them. There are 1,593 apartments with wooden parquet floors, tiled bathrooms and each with outside windows and electric refrigeration. There are automatic lifts. Average monthly rent per room, $12.50. Rents range from $22.50 for 2½ rooms on the ground floor to $87.50 for a 5½ room pent-house. The total cost of Knickerbocker Village will be somewhere about $9,000,000.

The talent that can be assembled to create schemes for slum-clearance is revealed by this depressing little exhibition; and the facts, dreadful as they are, are not so shocking as the admission that it is unlikely that sufficient interest will be mobilised to get anything done. That I cannot believe; Knickerbocker Village is a hint of possibilities. Everybody here is talking of "National Planning," and the only absolute monarch in the world, the President of the United States, is putting a national plan into operation.

TWO WEEK-END HOUSES IN

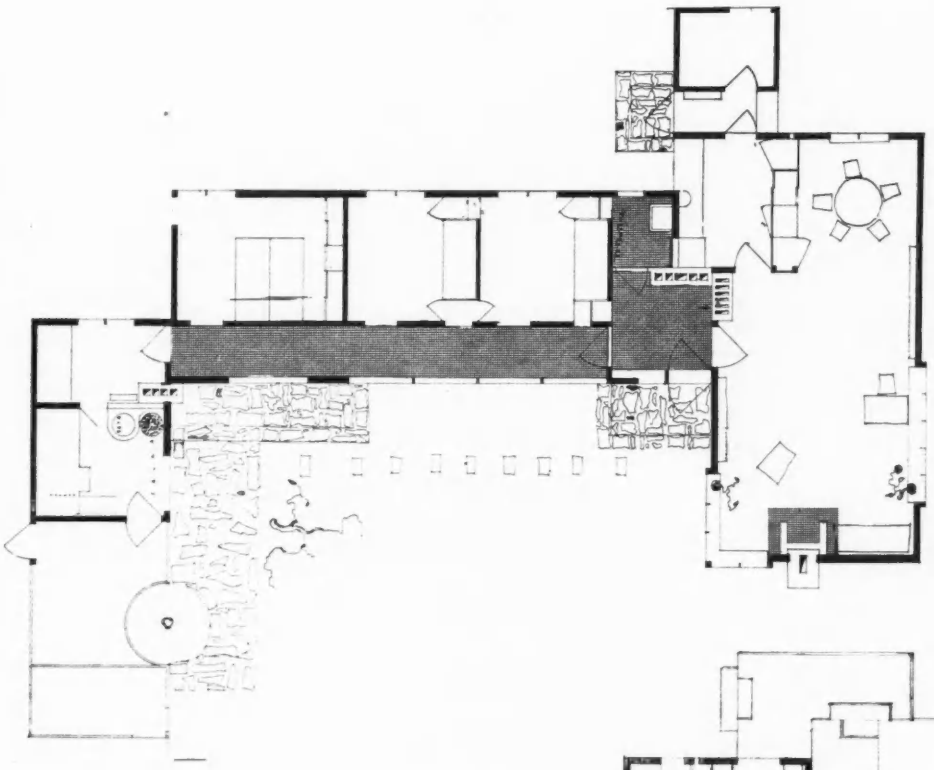


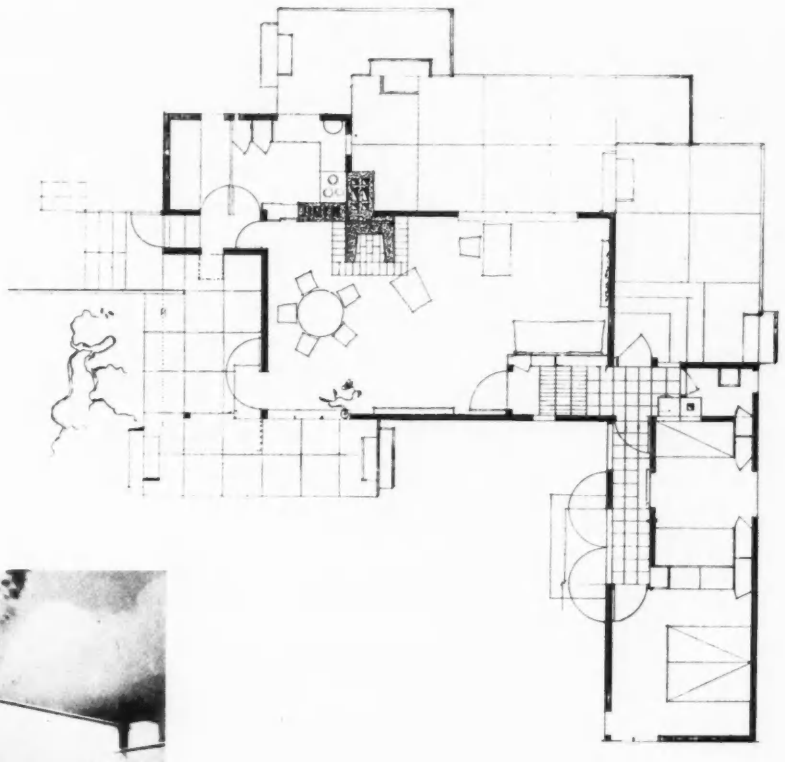
Above: A view looking down on the house from the hill-side that protects it in one direction. Left: A view from the approach path. Below: section through the bathroom wing and entrance forecourt.



FINLAND: BY ERIK BRYGGMAN

Left: Plan of the house illustrated on the facing page, to the same scale as the section.





The one-storey house illustrated opposite is built for week-end and summer use only, and is situated on the coast high up overlooking the water a few miles from Turku. It is constructed of a wood frame, lined with wallboard and plastered on the outside. The roof is also in wood lined with wallboard, and slopes at a flat angle away from the grass-covered entrance court. The semi-circular niche cut out of the workshop in one wing is to preserve an existing tree.

Above: Plan of another week-end house by the same architect; and left, a photograph showing the sun-porch. The construction of this house is similar to the one already described.

L I T E R A T U R E

THE R.I.B.A. 1834-1934

[*By J. H. LEATHART*]

The Growth and Work of the Royal Institute of British Architects: A Centenary History. Edited by J. A. Gotch, F.S.A., F.R.I.B.A. London: The R.I.B.A. Price 5s. net.

THIS important and timely book is a compilation of the many and varied aspects of the Institute's activities, written by a number of distinguished contributors, each of whom is an authority on the subject upon which he has been invited to write.

Sir Giles Gilbert Scott has written the foreword, and under the editorship of Mr. J. A. Gotch, who himself records the history of the R.I.B.A. from its inception in 1834, the numerous facets of the aims, aspirations and achievements of this Royal and learned Society are assembled in the most thorough manner.

The Allied Societies, the R.I.B.A. and the statutory registration of architects, architectural education, architectual competitions, professional practice, the R.I.B.A. library, the *R.I.B.A. Journal*, the Architects' Benevolent Society, and the architecture of the past hundred years are the subjects dealt with by independent contributors. The grand finale to this comprehensive and impressive list takes the form of a picture gallery of all the Past Presidents from the noble patron, and active leader, Earl de Grey, who occupied the first presidential chair from 1835 to 1859, to Sir Raymond Unwin, a reproduction of whose portrait by Sir George Clausen graces the final page.

Something more than an historical discourse is achieved in this attractively produced volume; there is, indeed, sufficient to enable the reader to form his own judgment on the precise significance of the part played in guiding the destinies of the Profession by the Institute during the first hundred years of its existence.

It is not beyond a peradventure that from time to time more than one obscure rank-and-file member of the R.I.B.A. has taken himself to task with the question: "What measure of value do I receive commensurate with the payment of my annual subscription?" He may regard the regular delivery of the *R.I.B.A. Journal* as being on the credit side of the balance; he may also consider with favour the annual opportunity given him of deleting from a list of unfamiliar names those with which he is least acquainted in the dutiful task of electing the Council and the Standing Committees. He may even resolve to attend with regularity the ordinary meetings, but beyond these evidences of a tangible return for his money he may again ask himself "What else?" A faithful study of the contents of "Growth and Work" may well persuade him that it is a mistaken policy to think parochially; that the work of the Institute is not, and never was, intended to be confined to promoting the individual interests of its members to the exclusion of all other matters relating to the Art of Architecture, however important this personal consideration may appear to the struggling professional bloke.

The history of the fight for the official recognition and registration of architects is a reminder of the unpalatable fact that for no fewer than 20 years the R.I.B.A. was an uncompromising and implacable opponent to this reform. The internal strife and ill-feeling engendered by the official policy of opposition produced a memorial published in *The Times* on "Architecture: A Profession or an Art?" which was followed by renewed acrimony and many resignations from among the Institute's members. Just prior to 1908, however, the storm of protest at last had its effect, and as a preliminary step towards professional unification the R.I.B.A. instituted the Licentiate class of membership. A further step in this direction was taken after additional controversy by absorbing the Society of Architects.

It is not appropriate to this occasion to discuss the pros and cons of the Act of Parliament which resulted from the lengthy and undignified dispute already outlined, but there will be few architects who agree with Major Harry Barnes in his contention that the purpose of the Registration Act was *not* that of protecting the Architectural profession. His claim that it ensured to the public "that the architects they employ possess capacity and character" is not justified in the least by the terms of administration conferred on the Registration Council by this miserable Act, which is, indeed, already almost entirely forgotten.

Mr. Goodhart-Rendel discourses in the most entertaining and informative manner on the changes, developments and retrogressions of English architecture during the lifetime of the Institute, but he stops short of contemporary comment because, as he says, "it would be unsuitable in this place." This understandable reticence, perforce, tends to restrict the purpose of his survey of British architects and architecture since 1834.

The Institute was originally founded to promote the Art of Architecture; during the process of time this impersonal function has been found to be insufficient in scope to maintain its activities. Today, the personal and professional interests of its members absorb a large and ever-increasing part of the administrative work of the R.I.B.A., and there now are three well-defined spheres of activity: the academic, the philanthropic, and the practical. Of the first two it is impossible to speak with enough acknowledgement and appreciation; of the third activity it is perhaps enough to say that the best intentions in the world cannot reconcile the irreconcilable, for that is just what the Institute has to attempt if the diverse interests of all its members are to be protected and maintained without internal dissension.

SPECULATIVE FINANCE

[*By PHILLIP H. MASSEY*]
B.Sc.Econ., F.R.Econ.S.

London's Speculative Builders. By W. Fox. London: Labour Research Department. Price one penny.

This pamphlet, to which Mr. R. Coppock, the General Secretary of N.F.B.T.O., contributes an appreciative foreword, is No. 54 of the series of Labour White Papers published by the Labour Research Department (which, incidentally, is not the research department of the Labour Party, but an entirely independent research body).

The author's purpose was to analyse the ownership and finances of speculative building firms in and around London. The relationship between speculative building and the big banks is briefly touched upon and a few examples are given. The speculative builders are divided into five main groups—(1) firms operating normally with comparatively small working capital and a heavy reliance on overdrafts and mortgages; (2) alliances of builders with some outside capital, the general capital structure being similar to (1); (3) firms whose financial backing has been the profits of other industries; (4) firms which have developed mainly from the accumulation of their own profits; (5) firms whose capital has been raised partly from public subscription and which are generally prepared to undertake a wider range of work than the others. Profits, dividends, directors' fees and capitalized share bonuses of specimen firms are given.

The material presented in this pamphlet is new and interesting. It is not sufficiently comprehensive to provide a real picture of the state of affairs. Neither does it attempt to give details of the constructional atrocities which the author must have had in mind when he wrote; "They are the great religious tribute of private enterprise, since God alone knows how they stand and God alone knows how long they will last."

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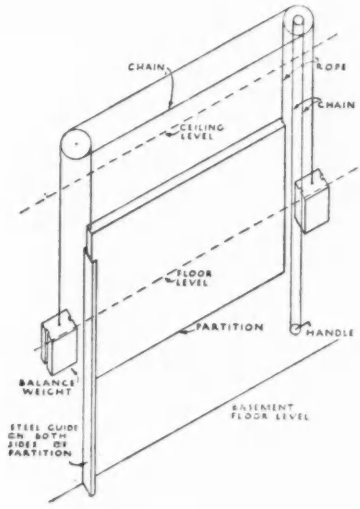
In the article on Cambridge University Library in the JOURNAL for October 18, the name of the engineer for the building, Mr. Burnard Geen, M.Inst.C.E., was inadvertently omitted. Mr. Geen was the engineer not only for the foundations, but for all the engineering work on the building.

WORKING DETAILS : 161

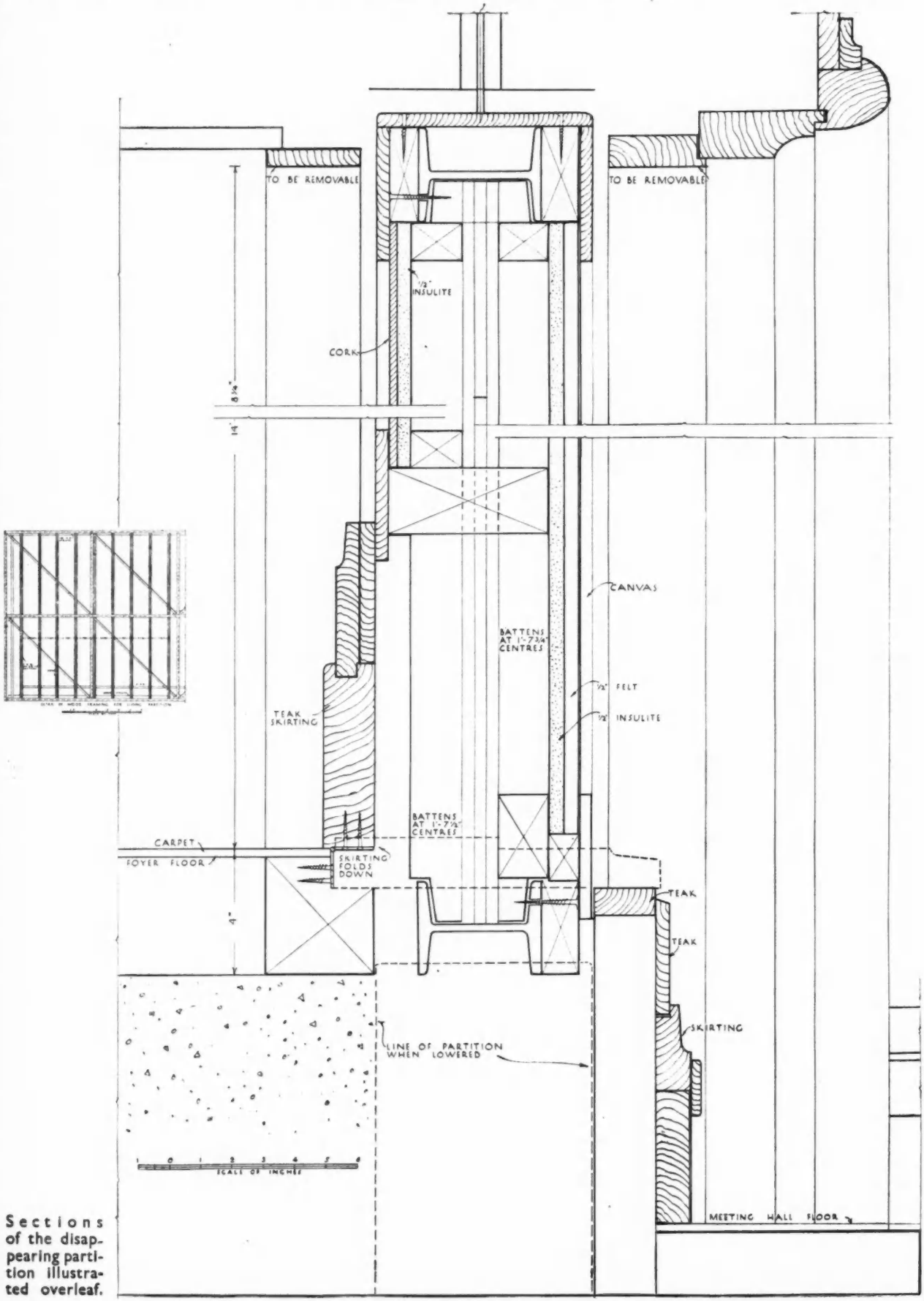
DISAPPEARING PARTITION • R.I.B.A. BUILDING, PORTLAND PLACE, W.1 • G. GREY WORNUM



The disappearing partition illustrated above is arranged between the Henry Jarvis Memorial Hall and the Foyer, and is to be used to give extra seating space for crowded meetings. The winding gear is placed in the boiler house, immediately beneath the Foyer, and the opening in the Foyer floor is covered by a hinged skirting which folds down flat. Drawings are shown overleaf, with, on the left, a sketch, purely diagrammatic, of the winding gear lay-out. The counterweight ropes pass over grooved pulleys, which are connected by means of a chain to ensure even movement.

WORKING DETAILS : 162

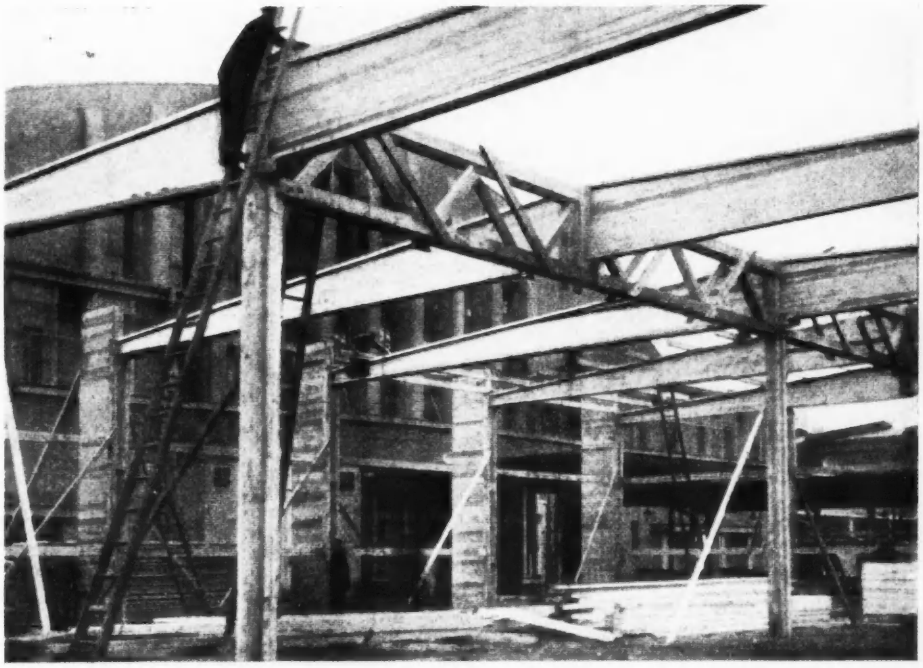
DISAPPEARING PARTITION • R.I.B.A. BUILDING, PORTLAND PLACE, W.1 • G. GREY WORNUM

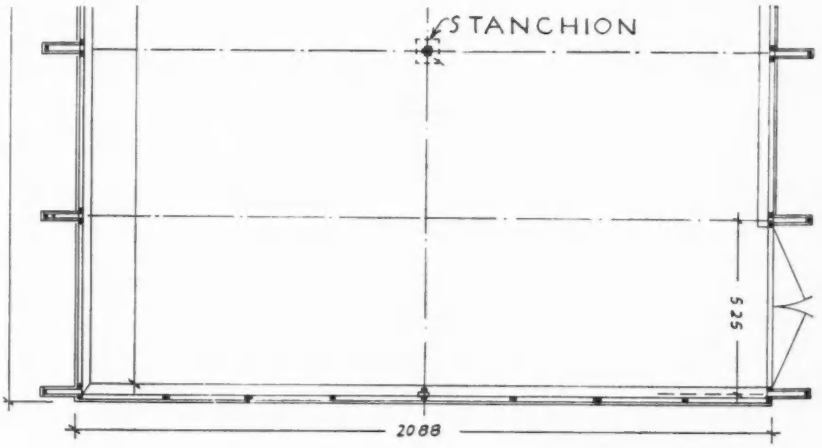


Sections of the disappearing partition illustrated overleaf.

WORKING DETAILS : 163

WOODEN ROOF • TEMPORARY RIDING HALL, BERLIN • OTTO APPEL

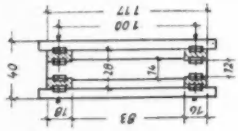


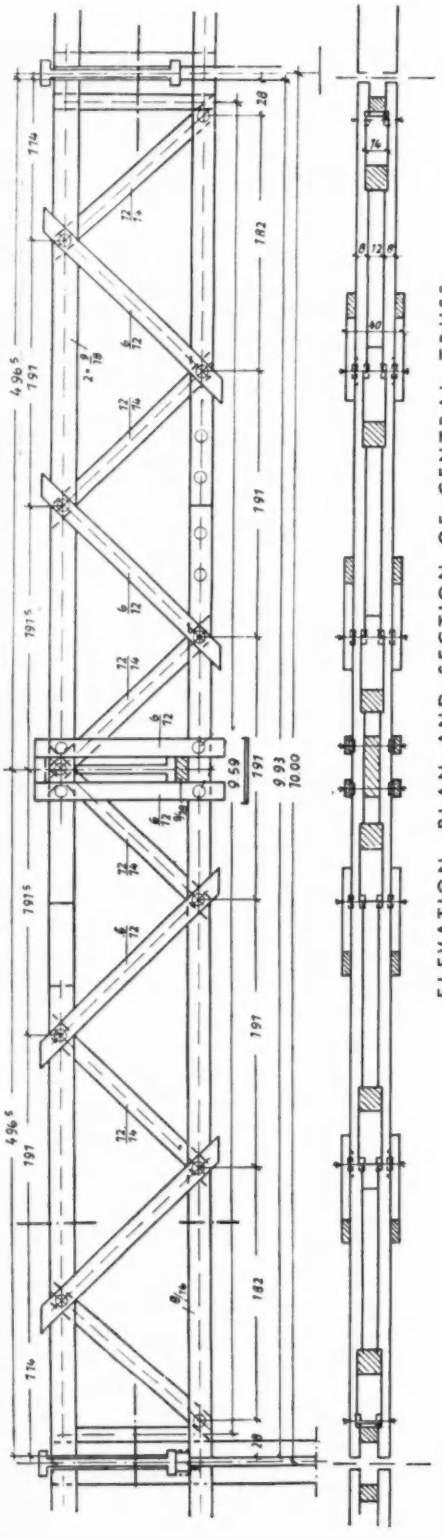


This temporary hall, approximately 140 ft. by 70 ft., is constructed entirely in German pinewood, and was designed so that it could be erected in eight days and dismantled in about half that time. A longitudinal lattice girder runs down the centre of the hall, supported by only three intermediate piers, and on it rest the transverse beams. These transverse beams are built up of ordinary roofing laths, planed and glued together, with 14 mm. steel pins at 1 metre centres, arranged to take shear stresses. Detail drawings and a section are illustrated overleaf.

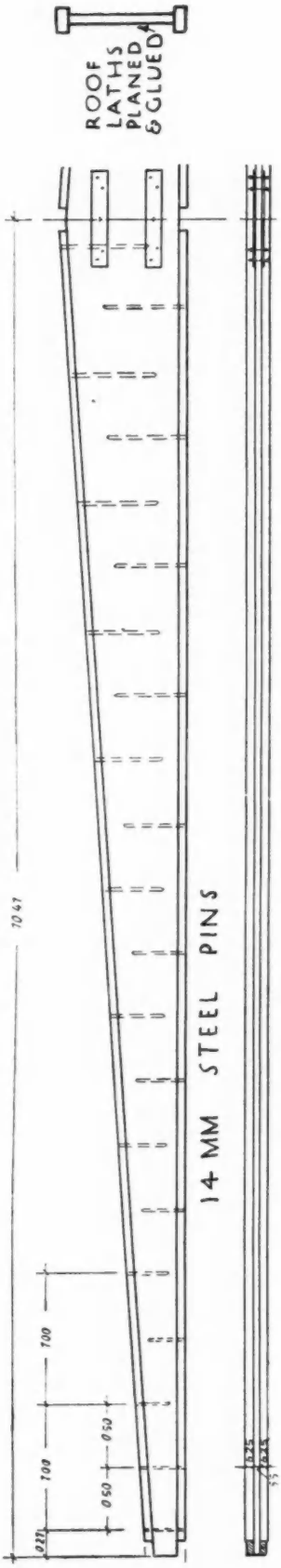
WORKING DETAILS : 164

WOODEN ROOF • TEMPORARY RIDING HALL, BERLIN • OTTO APPEL

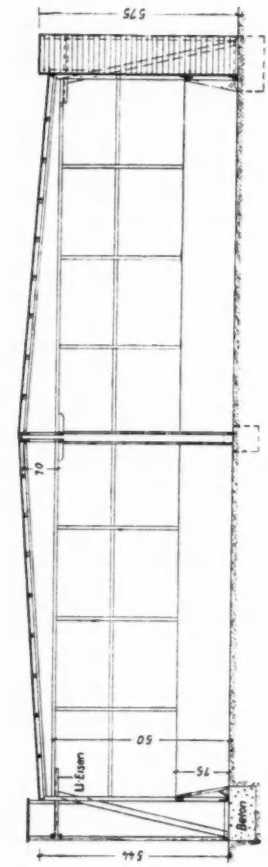


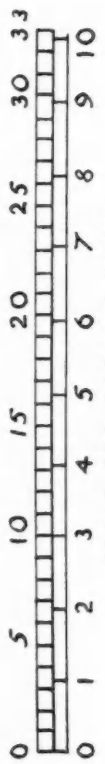


ELEVATION, PLAN AND SECTION OF CENTRAL TRUSS



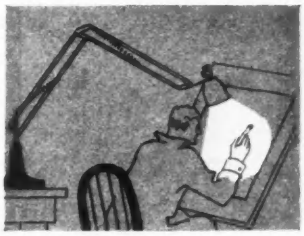
ELEVATION, PLAN AND SECTION OF TRANSVERSE BEAM





SCALE FOR DETAILS ONLY

Detail drawings of the roof, a description of which is given overleaf.



TRADE NOTES

[*BY F. R. S. YORKE, A.R.I.B.A.*]

Adjustable Electric Lamp

THE Anglepoise is a new type of electric lamp, made by Herbert Terry, with a series of compensating springs, so that all clamps, fly-nuts, friction joints, etc., are eliminated, and the balance is so fine that a light touch instantly sets the lamp in any required position. It is supplied with push-bar switch, flex and compound plug, either with heavy base, or with a lighter bracket for fixing to a table or wall surface. It costs £4 4s. in chromium plate, and £3 3s. in black enamel.

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It is the most flexible fitting of its kind I have seen in this country.

Traps

I have received from Messrs. Claughtons, notes concerning Soldex connections for drawn traps. These connections are designed to provide a simple, inexpensive and efficient means of jointing traps to wastes without the use of solder. The joint is effected by means of a threaded ring or bush, fixed in the end of the trap by turning the lead over the top edge of the ring. The tail piece or "lining" is screwed into the bush, and the joint completed by tightening the back nut.

S. Trap with Soldex connection.

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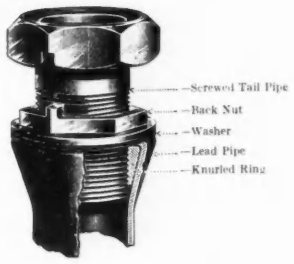
P. and S. traps, connections and wastes are supplied together in 1¼ in. and 1½ in. diameters in various weights. The 5 lb. weight. P type lavatory wastes cost 55s. per dozen.



Soldex patent connection.

Dry Rot

According to the findings of the Linoleum Manufacturers' Association, in all badly constructed ground floors, made from unseasoned wood, dry rot may and probably will develop, irrespective of floor covering, but a well-constructed floor maintained under good conditions, can be covered with any floor-covering, even of the imperviousness of glass.

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Eradication of dry rot is not a simple matter and methods employed must usually be drastic. A very thorough inspection is necessary to determine how far the disease has spread, and it should not be forgotten that the rootlets (or Hyphæ) may penetrate brick walls, or even soft stone walls, or pass along steel girders for some distance. Any treatment must ensure total destruction of the fungus and its spores, and the prevention of a recurrence of the disease.

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Infected timber and loose shavings should be taken out and burned at once in the open air. The danger from infected dust should not be forgotten, as the spores are very light and easily distributed. New timber for replacement should be treated with a reliable preservative.

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The walls meanwhile should be treated with a blow-lamp—or, better, an oxyacetylene burner—so that no spores may live in crevices between stones or bricks. Bearer or sleeper walls should be taken down and rebuilt, each brick being burnt with a blow-lamp. The opportunity should be taken to provide ample ventilation by honeycombing the joist bearers and by the insertion of air-bricks in the walls. Should it be impossible to gain direct access to the outer air, communication should be established with the air space below the floors in the adjoining rooms which have outlets to the open air. The earth or other soft filling below the floor should be removed to a depth of about six inches, the exposed surface then sprayed with corrosive sublimate, or treated with quicklime, and the level made up again with concrete.

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All sources of dampness should be eliminated by attending to gutters, leaks, dampcourses and preventing moisture rising from the ground.

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Should the air vents have been blocked outside by garden beds formed against them, the vents must be uncovered and tests made to see if through ventilation is thoroughly effective.

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The tools employed in the removal of infected material must be thoroughly disinfected, in case spores may adhere to them.

•

However drastic the treatment to eradicate the pest, there is always risk that a few spores may escape destruction. Vigilance, therefore, is necessary for a year or two afterwards to detect immediately a subsequent outbreak.

•

Preventive measures in new construction. The major causes of the disease are dampness and stagnant air, and without these conditions dry rot spores cannot well flourish.

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Special consideration should be given to the exclusion of moisture from walls, roofs and gutters. Exterior 9-inch brick walls are usually too porous to dispense with some protective covering, whilst 11-inch cavity walls often have their efficiency impaired by mortar dropping in the cavity and forming bridges for moisture to pass from the outer to the inner wall. Concrete blocks, poured concrete and the junction of poured and pre-cast concrete work are all to some degree permeable. Dampcourses, to be effective, should be made of an imperishable material and should be placed in both exterior and interior walls. Thorough ventilation around timber is important, and does not often receive the attention it merits. The provision of air

The Anglepoise electric lamp. *See note on this page.*

vents should be on a well-defined plan. Too often two or three air bricks are put haphazard in external walls with so little care that interior bearer walls render their ventilation properties inoperative. Interior walls should be honeycombed so that they do not interrupt air currents—which should cross one another, passing over all the space so that pockets of stagnant air are not left in corners or other places.

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Well-seasoned timber should be selected, as free from sapwood and shrinkage cracks as possible, and should be stored for at least one month in a dry place before use. It is a good thing to treat timber with a reliable preservative before it is placed in position. The ends of beams should invariably be treated, and an air space left between them and the wall.

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Affected linoleum should be taken out to the atmosphere and exposed in order that fungus which may be adhering to it shall shrivel. It should then be cleaned thoroughly with a weak carbolic solution, or one of the known fungicides. Having been allowed to dry, the linoleum may be relaid, the floor meantime having been treated as suggested above.

LAW REPORT

CLAIM FOR ARCHITECT'S FEES

Frere v. *Royal College of Surgeons, England.—King's Bench Division. Before Mr. Justice Mackinnon.*

THIS was an action by Mr. Eustace Corrie Frere, F.R.I.B.A., of Charterhouse, E.C., to recover from the Royal College of Surgeons, England, of Lincoln's Inn Fields, £733, the balance of fees alleged to be due to him for work done as architect for the defendant college during the years 1929-30-31, or their agents, Lord Moynihan and Sir Arthur Keith, on the Buckston Browne Farm, Kent, and for a scientific research establishment which the defendants then contemplated building on a site adjoining Downe House, Downe.

The defence was a denial of liability except as to a balance of £94 4s. 2d.

Mr. Sidebottom appeared for the plaintiff and Mr. Singleton, K.C., and Mr. C. L. Henderson for the defendants.

Mr. Sidebottom, in opening the plaintiff's case, said the claim was in two main parts, the first being for £558 in respect of work done by the plaintiff in regard to the Research Institute, and the second for work he did in the defendants' premises in Lincoln's Inn Fields. Plaintiff had been in practice as an architect for 40 years and he had been employed by the college for about 25 years, and during that time no complaint was ever made about his work or his charges. He would get his instructions from the president of the college, or the conservator, Sir Arthur Keith, or the secretary. The whole of the scheme proposed was not proceeded with, but the plaintiff was entitled to be paid what he claimed in connection with it.

In 1929 the plaintiff was asked to see the president of the college and Sir Arthur Keith, who informed him of the proposed scheme at Downe, and other interviews followed, and ultimately he received his instructions, being informed that the college would probably spend about £20,000 as part of the scheme, which would be capable of extension. Plaintiff prepared plans which would cost about £17,000 to carry out, but finally the scheme was abandoned.

Mr. Frere gave evidence that the fees he had charged were in accordance with the scale of the R.I.B.A.

Cross-examined by Mr. Singleton, Mr. Frere denied that when the matter was first discussed with regard to the scheme he was told that it was a pure venture and that there was no money to pay any fees. He quite appreciated that Sir Arthur Keith did not want to spend more than £10,000, but the difficulty was that with the requirements the place could not be built for the money. It was obvious in April, 1931, that the estimate of £15,000 was going to be exceeded. He was told that Sir George Buckston Browne was putting down £50,000 and would provide £100,000 eventually. He knew that nothing could be arranged about plans of buildings without the sanction of the council or committee. He did not know what figure they could go to, but he knew that they wanted something to be done for £15,000. The cost of what they wanted would run to £19,500 and directly they knew, they said they could not afford it.

Mr. Sydney Joseph Tatchell, F.R.I.B.A., of Messrs. Tatchell and Wilson, of the Strand, W.C., vice-president of the R.I.B.A., gave evidence as to the Institute's scale of fees in force when plaintiff did the work in respect of which he was now claiming, but which scale had since been revised by the Institute and which now was based on a *quantum meruit* for abandoned work.

For the defence, Lord Moynihan gave evidence. He said he was the former president of the college and that he had no authority to engage the plaintiff as architect and he had never engaged him. In 1931 the scheme, which had really never been taken up, was completely dropped. The most money ever available for the building of the research establishment was £15,000, with a reservation of £2,000 for incidental items. Plaintiff had no authority to do any work for the college which came in excess of that estimate. He had authority to give the plaintiff instructions for work involving an expenditure of not more than £50. Lord Moynihan said his dream was to extend the activities in research. When the matter first came before the committee in January, 1931, they turned it down. It was his idea to get some generous donor to finance the scheme, but he had no authority from the council or the college to engage the plaintiff. Plaintiff was told on the visit to Downe that the scheme was purely problematical. He had never seen the plans until they appeared in a newspaper. Sir Arthur Keith had no authority to instruct the plaintiff to prepare the plans, if he ever did so. That could only be done on the instructions of either the council or the museum committee.

Sir Arthur Keith also gave evidence and said that when he and Lord Moynihan had first discussed with the plaintiff the proposed scheme of building a research institute, the plaintiff was told that it was a purely private project and that it had nothing to do with the college or the council, and that there was no money available. The plaintiff accepted the position and said he would do all he could to help the project. The question of fees was never discussed. If the efforts to erect the institute met with success plaintiff would have benefited.

Cross-examined, witness said plaintiff never prepared plans for two schemes for Downe on his instructions. What he did he did gratuitously. They were all working gratuitously. That was how medicine advanced.

Mr. S. F. Cowell, formerly secretary to the college, said plaintiff had done work for the college since about 1907. He could only tell plaintiff to prepare plans on the instructions of the council or committee. Plaintiff was aware of the practice that orders could only be given by the council or the committee.

Mr. John Douglas Scott, F.R.I.B.A., also gave evidence for the defendants.

His lordship, in giving judgment, said that the dispute arose in 1933 when the plaintiff sent in his account in respect of various matters on which defendants had paid about £800, leaving a sum of £733 in dispute. The dispute concerned three matters. The first was a claim by the plaintiff for £265 for plans he had prepared for a scheme which was abandoned. The plaintiff alleged that he was instructed to do that by officers of the college, Lord Moynihan and Sir Arthur Keith. It was quite clear, said his lordship, that the college knew nothing of this matter and if Lord Moynihan or Sir Arthur Keith did so employ the plaintiff, they did so without authority. No doubt the plaintiff did work in respect of those matters and whether he had any reasonable claim against somebody other than the college was a matter with which the court was not concerned. The second item of claim was for £292 odd which was admittedly for work done for the college. The plaintiff had to be paid his fees on the work executed, but he was not entitled to claim for anything else. As to the other item of the claim he thought the plaintiff had failed except as to a sum of £81 10s.

Mr. Singleton said the defendants had brought a certain sum into court by way of settlement of plaintiff's claim, and he asked for the costs after the date of payment in.

Mr. Sidebottom agreed to that, and his lordship said he would not enter any formal judgment, the parties to consent to the wording of the order of the court, when drawn up.

IN THAT CONTINGENCY

The following abstract of enquiries represents a number of those recently submitted to the Building Research Station. The information given in the replies quoted are based on available knowledge. It has to be borne in mind that further scientific investigations may, in the course of time, indicate directions in which the reply might be supplemented or modified. Moreover, the reply relates to the specific subject of the inquiries, and is not necessarily suitable for application to all similar problems. Crown Copyright Reserved.

Distortion of Concrete Floors

¶ *A FIRM of reinforced concrete engineers reported defects in a group of three shops, converted from an old building about five years previously by the provision of partition walls in the ground floors. A new concrete floor was laid at the same time.*

The original building was about fifty years old and had shown no signs of settlement or other defects. Serious trouble had, however, arisen with the new work. All the shop floors moved out of level, the movement being irregular and suggesting buckling of the floor rather than sinking. The counters were also distorted and had been repaired and trued to fit the floor several times.

The partition walls were merely divisions and did not support the first floor. Both cracked from top to bottom, the crack being wider at the bottom than the top. In addition the glass in the shop fronts had cracked and been replaced on two or three occasions during the previous eighteen months.

The concrete used in the ground floor was stated to be of poor quality, but it was difficult to obtain any information as to the specification, since neither the enquirers nor the present architect were concerned with the work which had given trouble.

A trial hole had been made against one wall. It was found that the earth was all filled in material, and that there was water about 3 ft. below ground-floor level.

The description given suggests distortion or expansion of the concrete floor rather than local subsidence or irregular settlement. It was therefore decided to make an examination of the concrete to discover whether conditions likely to cause such distortion of the floor were present.

The examination showed it to be, as reported, of poor quality. The aggregate consisted of a miscellaneous assortment of fragments of red brick, firebrick, cinder or clinker, plaster and natural stone. The concrete was very porous, and there were many large irregular cavities.

An appreciable amount of white material was present as thin films or inclusions in pockets in the concrete; this was found by qualitative tests to contain a high proportion of sulphate. Microscopic examination showed the presence in this material of fine crystals having the properties of calcium sulpho-aluminate, a chemical compound which is formed by the action of sulphates on hydrated Portland cement, with resulting expansion and disintegration.

There is no definite evidence from the sample submitted as to the source of the sulphate. It may have been derived from gypsum plaster amongst the broken bricks used for aggregate, or may possibly be present in some form in the filling below the floor.

The conditions would be favourable to sulphate attack. The porous aggregate would promote a continual rise of moisture from the ground water and a steady diffusion through the concrete of any sulphates present in the concrete or introduced from outside. The results of such attack would be irregular expansion, causing buckling and twisting of the floor, and it would seem that this is the explanation of the troubles reported with the floor and shop fronts.

If the foundations to the 9 in. cross walls are of the same concrete this may also have expanded and may have played a part in the development of the vertical cracks in these walls. Unfortunately, no method of dealing with this foundation concrete will be successful apart from replacing it, which will obviously be an expensive procedure.

As regards the floors it is suggested that these should be taken up and replaced with good quality, dense, ballast concrete. If it is suspected that sulphate has actually been derived from the hard core filling, e.g., if this is of brick to which gypsum plaster is adhering in large quantities, it would be as well to replace this, too, with crushed stone or brick known to be free from sulphate.

Mortar for Setting and Rendering Lightweight Partition Slabs

¶ *A FIRM manufacturing lightweight partition slabs asked for advice on the composition of mortar for setting the slabs and for rendering. They stated that a lean cement-sand mix had been recommended for setting, but workmen objected to this because it was not sufficiently "fat." In many cases a small amount of dry hydrated lime—about 10 per cent. of the cement content had been added. The enquirers desired to know whether the addition of the lime either to bedding or rendering would have any detrimental effect.*

It is quite realized that the bricklayer might find a lean sand cement mortar harsh in use, especially if the sand were sharp and free from loam. The addition of 10 per cent. of lime by volume or even by weight of the cement would effect an improvement without, in our opinion, any compensating disadvantages. There appears to be no reason why the proportion of lime should not be very much increased with an improvement in the workability and general properties.

With respect to renderings on internal partitions, the addition of so small a proportion as 10 per cent. (reckoned on the cement content) of slaked lime or of hydrated lime to the cement and sand mix for rendering would hardly produce a great improvement of working qualities, unless, indeed, an extremely plastic and well soaked high calcium lime putty were used, though a skilled plasterer might be able just to detect the presence of the added lime by the slight change in colour and texture. In our experience a very much larger proportion of lime can be used with advantage, especially when the dry hydrate is used in place of "run" and matured putty, since commercial dry hydrates, as at present produced, are generally less plastic than a putty carefully run from quicklime. It is best, when employing a dry hydrate, to soak this as long as possible before use, at least 24 hours.

In view of the necessity, in such gauged mixes, of conserving the setting powers of the cement present, it is preferable to mix the lime and sand first, using well-matured lime putty or well-soaked hydrate; then to add the necessary cement at the last moment, near the job. There is a common tendency to treat a cement lime mix as though it were lime coarse stuff, able to be retempered and knocked up indefinitely without harm. Actually the mix should be treated as essentially a cement mix; it should be used up within about two hours, and not retempered: all partially set material should be discarded.

With these precautions it is found that suitable proportions for rendering are one part by volume of Portland cement (measured lightly packed in a small box) to from 6 to 10 parts of lime and sand coarse stuff. The lime coarse stuff should be about the usual 1 : 3 mix, with a reasonably clean sand of a type which plasterers would be willing to use, not a coarse, harsh sand washed specially for cement constructional work. Too loamy a sand would, of course, retard the setting unduly.

If the mix is made with unsoaked dry hydrated lime, the proportions are approximately 1 : 3 : 8 to 12, i.e., one part of Portland cement (measured lightly packed in a small box) to three parts of dry hydrated lime, measured similarly, to from 8 to 12 parts of a suitable sand, all by volume. If lime putty, or soaked hydrated lime, be used in place of dry hydrate in the same proportions by volume the mix is somewhat richer, actually, on account of the bulking properties of dry hydrated lime.

It should be noted that the rate of hardening of these mixes (in which the cement is much diluted with lime) is comparatively leisurely, so that unless high suction is operating and a high rate of drying is obtained, the material may remain somewhat soft for a day or two, unlike ordinary cement mortar. But the mixes quoted harden up ultimately and attain a good strength. Whilst total immunity from cracking is hardly to be expected, they are reasonably satisfactory in this respect. The finishing coat should not be applied until the undercoat has dried out completely and finished cracking. It will then probably be necessary to wet the undercoat down well before skimming, as such lime-cement mixes show high suction.

In all cases where lime is used in conjunction with Portland cement, it is essential that the lime be perfectly sound, i.e., free from expansive slow-slaking particles, since the early set of the cement causes any slight unsoundness of the lime to manifest itself in a most disagreeable manner. This is probably the origin of the idea that cement and lime are incompatible. We do not subscribe to this view, but agree that for satisfactory work it is necessary to use carefully slaked and matured lime putty or a dry hydrated lime supplied under a guarantee of soundness by the maker.

Note: There is, of course, a variety of materials which can be used for rendering or plastering internal partitions, and a choice amongst these will be guided by a number of considerations. The above reply is not intended to urge the merits of cement or cement lime mixes as against, say, calcium sulphate plasters as a

class, but to show how cement-lime mixes may be used to the greatest advantage.

Properties of Bricks

¶ *A FIRM of architects desired an opinion as to the quality of certain facing bricks. Figures were submitted showing the total porosity and crushing strength of the bricks. The enquirers considered the absorption unduly high, as a brick absorbed nearly 30 per cent. of its weight of water on immersion for 24 hours. An opinion was desired as to whether the brick would absorb water so rapidly from the cement mortar as to prevent a proper set of the cement, and, in addition, whether the bricks might allow of damp penetration through the wall.*

In commenting on the figures for strength and absorption submitted, it was stated that the strength of bricks is, of course, of importance where high loads have to be carried, and in such work due attention must also be paid to the strength of the mortar in which they are built. In the majority of buildings other than those of an engineering character the bricks are rarely stressed to anything like their full capacity, so that the actual strength is usually of little importance. The strength gives no indication of the weathering properties of the bricks and this test cannot be regarded as of great interest in assessing the value of a brick for general building purposes. On the other hand strength tests on a number of bricks from the same batch may give an idea of the uniformity of the batch and, considered as a test of uniformity, may be useful. In the enquiry a single result only was given, providing no information as to variability and if this was actually the result of a test on a single brick it might well be quite unrepresentative of the bricks as a whole.

The total porosity of a brick is in our experience of very little interest, and gives no indication at all of the behaviour of the brick in a wall. It is presumably intended to give an indication of the liability of the wall to allow damp penetration, but the wall construction and nature of the jointing material are of very much greater importance here, and, in any case, the rate at which the brick absorbs moisture by capillary forces is of greater interest than its total porosity.

It is found that the most usual way by which moisture penetrates to the inner surface of a solid wall is by the joints, and in particular by fine cracks in the joints or between the side of the joint and the brick. Such cracks occur more frequently with cement mortars than with lime or "compo" (lime-cement) mortars. A solid wall bult in "compo" or lime mortar is thus generally more "weatherproof" than a wall built in a dense cement mortar. On the other hand, practically all bricks and mortars have a fine pored structure and if one face of a solid wall were kept continuously wet, moisture must eventually reach the other face. In practice, of course, the wall face is alternately wet and dry, and moisture is able to evaporate from the outer face, but it is recognized that, during long periods of very severe rain and wind, damp may reach the inner face of almost any 9 in. or even 14 in. solid wall. Under such severe conditions, a wall built of very permeable bricks may be worse than one of dense bricks. A high absorption value does not necessarily imply high permeability, in fact, of two bricks it may be found that the one with the higher absorption has the lower permeability.

To obtain a weatherproof wall, therefore, the considerations to be borne in mind, placed approximately in order of their importance, are : a construction, whether cavity or solid. No case of damp penetration through a *properly built* cavity wall has been reported to this Station. If a solid wall (b) material used for jointing, (c) overall thickness of wall, (d) rate at which water is absorbed by the bricks.

In order to assess the suitability of any particular type of brick for general building purposes the tests usually carried out at this Station are (1) soluble salt content, (2) efflorescence test, (3) resistance to crystallization of salts, (4) resistance to freezing, (5) moisture movement, (6) rate of absorption of water and permeability, (7) compressive strength carried out on not less than 12 bricks.

Of these tests, (1), (2) and (3) show the likelihood of the formation of efflorescence and particularly the likelihood of disruption of the bricks by the crystallization of soluble salts. This is one of the major causes of decay of bricks. The purpose of the freezing test (4) is self explanatory. Test (5) reveals whether there is any undue expansion on wetting, or contraction on drying the bricks and may throw some light on the effectiveness of the burning of the bricks : (6) and (7) are discussed above.

Construction of a Sound-proof Folding Partition between two Classrooms

¶ *ARCHITECTS wished to fix sliding and folding wood partitions between school classrooms but were of the opinion that in general these were not sufficiently sound-proof. They suggested facing the wood panels with sound absorbent materials and possibly hanging heavy curtains, in addition.*

Comments were asked for on this suggestion.

It seems very doubtful whether the methods suggested for reducing the transmission of sound through folding partitions would be effective.

Problems of sound absorption and of sound insulation are quite distinct. Sound "absorbent" materials are useful as surface linings in enclosed rooms to adjust the time of reverberation of the room for the purpose of obtaining good hearing conditions. They have not necessarily any particular merit in reducing the transmission of sound from one room to another.

The subject of sound transmission is dealt with in Building Research Bulletin, No. 14, *The Reduction of Noise in Buildings*, published by H.M. Stationery Office, price 9d. net, and in this are tabulated the sound reduction values of various materials and constructions. It will be seen here that the sound reduction of hair felt, 1 in. thick, was found by Paul Sabine to be only 7 decibels and, since the sound reduction of porous flexible materials varies directly with their thickness, the reduction of even a heavy curtain is likely to be very slight. Similarly the application of sound absorbent materials to the face of the door is unlikely to be of any great advantage.

It is most probable that the greater proportion of sound passing through a folding partition does so by way of air gaps above and below the partition and between the leaves. A considerable volume of sound may pass through a long, fine air gap. There would not seem any insuperable difficulty in fixing felt or rubber strips to the stiles to provide air-tight joints and flexible strips could probably be arranged at the foot and at the head.

If it is possible to provide air-tight joints throughout, then further benefit may be derived from the use of specially constructed doors. These should be as massive as possible and there may be some advantage in the provision of porous flexible material such as thick felt or quilt between rigid surfacing materials, though definite experimental data on this point are not available. Suggestions for the construction of sound-proof doors are given in several textbooks on acoustics, but it should be realized that elaborate construction will only be justified if air gaps can be sealed and precautions are taken to prevent the transmission of sound by other paths as, for instance, through open windows.

IN PARLIAMENT

[BY OUR SPECIAL REPRESENTATIVE]

Sheriff Court, Edinburgh

Mr. Guy asked the First Commissioner of Works if he would state the present position of the scheme for the construction of the new sheriff court at Edinburgh and the approximate date for the commencement of building operations.

Mr. Ormsby-Gore said that the contract for the demolition of the buildings on the site to ground level was completed, and a contract had been made for the remaining demolition and the construction of foundations. This work would be commenced immediately.

Bricks Imported from Belgium

Mr. Stourton asked the President of the Board of Trade if he could state the number of bricks imported from Belgium during the past 12 months to the nearest convenient date, and during the previous year.

Mr. Runciman said that during the twelve months ended September 30, 1934, the number of bricks of brick earth or clay imported into the United Kingdom and consigned from Belgium, was 283,868,000. During the preceding twelve months, the number was 165,892,000.

Demolition without Notice

Sir Waldron Smithers asked the Minister of Health if he could state how many cases had been brought to his notice where a local authority had sent workmen to demolish a private house without notice and without compensation, and to sell the rubble on the site to pay for the expenses of demolition.

Sir Hilton Young said that before ordering the demolition of a house, the local authority were required to notify the owner. No case had been brought to his notice in which an authority had disregarded this requirement. Where the owner failed to carry out his statutory duty to demolish a house on which a demolition order had become operative, it was and had been since 1890, the duty of the local authority to demolish it and sell the materials. The legislation make no provision for compensation being paid in the case of a demolition of a house which was unfit for human habitation.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

CHELSEA. *Hospital accommodation.* The L.C.C. is to provide additional nurses' accommodation at St. Stephen's Hospital, at a cost of £25,550.

COULSDON. *Houses and Shops.* Plans passed by the U.D.C.: 12 houses, The Glade, and five houses, Coulsdon Road, for Firmus Constructions, Ltd.; four shops, Old Lodge Lane, for Messrs. F. W. Rees and Partners; four houses, The Netherlands, Hooley, for Messrs. Truett and Steel, Ltd.; eight houses, Coulsdon Road, for Messrs. R. Seller & Co.; two houses, Meadway, for Messrs. Beaurain and Goring, Ltd.; two houses, Bradmore Way, for Mr. H. Foster; four houses, The Glade, for Firmus Constructions, Ltd.; two houses, Alexander Road, for Mr. W. Ingram; two houses, Chaldon Way, for Mr. J. C. Hutchinson; eight cottages, Woodplace Lane, for Messrs. Hodgson, Dixon and Quick. Plans submitted: Four houses, Coulsdon Road, for Firmus Constructions, Ltd.; two houses, Bradmore Way, for Mr. H. Foster; four houses, The Glade, for Firmus Constructions, Ltd.; two houses, Placehouse Lane, for Mr. A. E. Hendra; 11 houses, Taunton Lane, for Firmus Constructions, Ltd.

COULSDON AND PURLEY. *Houses.* The U.D.C. has approved land unit plans submitted by Messrs. Gunton and Gunton, on behalf of Fairdean Heights, Ltd., for the proposed erection of 1,011 houses, at Fairdean Heights.

EALING. *Cinema, etc.* The Town Planning Committee of the Corporation has declined to grant an application by Messrs. Lincoln and Lincoln for permission to erect a cinema, theatre, café, and car park, adjoining the site of the proposed post office at Greenford Road.

EALING. *Estate Development.* The Housing Committee of the Corporation reports receipt of sanction to borrow £2,600 for the purchase of the Greenford Road housing site, and has authorized the borough engineer to prepare plans for the development of the estate.

HACKNEY. *Tenements.* The B.C. has obtained sanction to borrow £72,630 for the erection of tenements on the Banister Street area.

KENNINGTON. *School.* The L.C.C. is to erect an elementary school for 900 in Bowling Green Street, to meet the demand for such accommodation through the erection of 1,264 tenements in the vicinity of the Oval.

SANDERSTEAD. *Houses and Shops.* Plans passed: Four new streets, off Limpsfield Road, for Messrs. Meakin Archer & Co.; 26 houses, Birdwood Close, Selsdon, for Mr. H. N. Dering; 15 houses, Lower Barn Road, for Messrs. John Laing and Son, Ltd.; 26 garages, Mitchley Avenue, for Messrs. Harold Williams, Holliday and Partners; two shops and flats, Addington Road, Selsdon, for Messrs. E. Holbrook and Son; two shops and flats, Addington Road, Selsdon, for Mr. C. Bowditch; five houses, Birdwood Close, for Mr. H. N. Dering; two houses, Glebe Hyrst and house, North Down, for Mr. H. P. Hawkes. Chapple Estates, Ltd., are to erect 257 houses on the Kingswood estate.

WEST KENSINGTON. *School.* The L.C.C. Education Committee is to reconstruct the central school at a cost of £30,000.

WHITECHAPEL. *Dwellings.* The L.C.C. is to erect 62 dwellings on the Old Castle Street site, at a cost of £30,000.

SOUTHERN COUNTIES

BRIGHTON. *Shops.* The Improvements Committee of the Corporation has instructed the Borough Engineer to prepare plans for the erection of shops on the site of Albion House and Newport House, High Street, Rottingdean.

BRIGHTON. *Houses, flats, etc.* Plans passed by the Corporation: Three flats, Clifton Road, for Mr. E. Davis; four flats, Preston Road, for Mr. J. Salbstein; amended lay-out, Old Mill estate, Patcham, for Messrs. Braybons, Ltd.; two bungalows, Reservoir Road, Rottingdean, for Mrs. L. Anson; new street off Carden Avenue, Patcham, for Varndean Estates, Ltd.; eight shops, Carden Avenue, Patcham, for Messrs. Braybons, Ltd.; flats, Silwood Road for Mr. T. J. Brookes; two flats, Surrenden Road, for Dr. E. Merry; four houses, Carden Avenue, Patcham, for Messrs. Braybons, Ltd.; nine houses, Friar Crescent, Patcham, for Sussex Property and Building Co., Ltd.; two flats, Surrenden Road, for Mr. E. J. Phillips; four houses, Willmington Way, Patcham, for Mr. C. W. Parkes. Plans submitted: two shops, Clifton Road, for Mr. C. Parsons; 18 flats, Hampstead Road, for Mr. G. Ayling; 30 bungalows, Kenmure Avenue, Patcham, for Ladies Mile Estate, Ltd.; shops and flats, London Road, Patcham, for Messrs. Haywards (Brighton), Ltd.

GUILDFORD. *Houses.* The Corporation Electricity Committee is to provide a supply to an estate at Bannister's Farm, in course of development by Mr. H. Ashenden, at an estimated cost of £1,500. One hundred houses are to be erected at the estate in the first instance.

GUILDFORD. *Houses.* Plans passed by the Corporation: Four houses, Daryngton Drive, for Messrs. R. Holford & Co.; two houses, Scillonian Road, for Mr. J. Purser; two houses, Epsom Road, Merrow, for Mr. R. L. Wood; three houses, Ash Grove, for Mr. C. T. Corps; 10 houses, Byrefield Road, Stoughton, for Messrs. F. P. Scott and Co.; two houses, Sandfield Terrace, for Mr. G. G. Clark; two houses, Scillonian Road, for Mr. J. Purser; four houses, Bannister's Farm estate, Bye-pass Road, for Mr. H. Ashenden.

HERNE BAY. *Houses.* Plans passed by the U.D.C.: Nine houses, Greenhill Gardens, etc., for Messrs. Goodwin and Russell, Ltd.; two houses, Downs Park, for Mr. F. Iggulden; two bungalows, Carlton Hill, for Mr. H. Pettman; two bungalows, Osborne Gardens, for Mr. J. C. Clague; four houses, Clarendon Street, for Mr. J. C. F. Liddle; six houses, Greenhill Grove estate, for Messrs. Carters.

MIDLAND COUNTIES

STOKE-ON-TRENT. *Houses, etc.* Plans passed by the Corporation: Two houses, Stone Vale, Trent Vale, for Messrs. P. Bailey & Co.; four houses and shops, Wilson Road, Hanford, for Mr. J. Bates; 12 houses, Wilson Road, Hanford, for Mr. E. Johnson; six houses, Cemetery Road, Shelton, for Mr. G. B. Day; four houses, Chell Green Avenue, for Mr. C. Kearton; two houses, Clement Road, Chell, for Messrs. R. Ray and Son; two houses, High Lane, Burslem, for Messrs. J. H. Broadhurst and Son; 10 houses, Argyle Road, Sneyd Green, for Mr. J. Thompson; six houses, Heron Cross, Fenton, for Messrs. P. Bailey & Co.; two houses, Stone Road, Lightwood, for Mr. H. G. H. Embrey; six garages, Church Road, Blurton, for Mr. A. Millward; two houses, Allerton Road, Trentham, for Mr. W. Brammer; five houses and shop, Oxford Road, Chell, for Mr. T. B. Cartlidge; two houses, Leek Road, Abbey Hulton, for Messrs. Ball and Robinson; two houses, Sefton Avenue, Sneyd Green, for Mr. G. Talbot; four houses, Leek New Road, Sneyd Green, for Messrs. Barlow Bros.; 10 houses, Belgrave Road, Longton, for Mr. A. Lilley; three houses, Goms Mill Road, Longton, for Mr. Brettle; six garages, Blurton Road, Blurton, for Mr. A. Millward; four houses, Chell Green Avenue, for Mr. C. Kearton; two houses and shops, America Street, Tunstall, for Mr. J. Cartlidge; two houses and shop, Leek Road, Milton, for Mr. E. Harris; six houses, Cemetery Road, Shelton, for Mr. G. B. Day; shop, Pall Mall, Hanley, for Star Cleaning Co., Ltd.; three houses, Whitmore Street, for Messrs. Tideswell Bros.; four houses, High Street, Bucknall, for Mrs. O. R. Beresford; 34 houses, Occupation Street, for Mr. F. Gibson; four shops, Wilson Road, Hanford, for Mr. J. Bates: nine houses, Whitmore Street, Etruria Vale, for Messrs. Tideswell Bros.; two houses, Leek Road, Norton, for Mr. H. N. Bourne; two houses, Weston Coyney Road, Meir, for Mr. R. J. Addison; two houses, Dawn Avenue, Burslem, for Mr. H. Woolam; two houses, Werrington Road, Bucknall, for Messrs. Cummings and Sons; two houses, Highfield Avenue, Trentham, for Mr. W. Brammer; 16 houses, Birks Street, for Messrs. Holloway & Co. Plans submitted: 11 Cottages, Stanfield Road, Tunstall, for Messrs. J. W. Thornley and Son; 10 houses, Belgrave Road, Dresden, for Mr. A. Lilley.

WOLVERHAMPTON. *Houses and Flats.* Plans passed by the Corporation: Two houses, Dunstall Hill Estate, for Mr. H. Grindley; 18 houses, Newbolds Farm Estate, for Messrs. E. Leach & Co.; six houses, Moor estate, Oxley, for Messrs. Pidgeon Bros.; four flats, Newhampton Road, East, for Mr. Thos. Jones; eight houses, Aldersley Avenue, for Mr. B. T. Fantham; seven houses, Church Road, Oxley, for Messrs. H. Gough and Son, Ltd.; 34 houses, Powell Street, for Mr. H. Grindley; three houses, Coleman Street, for Mr. E. E. Mason; two houses, Goldthorn Road, for Mr. C. E. Woolcock; 20 houses, Marsh Lane, for B. and E. Estates; three houses and three bungalows, Lea Road, for Mr. A. Beech; two houses, Finchfield Lane, for Mr. H. Webberley; eight houses, Warstones Road, for Messrs. Flavell and Webberley. Plans submitted: 22 houses, off Bee Road, Fordhouses, for Mr. W. H. S. Morris; 16 houses, Adelaide Street, for Messrs. Weaver and Walters.

NORTHERN COUNTIES

BOLTON. *School.* The Education Committee is to proceed with the erection of a school at the Top Brow estate.

BOLTON. *Houses.* Plans passed by the Corporation: Two bungalows, Chorley New Road, Lostock, for Mr. G. Partington. Plans submitted: 19 houses, Chorley Old Road, for Messrs. A. T. Reynolds & Co.

BOLTON. *Rehousing.* The Corporation is to purchase land from the Rt. Hon. Lady Beaumont, the Dove Mill Spinning Co., Ltd., and others, at Hulton Lane, at the price of £6,120, for the erection thereon of houses for rehousing persons displaced under clearance orders.

BOLTON. *Technical College.* The Education Committee has purchased a site in Manchester Road for the erection thereon of a new technical college.

BOLTON. *Library.* The Corporation has instructed the Borough Engineer to prepare plans and estimates for the erection of a branch library at Long Lane, Breightmet.

BOLTON. *Hospital Extensions.* The Corporation is in communication with the Ministry of Health with regard to the proposed extensions at the infectious diseases hospital, Hulton Lane.

GRIMSBY. *Baths.* The Corporation is to consider a motion by Councillor Wilkinson that it be an instruction to the Fisheries Institute Committee to prepare a scheme for the consideration of the Council for the erection of new baths in the borough, such scheme to include the provision of a swimming pool and slipper baths.

LEEDS. *Factory.* Messrs. J. W. Watson and Sons are to erect a factory at Lupton Avenue.

MORECAMBE. *Gas Mains, etc.* Following the construction of the new gas holder, the Gas Committee of the Corporation is to undertake further works, including mains extensions, at a total estimated cost of £15,276.

Manufacturers' Items

The business of Newalls Acoustic Products, Ltd., of Armley, Leeds, has recently been transferred to Newalls Insulation Co., Branch of Turner and Newall, Ltd., Washington Station, Co. Durham.

Newalls Acoustic Products, Ltd., was originally formed to handle the specialized development of asbestos acoustic materials in this country. We understand that the increasing sales and wide application of these products, both at home and abroad, have made it necessary to provide a larger and more extensive organization in order to cope with them. This, it is stated, will now be secured through the operations of Newalls Insulation Co.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A	Aberdeen ..	Scotland	1 6	1 1½
A_1	Abergavenny ..	S. Wales & M.	1 5	1 0½
A	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie ..	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_1	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham ..	Mid Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton	N.W. Counties	1 5½	1 1½
A_2	Boston	Mid. Counties	1 4	1 0
A	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A	Brighton ..	S. Counties	1 4	1 0
A	Bristol	S.W. Counties	1 5½	1 1½
B	Brixham ..	S.W. Counties	1 2½	11
A	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
A	Burslem ..	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury	N.W. Counties	1 5½	1 1½
A	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE ..	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A	Chelmsford ..	E. Counties	1 4	1 0
A	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A	Colchester ..	E. Counties	1 4	1 0
A	Colne	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorches ..	S.W. Counties	1 2½	11
A	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A_2	Dumfries ..	Scotland	1 5	1 0½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N.E. Coast	1 5½	1 1½
A_2	EASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE	E. Counties	1 4	1 0
A	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S. W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A	Glasgow ..	Scotland	1 6	1 1½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	Gosport ..	S. Counties	1 4½	1 0½
A_2	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln ..	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12–15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_2	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middlesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid Counties	1 5½	1 1½
A	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth	Scotland	*1 5½	1 1½
A_2	Peterborough	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	Slough ..	S. Counties	1 4½	1 0½
A_1	Solihull ..	Mid. Counties	1 5	1 0½
A_2	Southampton	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stirling ..	Scotland	1 6	1 1½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud ..	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist. ..	N.E. Counties	1 5½	1 1½
A_1	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay ..	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall ..	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick ..	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby ..	Yorkshire	1 4½	1 0½
A	Widnes ..	N.W. Counties	1 5½	1 1½
A	Wigan ..	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor ..	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A	Wycombe ..	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil ..	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	s.	d.
Bricklayer . . . . . per hour	1	7
Carpenter . . . . . ,,	1	7
Joiner . . . . . ,,	1	7
Machinist . . . . . ,,	1	8
Mason (Banker) . . . . . ,,	1	7
,, (Fixer) . . . . . ,,	1	8
Plumber . . . . . ,,	1	7
Painter . . . . . ,,	1	6
Paperhanger . . . . . ,,	1	6
Glazier . . . . . ,,	1	7
Slater . . . . . ,,	1	7
Scaffolder . . . . . ,,	1	3
Timberman	1	3
Navvy . . . . . ,,	1	2½
General Labourer . . . . . ,,	1	2½
Lorryman . . . . . ,,	1	5
Crane Driver . . . . . ,,	1	6
Watchman . . . . . per week	2	10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£	s.	d.
Grey Stone Lime . . . . . per ton	2	2	0
Blue Lias Lime . . . . . ,,	1	16	6
Hydrated Lime . . . . . ,,	3	0	9
Portland Cement, in 4-ton lots (d/d site, including Paper Bags) . ,,	1	18	0
Rapid Hardening Cement, in 4-ton lots (d/d site, including Paper Bags) . ,,	2	4	0
White Portland Cement, in 1-ton lots ,,	8	15	0
Thames Ballast . . . . per Y.C.		6	3
¾" Crushed Ballast . . . . ,,		6	9
Building Sand . . . . ,,		7	3
Washed Sand . . . . ,,		8	3
2" Broken Brick . . . . ,,		8	0
¾" ,, ,, ... ,,		10	3
Pan Breeze . . . . ,,		6	6
Coke Breeze . . . . ,,		8	9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s.	d.	6" s.	d.
Straight Pipes . . per F.R.	2	9	1	1
Bends . . . each	1	9	2	6
Taper Bends . . ,,	3	6	5	3
Rest Bends . . ,,	4	3	6	3
Single junctions . . ,,	3	6	5	3
Double . . ,,	4	9	6	6
Straight channels . . per F.R.	1	6	2	6
¾" Channel bends . . each	2	9	4	0
Channel junctions . ,,	4	6	6	6
Channel tapers . . ,,	2	9	4	0
Yard gullies . . ,,	6	9	8	9
Interceptors . . ,,	16	0	19	6
IRON DRAINS:				
Iron drain pipe . . per F.R.	1	6	2	6
Bends . . . each	5	0	10	6
Inspection bends . ,,	9	0	15	0
Single junctions . ,,	8	9	18	0
Double junctions . ,,	13	6	30	0
Lead wool . . . lb.		6		—
Gaskin . . . ,,		5		—

BRICKLAYER

	£	s.	d.
Flettons . . . . Per M.	2	18	0
Grooved do. . . . ,,	3	0	0
Phorpres bricks . . ,,	2	17	3
,, Cellular bricks . ,,	2	17	3
Stocks, 1st quality . . ,,	4	11	0
,, 2nd ,, . . ,,	4	2	6
Blue Bricks, Pressed . . ,,	8	17	6
,, Wirecuts . . ,,	7	17	6
,, Bridles . . ,,	7	0	0
,, Bullnose . . ,,	9	0	0
Red Sand-faced Facings . ,,	6	18	6
Red Rubbers for Arches . ,,	12	0	0
Multicoloured Facings . ,,	7	10	0
Luton Facings . . ,,	7	10	0
Phorpres White Facings . ,,	3	17	3
,, Rustic Facings . ,,	3	12	3
Midhurst White Facings . ,,	5	0	0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:			
Stretchers . . . . ,,	21	0	0
Headers . . . . ,,	20	10	0
Bullnose . . . . ,,	27	10	0
Double Stretchers . . ,,	29	10	0
Double Headers . . ,,	26	10	0
Glazed Second Quality, *Less* . ,,	1	0	0
,, Buffs and Creams, *Add* . ,,	2	0	0
,, Other Colours . . ,,	5	10	0
2" Breeze Partition Blocks . per Y.S.		1	7
2½" ,, ,, ,, . . ,,		1	10
3" ,, ,, ,, . . ,,		2	1
4" ,, ,, ,, . . ,,		2	6

MASON

The following d/d F.O.R. at Nine Elms:

	s.	d.
Portland stone, Whitbed . . F.C.	4	4½
,, ,, Basebed . . ,,	4	7½
Bath stone . . . . ,,	2	10
York stone . . . . ,,	6	6
,, ,, Sawn templates . ,,	7	6
,, ,, Paving, 2" . . F.S.	1	8
,, ,, ,, 3" . . ,,	2	6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£	s.	d.
24" × 12" Duchesses . . per M.	28	17	6
22" × 12" Marchionesses . ,,	24	10	0
20" × 10" Countesses . ,,	19	5	0
18" × 10" Viscountesses . ,,	15	10	0
18" × 9" Ladies . . ,,	13	17	6
Westmorland green (random sizes) . per ton	8	10	0
Old Delabole slates d/d in full truck loads to Nine Elms Station:			
20" × 10" medium grey per 1,000 (actual)	21	11	6
,, ,, green ,, ,,	24	7	4
Best machine roofing tiles . ,,	4	10	0
Best hand-made do. . . ,,	5	0	0
Hips and valleys . . . each			9½
,, hand-made . . . ,,			10
Nails, compo . . . . lb.		1	4
,, copper . . . . ,,		1	6

CARPENTER AND JOINER

	s.	d.
Good carcassing timber . . F.C.	2	2
Birch . . . . as 1" F.S.		9
Deal, Joiner's . . . ,, ,,		5
,, ,, 2nds ,, ,,		4
Mahogany, Honduras . ,, ,,	1	3
,, African . . ,, ,,	1	1
,, Cuban. . . ,, ,,	2	6
Oak, plain American . ,, ,,	1	0
,, Figured ,, . ,, ,,	1	3
,, Plain Japanese . ,, ,,	1	2
,, Figured ,, . ,, ,,	1	5
,, Austrian wainscot . ,, ,,	1	6
,, English . . ,, ,,	1	11
Pine, Yellow . . ,, ,,	1	0
,, Oregon . . ,, ,,		4
,, British Columbian . ,, ,,		4
Teak, Moulmein . . ,, ,,	1	3
,, Burma . . ,, ,,	1	2
Walnut, American . ,, ,,	2	3
,, French . . ,, ,,	2	3
Whitewood, American . ,, ,,	1	1
Deal floorings, ¾" . . Sq.	18	6
,, 1" . . ,,	1	1	6
,, 1¼" . . ,,	1	2	0
,, 1½" . . ,,	1	5	0
,, 1¾" . . ,,	1	10	0
Deal matchings ¾" . . ,,		14	0
,, 1" . . ,,		15	6
Rough boarding ¾" . . ,,	1	4	0
,, 1" . . ,,		16	0
,, 1¼" . . ,,		18	0
Plywood, per ft. sup. —Thickness ¼"			d. 4

Qualities	¼" AA. d.	A. d.	B. d.	⅜" AA. d.	A. d.	B. d.	½" AA. d.	A. d.	B. d.	⅝" AA. d.	A. d.	B. d.
Birch .	4	3	2	5	4	3	7½	6	4½	8½	7	6
Alder .	3½	3	2	5	4	3	6½	5½	4½	8	7	6
Gaboon Mahogany	4	3	3	6½	5½	4½	9½	7½	–	1/0½	10	–
Figured Oak 1 side	8½	7	–	10	8	–	11½	–	–	1/6	–	–
Plain Oak 1 side	6½	6	–	7½	7	–	9½	–	–	1/–	–	–
Oregon Pine	5	4	–	5½	5	–	6	–	–	–	–	–

		d.
Scotch glue	lb.	8

SMITH AND FOUNDER

Tubes and Fittings:
(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	¼"	⅜"	½"	¾"	1"	1¼"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10		
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9		
,, 3"-11½" long ,,	7	9	1/3	1/8	3/–		
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3		
,, ,, 3"M-½" long ,,	8	10	1/5	1/11	3/6		
Bends . . . ,,	8	11	1/7½	2/7½	5/2		
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11		
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–		
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3		
Tees . . . ,,	1/–	1/3	1/10	2/6	5/1		
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6		
Plain Sockets and nipples ,,	3	4	6	8	1/3		
Diminished sockets . ,,	4	6	9	1/–	2/–		
Flanges . . . ,,	9	1/–	1/4	1/9	2/9		
Caps . . . ,,	3½	5	8	1/–	2/–		
Backnuts . . . ,,	2	3	5	6	1/1		
Iron main cocks . . ,,	1/6	2/3	4/2	5/4	11/6		
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–		

Discounts:

TUBES.	Per cent.		Per cent.
Gas . . .	65	Galvanized gas .	52½
Water . . .	61½	,, water	47½
Steam . . .	57½	,, steam	42½
FITTINGS.			
Gas . . .	57½	Galvanized gas	47½
Water . . .	52½	,, water	42½
Steam . . .	47½	steam	37½

SMITH AND FOUNDER—*continued*

	s.	d.
Rolled steel joists cut to length . . cwt.	10	9
Mild steel reinforcing rods, ¼" . . ,,	8	6
,, ,, ⅜" . . ,,	8	3
,, ,, ½" . . ,,	8	0
,, ,, ⅝" . . ,,	7	6
,, ,, ¾" . . ,,	7	6
,, ,, 1" . . ,,	7	6
,, ,, 1¼" . . ,,	7	6
,, ,, 1½" . . ,,	7	6

Cast-iron rain-water pipes of ordinary thickness metal .	3" s.	d.	4" s.	d.
	F.R. 8			10
Shoes	each 2	0	3	0
Anti-splash shoes . . ,,	4	6	8	0
Boots . . . . ,,	3	0	4	0
Bends . . . . ,,	2	7	3	9
,, with access door . ,,	—		6	3
Heads . . . . ,,	4	0	5	0
Swan-necks up to 9" offsets . ,,	3	9	6	0
Plinth bends, 4½" to 6" . ,,	3	9	5	3
Half-round rain-water gutters of ordinary thickness metal .	F.R. 5			6
Stop ends	each	6		6
Angles . . . . ,,	1	7	1	11
Obtuse angles . . ,,	2	0	2	6
Outlets . . . . ,,	1	9	2	3

PLUMBER

	£	s.	d.
Lead, milled sheets . . cwt.	18	6	
,, drawn pipes . . ,,	17	0	
,, soil pipe . . ,,	18	6	
,, scrap . . ,,	10	6	
Solder, plumbers' . . lb.		9½	
,, fine do. . . ,,	1	0	
Copper, sheet . . ,,		8½	
,, tubes . . ,,		11	

L.C.C. soil and waste pipes:	3"		4"		6"	
Plain cast . . F.R.	1	0	1	2	2	6
Coated . . ,,	1	1	1	3	2	8
Galvanized . . ,,	2	0	2	6	4	6
Holderbats . . each	3	10	4	0	4	9
Bends . . . ,,	3	9	5	3	10	3
Shoes . . . ,,	2	10	4	4	9	6
Heads . . . ,,	4	8	8	5	12	9

PLASTERER

	£	s.	d
Lime, chalk . . . per ton	2	5	0
Plaster, coarse . . . ,,	2	10	0
,, fine . . . ,,	4	15	0
Hydrated lime . . . ,,	3	0	9
Sirapite . . . ,,	3	6	0
Keene's cement . . . ,,	5	0	0
Gothite Plaster . . . ,,	3	6	0
Thistle Plaster . . . ,,	3	6	0
Sand, washed . . . Y.C.		11	6
Hair . . . . lb.			6
Laths, sawn . . . bundle		2	4
,, rent . . . ,,		3	9
Lath nails . . . lb.			3½

GLAZIER

	s.	d.	s.	d.
Sheet glass, 21 oz., squares n/e 2 ft. s. F.S.				2½
,, ,, 26 oz. ,, ,, ,, ,,				3
Flemish, Arctic, Figured (white)* ,,				7
Blazoned glasses . . . ,,			2	6
Reeded; Cross Reeded ,,				11
Cathedral glass, white, double-rolled, plain, hammered, rimpled, waterwite				6½
Crown sheet glass (n/e 12 in. x 10 in.) ,,			2	0
Flashed opals (white and coloured) ,,	1	0 and	2	0
¼" rough cast; rolled plate . ,,				5½
¼" wired cast; wired rolled . ,,				9½
¼" Georgian wired cast. . ,,				11
¼" Polished plate, n/e 1 ft. . ,,	† 10 to		‡1	1
,, ,, 2 . ,,	†1	2 ,,	‡1	4
,, ,, 4 . ,,	†2	3 ,,	‡2	6
,, ,, 8 . ,,	†2	9 ,,	‡3	2
,, ,, 20 . ,,	†3	7 ,,	‡4	2
,, ,, 45 . ,,	†3	11 ,,	‡4	7
,, ,, 100 . ,,	†5	0 ,,	‡5	7
Vita glass, sheet, n/e 1 ft. . ,,			1	0
,, ,, ,, 2 ft. . ,,			1	3
,, ,, ,, over 2 ft. . ,,			1	9
,, ,, plate, n/e 1 ft. . ,,			1	6
,, ,, ,, 2 ft. . ,,			3	0
,, ,, ,, 5 ft. . ,,			4	0
,, ,, ,, — . ,,			5	0
,, ,, ,, 15 . ,,			6	0
,, ,, ,, over 15 . ,,			7	6
"Calorex" sheet 21 oz., and 32 oz. ,,	2	6 and	3	6
,, rough cast ¼" and ⅛" ,,		8½ ,,	1	0
Putty, linseed oil . . lb.				3

* *Colours*, 1d. *F.S. extra.*
†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£	s	d.
White lead in 1 cwt. casks . . cwt.	2	6	0
Linseed oil . . . . gall.		2	2½
Boiled oil . . . . ,,		2	4½
Turpentine . . . . ,,		2	1½
Patent knotting . . . ,,		14	0
Distemper, washable . . cwt.	2	6	0
,, ordinary . . ,,	2	0	0
Whitening . . . . ,,		4	0
Size, double . . . firkin		3	0
Copal varnish . . . gall.	1	3	0
Flat varnish . . . ,,		14	0
Outside varnish . . ,,		16	0
White enamel . . . ,,	1	15	0
Ready mixed paint . . ,,		13	6
Brunswick black . . ,,		7	6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR		£	s.	d.
Digging over surface n/e 12" deep and cart away	Y.S.		2	9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.		8	6
" to form basement n/e 5' 0" deep and cart away	"		9	0
" " 10' 0" deep and cart away	"		9	6
" " 15' 0" deep and cart away	"		10	0
If in stiff clay	add "			6
If in underpinning	"		4	0
Planking and strutting to sides of excavation	F.S.		1	0
" " to pier holes	"			5
" " to trenches	"			5
" " extra, only if left in	"			3
Hardcore, filled in and rammed	Y.C.		10	0
Portland cement concrete in foundations (6-1)	"	1	6	0
" " (4-2-1)	"	1	12	6
" " underpinning	"	1	16	0
Finishing surface of concrete, spade face	Y.S.			7

DRAINLAYER		4" s.	d.	6" s.	d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1	6	2	3
Extra, only for bends	Each	2	8	3	9
" junctions	"	3	9	4	6
Gullies and gratings	"	16	6	18	0
Cast iron drains, and laying and jointing	F.R.	4	9	6	9
Extra, only for bends	Each	10	6	15	6

BRICKLAYER		£	s.	d.
Brickwork, Flettons n lime mortar	Per Rod	27	10	0
" " in cement	"	28	15	0
" Stocks in cement	"	35	0	0
" Blues in cement	"	52	0	0
Extra only for circular on plan	"	2	0	0
" backing to masonry	"	1	10	0
" raising on old walls	"	2	0	0
" underpinning	"	5	10	0½
Fair Face and pointing internally	F.S.			1½
Extra over fletton brickwork for picked stock facings and pointing	"			8
" " " red brick facings and pointing	"			11
" " " blue brick facing and pointing	"		1	4
" " " glazed brick facings and pointing	"		3	6
Tuck pointing	"			7½
Weather pointing in cement	"			3
Slate dampcourse	"			10
Vertical dampcourse	"		1	1

ASPHALTER		s.	d.
½" Horizontal dampcourse	Y.S.	4	6
½" Vertical dampcourse	"	6	9
½" paving or flat	"	4	0
1" paving or flat	"	5	6
1" × 6" skirting	F.R.	1	0
Angle fillet	"		2
Rounded angle	"		2
Cesspools	Each	5	0

MASON		s.	d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17	9
Bath stone and do., all as last	"	13	6
Artificial stone and do.	"	13	0
York stone templates, fixed complete	"	10	6
" thresholds	"	13	6
" sills	"	1	0	6

SLATER AND TILER		£	s.	d.
Slating, Bangor or equal, laid to a 3" lap. and fixing with compo nails, 20" × 10"	Sqr.	3	10	0
Do., 18" × 9"	"	3	7	0
Do., 24" × 12"	"	3	17	0
Westmorland slating, laid with diminished courses	"	6	0	0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3	0	0
Do., all as last, but of machine-made tiles	"	2	16	0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	"	4	6	0
" " " " " " (green)	"	4	15	0

CARPENTER AND JOINER		£	s.	d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2	5	0
Shuttering to sides and soffits of beams	F.S.			8
" to stanchions	"			8
" to staircases	"		1	8
Fir and fixing in wall plates, lintols, etc.	F.C.		3	9
Fir framed in floors	"		4	6
" " roofs	"		6	6
" " trusses	"		7	6
" " partitions	"		8	6
¾" deal sawn boarding and fixing to joists	Sqr.	1	14	6
1" " " " "	"	1	17	6
1½" " " " "	"	2	3	0
3" × 2" fir battening for Countess slating	"		9	6
Do. for 4" gauge tiling	"		12	0
Stout feather-edged tilting fillet	F.R.			4½
Patent inodorous felt, 1 ply	Y.S.		2	3
" " " 2 "	"		2	9
" " " 3 "	"		3	3
Stout herringbone strutting to 9" joists	F.R.			10½
1" deal gutter boards and bearers	F.S.		1	2
1½" " " "	"		1	6
2" deal wrought rounded roll	F.R.			8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2	1	0
1¼" do.	"	2	10	0
1½" do.	"	2	17	0
1" deal moulded skirting, fixed on, and including grounds plugge to wall	F.S.		1	6
1½" do.	"		1	9

CARPENTER AND JOINER—*continued*		s.	d.
1¼" deal moulded sashes of average size	F.S.	1	9½
2" " " " "	"	1	11½
1¼" deal cased frames double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ¾" parting beads, and with brass faced axie pulleys, etc., fixed complete	"	3	7
2" " " " "	"	3	10
Extra only for moulded horns	Each		6
1¼" deal four-panel square, both sides, door	F.S.	2	0
2" " " " "	"	2	8
1¼" " but moulded both sides	"	2	4
2" " " " "	"	3	0
4" × 3" deal, rebated and moulded frames	F.R.	1	0
4½" × 3½" " " "	"	1	4
1¼" deal tongued and moulded window board, on and including deal bearers	F.S.	1	9
1¼" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2	6
1¼" deal moulded wall strings	"	2	1
1¼" " outer strings	"	2	4
Ends of treads and risers housed to string	Each	1	9
3" × 2" deal moulded handrail	F.R.	1	3
1" × 1" deal balusters and housing each end	Each	2	0
1¼" × 1¼" " " "	"	2	9
3" × 3" deal wrought framed newels	F.R.	1	3
Extra only for newel caps	Each	6	0
Do., pendants	"	6	0

SMITH AND FOUNDER		£	s.	d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.		15	6
Riveted plate or compound girders, and hoisting and fixing in position	"		19	6
Do. stanchions with riveted caps and bases and do.	"		19	0
Mild steel bar reinforcement, ¼" and up, bent and fixed complete	"		17	6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.			11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1	10	0

PLUMBER		£	s.	d.
Milled lead and labour in flats	cwt.	1	12	0
Do. in flashings	"	1	15	6
Do. in covering to turrets	"		2	3	0
Do. in soakers	"	1	7	6
Labour to welted edge	F.R.			3½
Open copper nailing	"			3
Close " "	"			4

Lead service pipe and fixing with pipe hooks	F.R.	½" s.	d.	¾" s.	d.	1" s.	d.	1¼" s.	d.	2" s.	d.	4" s.	d.
		10		1	0	1	3	2	0	2	10	—	
Do. soil pipe and fixing with cast lead tacks	"	—		—		—		—		—		5	6
Extra, only to bends	Each	—		—		—		—		2	0	6	9
Do. to stop ends	"	6½		8		9		11		1	0	—	
Boiler screws and unions	"	3	3	3	9	5	0	8	0	—		—	
Lead traps	"	—		—		—		6	3	8	9	—	
Screw down bib valves	"	6	9	9	6	11	0	—		—		—	
Do. stop cocks	"	7	0	9	6	12	6	—		—		—	

4" cast-iron ½-rd. gutter and fixing	F.R.	1	0
Extra, only stop ends	Each	1	0
Do. angles	"	1	6
Do. outlets	"	2	9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.	1	2
Extra, only for shoes	Each	1	3
Do. for plain heads	"	5	6

PLASTERER AND TILING		s.	d.
Expanded metal lathing, small mesh	Y.S.	2	0
Do. in n/w to beams, stanchions, etc.	"	2	9
Lathing with sawn laths to ceilings	"	1	3
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	"	1	5
Do. vertical	"	1	7
Rough render on walls	"	1	2
Render, float and set in lime and hair	"	1	3½
Render and set in Sirapite	"	1	9
Render, backing in cement and sand, and set in Keene's cement	"	1	11
Extra, only if on lathing	"	2	9
Keene's cement, angle and arris	F.R.		4
Arris	"		6
Rounded angle, small	"		1½
Plain cornices in plaster, including dubbing out, per 1" girth	"		3
1" granolithic pavings	Y.S.		1½
1½" " "	"	3	6
6" × 6" white glazed wall tiling and fixing on prepared screed	"	4	6
9" × 3" " " " "	"	17	6
Extra, only for small quadrant angle	F.R.	1	2	6

GLAZIER		s.	d.
21 oz. sheet glass and glazing with putty	F.S.		7½
26 oz. do and do.	"		8½
Flemish, Arctic Figured (white) and glazing with putty	"	1	1
Cathedral glass and do.	"	1	2
Glazing only, British polished plate	"		7
Extra, only if in beads	"		2
Washleather	F.R.		4

PAINTER		s.	d.
Clearcolle and whiten ceilings	Y.S.		6
Do. and distemper walls	"		9
Do. with washable distemper	"	1	1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	"	3	3
Do. on woodwork	"	3	6
Do. on steelwork	"	2	0
Do. and brush grain and twice varnish	"	5	6
Stain and twice varnish woodwork	"	1	11
Stain and wax-polish woodwork	"	4	6
French polishing	F.S.	1	2
Stripping off old paper	Piece	2	6
Hanging ordinary paper	from "	2	9

R.I.B.A. CENTENARY CONFERENCE · 1934

This supplement has been compiled for the use of architects who are now in London for the Centenary Conference. Below is a street map of the Portland Place area, and, on the pages following, plans of the R.I.B.A. building, where the Conference is being held, and the Conference programme.

OMNIBUSES

Up Great Portland Street to within 150 yards of the R.I.B.A.
No. 3 from County Hall. Nos. 59, 159 from Lambeth Bridge via Charing X and Piccadilly Circus; Nos. 137, 536 from Victoria, via Hyde Park Corner, Marble Arch and Oxford Street.

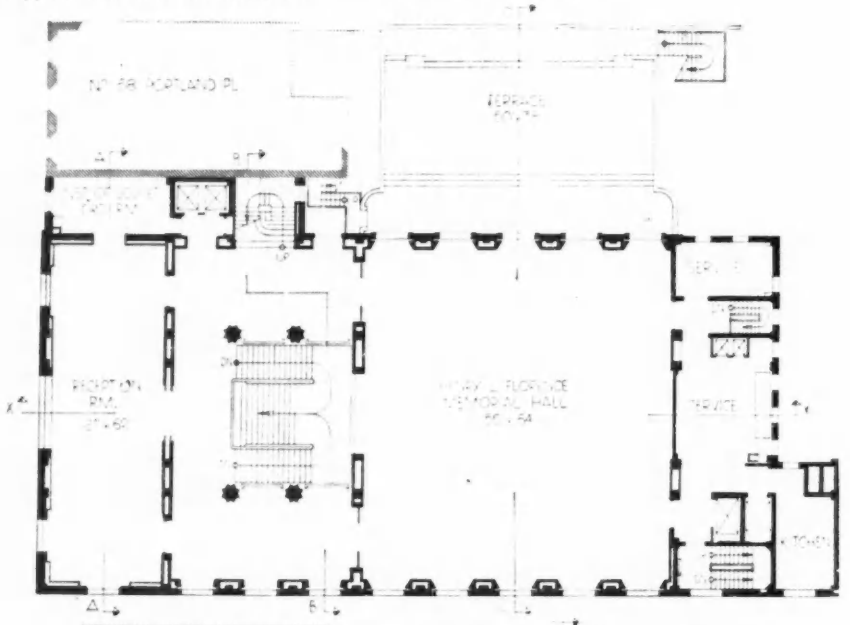
Along Marylebone Road to within 400 yards of the R.I.B.A.
Nos. 18, 18a, 18b, 18c from the City via Ludgate Hill, Gray's Inn Road, Euston and Kings X; Nos. 27 and 27a from Paddington via Praed Street; No. 1 from Elephant & Castle.

UNDERGROUND

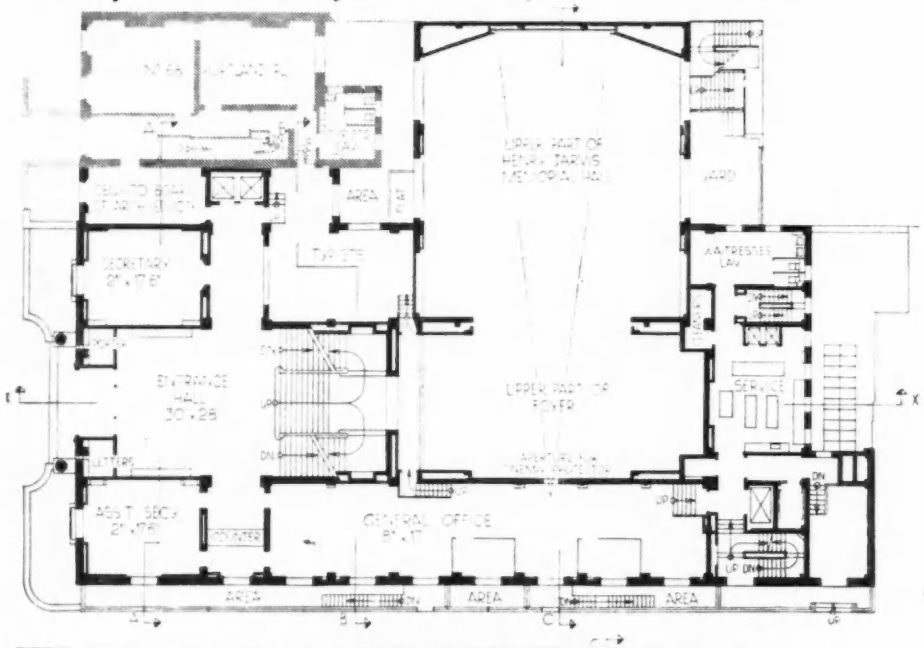
To *Oxford Circus* Station, Bakerloo and Central London Railways. Eight minutes on foot.

To *Regent's Park* Station, Bakerloo Railway; four hundred yards away.

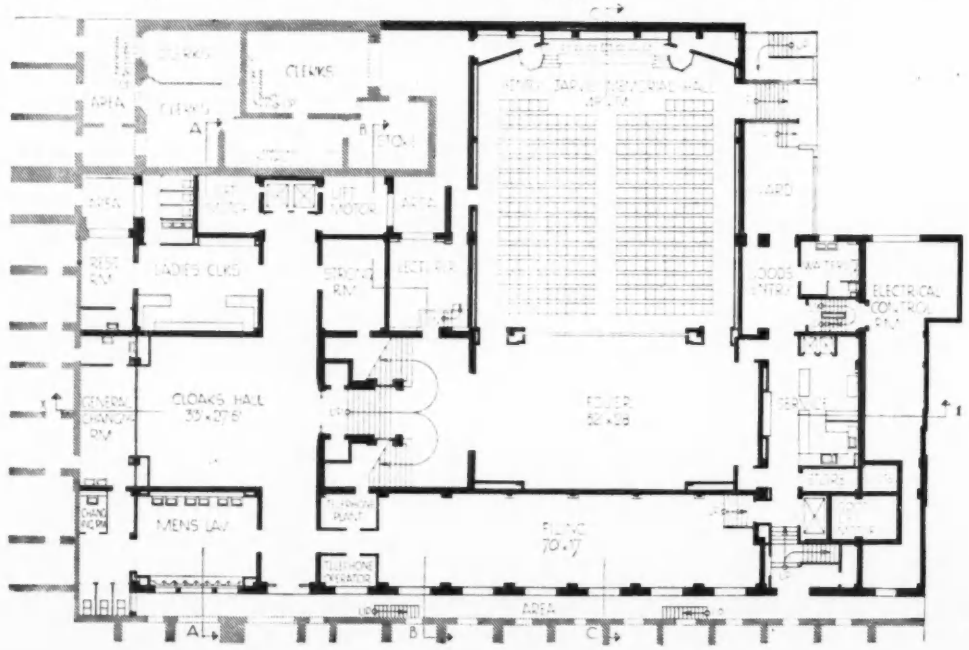
To *Great Portland Street* Station, Metropolitan Railway. Four hundred yards away.



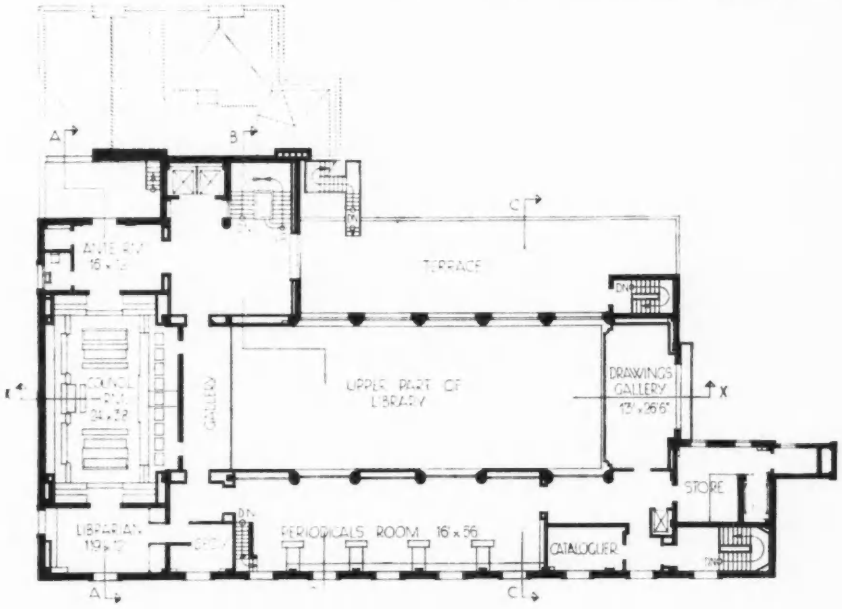
FIRST FLOOR PLAN



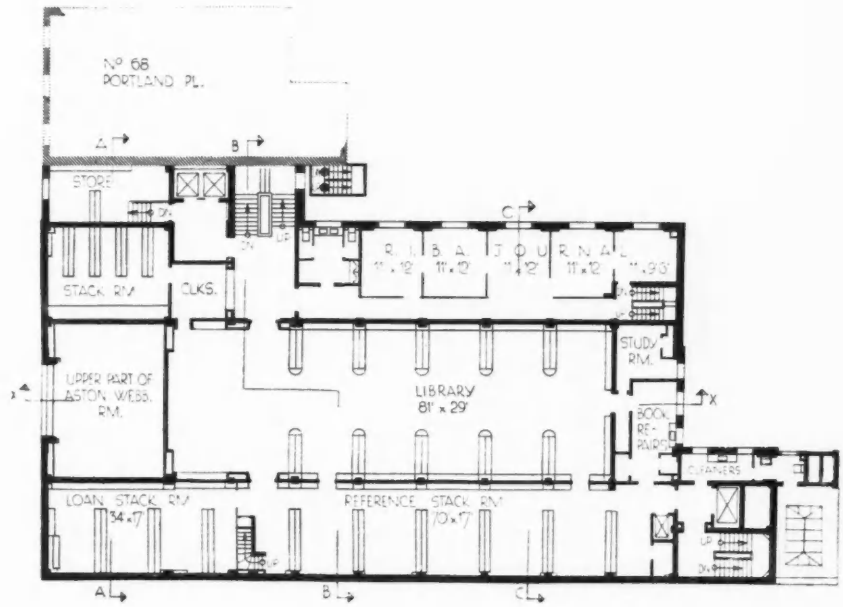
GROUND FLOOR PLAN



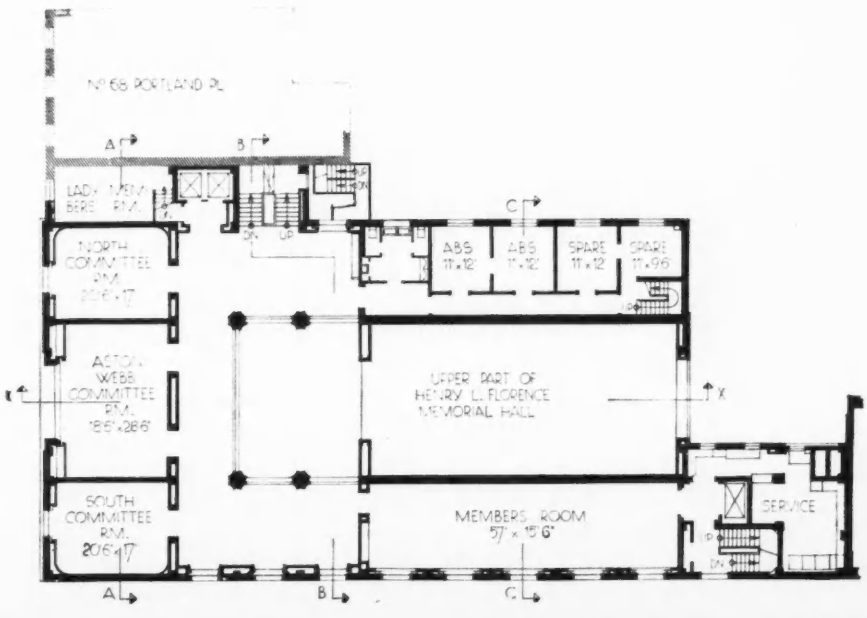
BASEMENT PLAN



FOURTH FLOOR PLAN



THIRD FLOOR PLAN



SECOND FLOOR PLAN

PROGRAMME

THURSDAY, NOVEMBER 22

10.45 for 11 a.m. Inaugural Meeting in the Henry Jarvis Meeting Room of the new R.I.B.A. Building.

12.30 p.m. The Conference photograph will be taken in the Henry Florence Memorial Hall. Followed by luncheon interval, to be arranged independently.

2 to 5.30 p.m. Visits.

A. Custom House, Church of St. Magnus the Martyr, Fishmonger's Hall.

B. Churches of St. Lawrence Jewry, St. Stephens, Walbrook, and the Mansion House.

D. Bank of England, Midland Bank, Poultry, E.C., Banking Premises, 52 Cornhill, E.C.

E. Broadcasting House, Portland Place, W.1. (Cost: 2s. 3d. each, including tea.)

F. Brook House, Park Lane, and the Dorchester Hotel.

G. Battersea Power Station, St. Anselm's Church, Kennington, and Flats at Larkhall and Kennington.

7.15 for 7.45 p.m. Conference Banquet at the Guildhall.

FRIDAY, NOVEMBER 23

10 a.m. Lectures and discussions. "Ornaments in Modern Architecture," by Kenneth Clark, M.A., Director of the National Gallery; "Unneighbourliness in Buildings," by F. B. Malim, M.A., Master of Wellington College.

1 p.m. Luncheon, to be arranged privately.

Friday, November 23. 2.30 to 6 p.m. Visits—*contd.*

2.30 to 6 p.m. Visits.

H. Trinity House, Church of All Hallows, Barking, St. Olave's Church, Hart Street, E.C., Port of London Authority Building.

I. Inner Temple, Middle Temple, Temple Church, Hall of Law Courts, Lincoln's Inn, and Gray's Inn.

J. To the Courtauld Institute of Art and other buildings, to be arranged.

L. Freemasons' Hall, Great Queen Street.

M. Unilever House and the London County Hall.

N. London Clubs, including the Athenæum, Reform, Travellers' and Boodle's.

O. London Theatres, including the Saville, the Cambridge and Covent Garden Opera House.

9 p.m. to 2 a.m. Dance in the new R.I.B.A. building.

SATURDAY, NOVEMBER 24

9.50 a.m. to 1 p.m. Visits. (Visit P.: 10 a.m.)

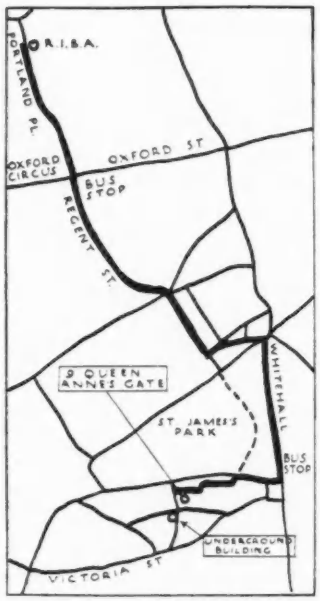
P. The Building Centre, New Bond Street.

Q. Royal Masonic Hospital, Ravenscourt Park. (Cost: 3s. 6d.)

R. Merchant Taylors' School, Sandy Lodge. (Cost: 4s.)

S. New Underground Stations, Cockfosters Extension. (Cost: 1s. 6d.)

NOTE. Motor coaches, starting from the R.I.B.A. building, will be available to convey members on the various tours. Unless otherwise stated, the cost of each visit, including tea, is 4 6 per head.

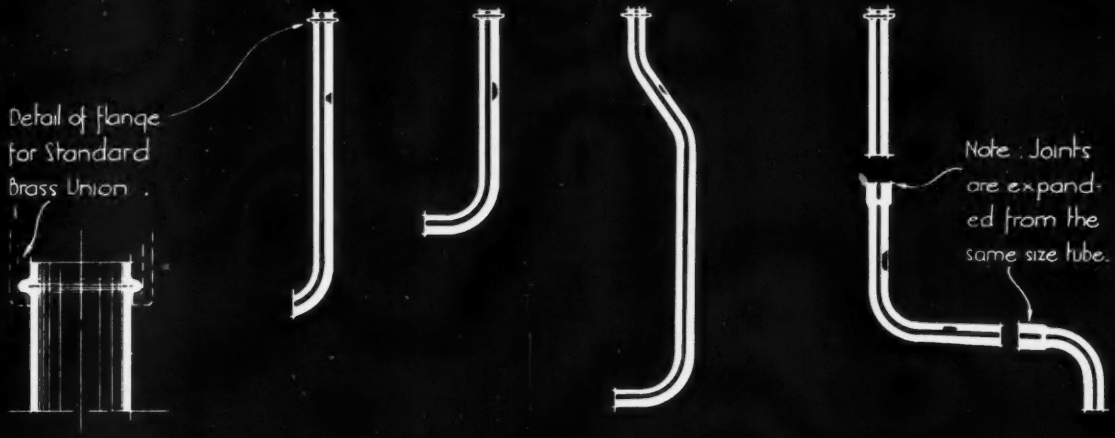


WHITEHALL—OXFORD CIRCUS
OMNIBUS ROUTES:
3, 12, 32, 53, 59, 88, 121, 153, 159.

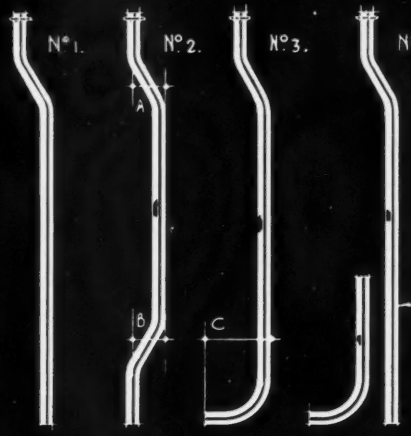
The Architectural Press cordially invite delegates to the Conference to visit their Reading Room at 9 Queen Anne's Gate, S.W.1, where a wide selection of their own and other publishers' books and periodicals may be inspected. Hours 9 a.m. to 7 p.m.

THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION.

WASTE PIPES FOR SINKS & BATHS : electrically welded steel tubing, heavily galvanized. made in quantities to required sizes up to 2" out. diam.



FLUSH PIPES : common shapes for back-wall types, 1¼", 1⅜" or 1½" bore. Any reasonable design can be supplied against a properly dimensioned sketch. Note : all shapes may be fitted with air pipes at extra cost.



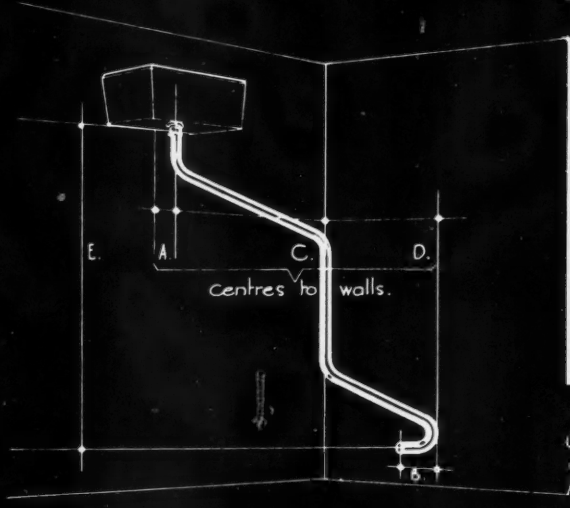
Telescopic Pattern : 5' 0", 5' 6" or 6' 0" overall length.

Note : for watertight joints with telescopic types of flushpipe a mixture of red lead and linseed oil putty is advocated.

Details required for flush-pipes :

1. Internal or external diameter of pipe.
2. Overall length of pipe.
3. N° 8 Telescopic pattern, 1, 2 or 3.
4. Diameter of collar or flange on the pipe or screwing size of the brass union.
5. Measurements of offsets A and B, and of bend C.

'VILLA' PATTERN : 2, 3 & 4-piece, for side walls, bore 1¼", 1⅜" or 1½". Adaptable for right or left hand. Supplied to any dimensions in quantities.



STANDARD SIZES OF STOCK TYPES			
dimension	2-Piece.	3-Piece.	4-Piece.
A .	4½"	4½"	4½"
B .	8"	8"	8"
C .	16"	16"	telescope 12 to 19"
D .	16"	telescope 12 to 18"	do. 12 to 18"
E .	66"	66"	66"

Outlet of 3 & 4-piece 'Villa' patterns is 1/8" larger than bore in each case.
All shapes may be fitted with air-pipes at extra cost.

Information from Tube Products Ltd.

INFORMATION SHEET : STEEL TUBING 4 : GALVANIZED WASTE & FLUSH PIPES.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1.

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 165 •

STEEL TUBING

Product : Electrically welded Steel Tubing

This Sheet shows a range of stock shapes for waste and flush pipes. The piping is manufactured from "tube" strip steel, automatically electrically welded and heavily galvanized.

Jointing.

If joints are required in waste pipes the "expanded" type is used ; they may either be expanded or telescopic.

The "telescopic" jointing of flush pipes necessitates a slightly larger outlet than the bore as shown. Both joints are illustrated on the Information Sheet dealing with jointing.

Connections.

Pipes are provided with a jointless steel collar for standard union connection to W.W.P.'s, etc.

Dimensions.

In all cases dimensions and bends are variable to suit requirements. A list of the necessary details required is given.

General data will be found on Sheet No. 156, further information on bending, standard and special sections, etc., will be published in future sheets.

Prices.

Full particulars as to prices can be obtained by writing to the Manufacturers for Publication No. 35334 R1.

Name of Manufacturers :	Tube Products, Ltd.
Address :	Oldbury, Birmingham
Telephone :	Broadwell 1651-6
London Office :	66 Victoria Street, S.W.1
Telephone :	Victoria 5359

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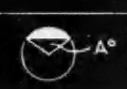
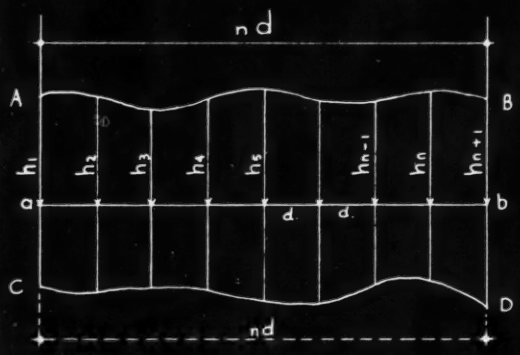
FIGURE.	AREA	DIAGRAM
TRIANGLE	Base x 1/2 perpendicular height. $\sqrt{s(s-a)(s-b)(s-c)}$, s = 1/2 sum of the three sides a, b, c	
TRAPEZIUM.	Sum of area of the two triangles.	
TRAPEZOID.	1/2 sum of parallel sides x perpendicular height.	
PARALL'GRAM.	Base x perpendicular height.	
REG POLYGON.	1/2 sum of sides x inside radius.	
CIRCLE.	$\pi r^2 = 0.78540 \times \text{diam}^2 = 0.07958 \times \text{circumference}^2$	
SECTOR OF A CIRCLE.	$\frac{\pi r^2 A^\circ}{360} = 0.0087266\, r^2 A^\circ$; = arc x 1/2 radius.	
SEGMENT OF A CIRCLE.	$\frac{r^2}{2}\left(\frac{\pi A^\circ}{180} - \sin A^\circ\right)$.	
CIRCLE. of same area as a square	Diameter = side x 1.12838.	
SQUARE. of same area as a circle.	Side = diameter x 0.88623.	
ELLIPSE.	Long diameter x short diameter x 0.78540.	
PARABOLA.	Base x 2/3 perpendicular height.	

IRREGULAR PLANE SURFACE



Divide any plane surface A, B, C, D, along a line a - b into an even number, n, of parallel and sufficiently small strips d, whose ordinates are $h_1, h_2, h_3, h_4, h_5, \ldots\ldots h_{n-1}, h_n, h_{n+1}$, and considering contours between three ordinates as parabolic curves, then for section ABCD,

$$\text{Area} = \frac{d}{3}\left[h_1 + h_{n+1} + 4(h_2 + h_4 + h_6 \ldots\ldots + h_n) + 2\left(h_3 + h_5 + h_7 \ldots\ldots + h_{n-1}\right)\right]$$

or, approximately, Area = Sum of ordinates x width d.

INFORMATION SHEET : AREA OF PLANE FIGURES.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS, ONE MONTAGUE PLACE RUSSELL SQUARE LONDON W.C.1

Supplement to THE ARCHITECTS' JOURNAL for November 22, 1934

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 166 •

AREA OF PLANE FIGURES

THE data given overleaf provide simple formulæ for the determination of the area of plane figures. Simpson's Formula, shown at the bottom of the sheet, is reasonably reliable, its accuracy depending upon the choice of a suitable dimension "d" which should be small when the outline is very complicated and "jagged," but may safely be larger when the outline follows a smooth curve.

A ROYAL SEASIDE HOME

COMPTON PLACE, EASTBOURNE

HER Majesty the Queen is supervising the reconstruction of Compton Place, Eastbourne, which, early next year, will become the seaside home of the King and Queen. Above is a photograph of one of the bedrooms.

The building, Elizabethan in style, was erected in 1565. Later it passed into the hands of Spencer Compton, second son of the Earl of Northampton, who, on being elected to the House of Commons as representative for East Grinstead, desired a home in Sussex.

THE R.I.B.A. EXHIBITION OF INTERNATIONAL ARCHITECTURE

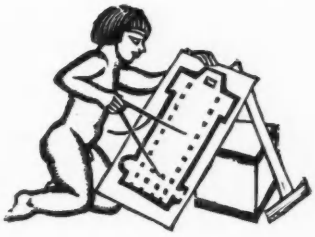
1924—1934

Tomorrow, November 30, H.R.H. the Princess Royal will open, at 2.45 p.m., the R.I.B.A. Exhibition of International Architecture, 1924-1934, in the new R.I.B.A. building in Portland Place, W. The official opening will be followed by a private view to which all members of the R.I.B.A. and the Allied Societies are invited.

The Exhibition will be open to the public free of charge from December 1 to January 3, between the hours of 10 a.m. and 8 p.m. (Saturdays 5 p.m.).

On this page are reproduced two photographs of St. Gabriel's Church, Blackburn (F. X. Velarde, architect), which will be included.

Further photographs and a discourse on the Exhibition are given on pages 803-805.



THE PRINCIPLES OF MASS PRODUCTION CAN BE APPLIED TO HOUSING

—THE PRINCE OF WALES

NEVER has a profession had more reason to be grateful than ours to an after-dinner speech: to the Prince of Wales's call to action delivered R.I.B.A. Banquet last Thursday.

All of us must feel in our bones that an old order is changing, but with the patience born of long experience we suffer change to work slowly; unless, out of the urgency of critical times, or impelled by a clear call, we find strength to cast aside established conventions and ingrained habits.

The Prince went to the heart of the problem when he said that "The first aspect . . . is the planning and arrangement of our towns and cities," and the second "to carry the principle of mass-production over to architecture and the building trade . . . designing and working for the great majority instead of studying the needs of the minority."

The physical aspect of our great cities is a disgrace to our civilization, and for half a century our profession has done little enough to better it. Chained to revivals of past styles, devoid of any policy of urban housing, official architecture has become divorced from what should be its major preoccupation—the welding of a new urbanism to replace the wastage of the last century.

Town planning that appeared at its inception to carry the seeds of this regeneration has by degrees hardened into a science that works its benefits negatively, and has little or nothing to offer towards the solution of these pressing problems of urbanism. And housing, which marched forward hopefully with town planning on the programmes of the post-war period, has dwindled to a matter of numbers, to be recited by politicians as elections approach.

Yet now, as we survey lost hopes, the nature of our major problem becomes clearer, and is seen to encompass more than was envisaged by any one of these separate activities whose failure we deplore. Neither as architects nor as town planners have we seen the problem whole. As revivers of the Georgian, the garden village; as saviours of the countryside, we were still working outside the towns and far from the industrial system that brings to the population its daily bread and dictates its way of life. We still have our hardest nut to crack, no softer for being left for half a century.

But this time our job has little concern with the lordly architect, the scholar or the pedant, for it cannot be solved unless it be done in direct contact with the people, with the active help of industry and by methods that spell death to most of what was once so pleasant to the mind.

It lies, indeed, largely with us, accepting the Prince's lead, to enter our rightful field as the directors of a new policy of urban regeneration: a policy based upon the housing of the people, invoking the help of every technical advance freed for use by the intense scientific and industrial activity of this amazing century, and guided by the awareness of social needs for lack of which in the past so much that science and art accomplished has been brought to little usefulness.

If we study the needs of the people hard enough we shall inevitably find ourselves town planners, for inside the present chaos we call London, accepting it as we find it, we can never create the light, the space, the services to satisfy an honest man's conscience. We cannot rehouse without replanning, and rather than be palmed off with a second-rate job we will be forced to increase our scale, and to find technical means that will enable political ways to lead us towards a solution more nearly corresponding with the facts than were our solutions of past years.

We owe to the Prince of Wales an immense debt of gratitude for this call to our consciences. Within the compass of a few words he has laid down the basis of our Charter at this the opening of the second century of our corporate existence. No more important words were ever addressed to a body of professional men, for if they carry a reproof, then we need it; and as they point a way along which younger men are eager to advance we can find no greater encouragement than comes from our own Prince in the cause of his people.

The Architects' Journal
Westminster, S.W.1
Telephones: Victoria
9212-7
Telegrams:
Buildable
Parl
London

NOTES & TOPICS

HOUSE-WARMING

THE R.I.B.A. has certainly " made an autumn of it " in the way of functions, and the whole affair has been notable for very good staff-work. The Royal opening of the new building, the Centenary, the Conference—how many bodies have ever been lucky enough to cram so many items of importance into a single year—let alone one month ?

*

Last week's reception was a truly remarkable one. One grows accustomed to such things after a time and attends under protest. But this one was of a new kind not often to be found. It was gay, it was enjoyable, it exuded an atmosphere of un-selfconscious pride ; and yet the obvious exuberance of everybody did not detract from the dignity of the occasion. It is not the privilege of every learned society to gather together such a galaxy of intellectual and diplomatic constellations.

THE PRESIDENTIAL ADDRESS

No comment is either possible or necessary on the address of Sir Giles Gilbert Scott to the Conference. It has to be read before its whole import can be assimilated—then it should be read again. The national press, I am glad to say, gave proper prominence to a remarkably fine expression of liveliness. That address, taken together with the speech of the Prince of Wales at the banquet on the same evening, should administer a shove which will carry the Royal Institute well into its new century of life.

THE BANQUET

Quite apart from the excellence of the speeches, the banquet was a very jolly affair. I had thought that the Guildhall would be amply big enough to hold the thousand odd guests, but the place was packed, visitors even overflowing into the gallery under the orchestra.

*

I couldn't be at the banquet and listen to the B.B.C.'s broadcast as well, but I'm told by one reliable and two unreliable authorities, that the first sound to be heard was a request for some more brandy, please.

THE CENTENARY EXHIBITION

H.R.H. The Princess Royal is to open the " International Architecture 1924-1934 " Exhibition at the R.I.B.A. at 2.45 p.m. tomorrow. The several visits by members of the Royal Family during the last few weeks indicates the interest which is felt in Court circles in architecture as a contributor to the sociological improvement of this country—an interest which includes the R.I.B.A. as the body most responsible for its proper administration.

*

The Prince of Wales's remarks at the banquet will be called to mind by people (and I hope there will be very, very many) who go to see the Exhibition.

*

I have already explained that the theme is the architect's *practical* value rather than his æsthetic one ; now, after having had only a cursory glance at the exhibits (not then hung) and at the catalogue (in proofs) I can say with some confidence that the Prince of Wales (who is a patron of the Exhibition) will find an atmosphere suggestive of the state of architectural mind which he so strongly, pungently and properly advocated at the Guildhall last week.

A BROADCAST DISCUSSION

The broadcast debate between Sir Reginald Blomfield and Mr. A. D. Connell, which is reported in full in the current *Listener*, was called " New Homes for Old," and was a very much " for-and-against " modern architecture sort of a dog fight.

*

Both parties being extremists, neither conceding. Fine shades were non-existent, definitions were so partial as to be valueless ; and that which might have given profit to those who wanted the facts of the debate laid clearly before them became a rather undignified opposition of conflicting views.

*

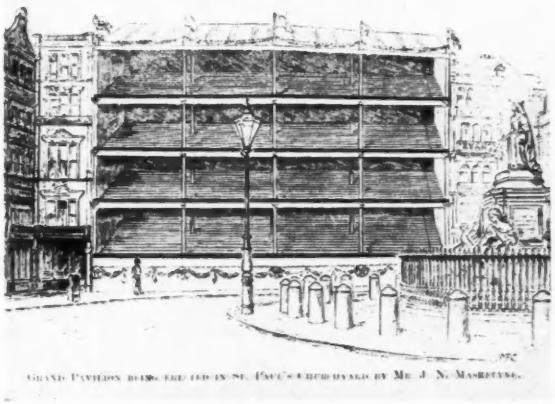
It is a pity, I think, to put architecture to this cruel test I suggest that the B.B.C. should retrieve the position by a series of talks or more amiable discussions in which the case for modern architecture should be unfolded with every care for its proper understanding by the thousands of listeners who are really anxious to know what it is that stirs this new activity in the world of construction.

*

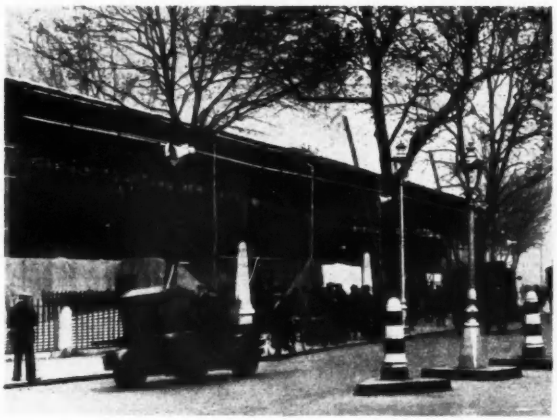
I don't believe that in this case either party was to blame. Both put forward their views honestly and boldly. But they didn't clarify the air.

HOUSING

Sir William Whyte, the secretary of the Scottish National Housing and Town Planning Committee, has expressed the view that there have been too many Acts of Parliament



GRAND PAVILION BUILT AND ERECTED IN ST. PAUL'S CHURCHYARD BY MR. J. N. MASKELYNE.



1897 and 1934: Above, the spectators' stand erected in St. Paul's Churchyard for Queen Victoria's Diamond Jubilee. Below, the stand in front of Westminster Abbey for the wedding which takes place today of the Duke of Kent and Princess Marina. The stand for the Diamond Jubilee was erected by J. N. Maskelyne, the illusionist. He arranged with a drapery firm in St. Paul's Churchyard to pull down their premises, to erect his stand upon the site, and afterwards to replace the original building. This building still stands, and is now being converted into flats. The drawing is reproduced from "London Argus."

dealing with housing. There has been, he reminds us, practically a yearly Housing Act since 1919.

*

I think Sir William Whyte's complaint about overcrowding, which followed his complaint about too many Acts, would have been more serious still if the State had stuck to the individualist creed of leaving it all to "enlightened self-interest."

*

As the first of the articles on "Design in America" disclosed last week, false doctrine has landed the United States into a moral and material morass in which nearly everything that matters in civilization is slowly foundering.

H. G. WELLS AND C. F. A. VOYSEY

In the second volume of H. G. Wells's *Experiment in Autobiography* there is a little warm flash of description about the first house he built. He went to Mr. C. F. A. Voysey," that pioneer in the escape from the small snobbish villa residence to the bright and comfortable pseudo-cottage."

*

Upon the building of that house, and the discussion of its details, H. G. W. hangs one of those luminous little anecdotes whose frequence and humour render the two volumes of his Autobiography so entrancing. Mr. Voysey wanted to put "a large heart-shaped letter plate" on the front door, but Wells protested at wearing his heart "so conspicuously outside," and architect and client compromised on a spade.

*

Somehow or other I never associated either Voysey or H. G. Wells with any devotion to, or indeed interest in, the card table, and I am sure the choice of suit for decoration was casual. Anyway, the client called it Spade House. Now comes the sequel.

*

"The men on the lift beside my garden," writes Mr. Wells, "which used to ascend and descend between Folkestone and Sandgate, confused my name with that of another Wells, 'the Man who Broke the Bank at Monte Carlo'—and they told the passengers that it was 'on the ace of spades' that the trick was done."

M. L. ANDERSON BREAKS WITH GLASS

Mr. M. L. Anderson has resigned his appointment as architectural consultant to Chance Brothers of Birmingham, and has joined Martyn's of Cheltenham in a similar capacity. I am so used to thinking of him as an expert on glass, that I am apt to forget that he has a real knowledge of architectural design, and is himself a most capable designer.

*

With the wider scope for his talents that his new appointment affords, he should soon be able to prove to his relatively enormous circle of architectural friends that there are materials other than glass available for use in the twentieth century. Some of them may have picked up the mistaken idea that there weren't, through listening to him in the past.

RURAL COMPLEXION OF LANCASHIRE

Ignorant Southerners are apt to think that Lancashire is wholly occupied by cotton mills, clogs, slums, slag heaps and other industrial amenities; but there are lots of green agricultural intervals, and even gardens.

*

Now I see that the C.P.R.E. have started a movement to guide the growth of the ever-extending suburbs of Lancashire cities, so that there will not be a lot of untidy, unplanned invasion of the remaining sections of genuine countryside. There is to be a committee; there is to be a guide book for builders and architects.

*

The committee is composed largely of Lancashire architects, and I see that Professor Patrick Abercrombie is on it, and that Mr. H. G. Griffin, the general secretary of the C.P.R.E., is the chairman.

*

Mr. Griffin has a very strong committee. I see that Mr. E. H. Honeyburne, of Liverpool, and Mr. C. Gustave Agate, of Manchester, have agreed to act upon it.

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

We MUST *take the big view and plan, not for immediate requirements only, but with a view to not making developments expensive, difficult or impossible for future generations* .. 806

"Ornament must be a common language. It must grow up slowly. Only by a long process of attrition will it come to have an essential relation to the building which it adorns" .. 807

At the end of July, 1934, the number of people employed in the building trade was 696,000, and in the preceding year it was 626,000, and in the year before, 549,000 830

HIGH BUILDING

"There is no country that has adopted high building that would not be glad to be without it," said Sir Raymond Unwin, in his Chadwick Memorial Lecture at the Royal Society of Arts last week. It was significant, he stated, that just as England was turning towards high buildings, America was turning away from them. This was shown by the policy adopted in connection with President Roosevelt's clearance schemes. Buildings of only two and three storeys were being put up on most expensive land in the heart of St. Louis as the best solution of the slum problem.

BARBER INSTITUTE OF FINE ARTS, BIRMINGHAM

It was announced by the Pro-Chancellor of Birmingham University at the annual meeting of the Guild of Graduates last week that a site has been chosen for the Barber Institute of Fine Arts. It will be opposite the Union at the corner of Edgbaston Park Road and University Road. About two acres have been allocated for the building. Mr. Robert Atkinson has been appointed the architect.

HOUSING

Sir Hilton Young, Minister of Health, addressing the National Housing and Town Planning Conference at Southport on November 24, said :—

"Since I had the pleasure of speaking to you a year ago the housing question has been making history. The Government and the housing authorities, in close co-operation and interpreting a clear expression of the national conscience, are well under way with a combined and continuous effort on the largest scale to raise our housing standards by putting an end to slums.

We have now begun to reap a harvest from hard preparatory work. In the year ending September 30 last 15,000 houses were provided under the Act of 1930 to rehouse persons displaced from the slums, and on that date 19,300 houses were under construction, making 34,000 houses as the total number actually in sight as the result of the year's work. This compares with 11,000 houses provided during the three previous years of work under the Act. In the same year, ending September last, 18,000 houses were demolished or closed. More significant perhaps than the actual number of houses built and demolished during the year (striking as is that number) is the rate of progress with the work which we have now attained. In the month of October (the last month for which I have full figures) the number of houses included in orders submitted by Local Authorities under the Act was 4,741. We have thus achieved a rate of progress of 56,000 houses a year in this connection. The completion of the programmes requires an average rate of about 56,000 houses a year. If we consider the comparatively early stage of the five years' effort the comparison enables me to say that the rate at which we are working promises successful achievement of our programmes within the limited time—that is, of course, subject to the maintenance by all concerned of the strenuous efforts to which we owe our success so far. That those efforts will be maintained we have no doubt."

THE ARCHITECTS' DIARY

Thursday, November 29

THE BUILDING CENTRE. *Bond Street, W.1. The Novelty Exhibition. Open until December 15.*

L.C.C. *Geffrye Museum, Kingsland Road, Shoreditch, E.2. "Medieval Houses, Castles and Furniture, and the Men who made them." By C. H. B. Quennell, F.R.I.B.A.* 7.30 *p.m.*

Friday, November 30

TOWN PLANNING INSTITUTE. *At the Central Hall, S.W.1. Presidential Address by Herbert H. Humphries, C.B.E., M.Inst.C.E.* 6 *p.m.*

ROYAL SANITARY INSTITUTE. *At the Guildhall, Derby. Discussion on "Municipal Flats" to be opened by C. H. Aslin, F.R.I.B.A., M.I.Struct.E., and J. Pritchard Lovell, L.R.I.B.A., F.I.Art.* 3 *p.m.*

R.I.B.A. *At 66 Portland Place, W.1. "Exhibition of International Architecture, 1924–34." Opening by H.R.H. the Princess Royal.* 2.45 *p.m. Open until January 2, 1935.*

I.A.A.S. *At 43 Grosvenor Place, S.W.1. "Faience, the Æsthetic and Economic covering to Steel and Concrete." By E. Holden, F.I.A.A., F.Coll.H., M.I.Struct.E.* 7 *p.m.*

Saturday, December 1

THE ARCHITECTURAL ASSOCIATION. *At 36 Bedford Square, W.C.1. "Building England—The Seaside." By F. R. Yerbury.* 3 *p.m. Exhibition of Photographs taken on the Annual Excursion. Until December 8*

THE ROYAL SANITARY INSTITUTE. *At the Guildhall, Derby. "Municipal Baths." By A. W. Turnbull, M.I.E.C.* 10.15 *a.m.*

Monday, December 3

R.I.B.A. *At 66 Portland Place, W.1. "John Nash." By John N. Summerson, A.R.I.B.A.* 8 *p.m.*

Wednesday, December 5

L.C.C. CENTRAL SCHOOL OF ARTS AND CRAFTS. *Southampton Row, W.C.1. "French Renaissance, 2. The Chateaux on the Loire." By Sir Banister Fletcher, M.Arch., F.S.A., PP.R.I.B.A.* 6 *p.m.*

CITY HALL, EXETER

The Exeter City Council last week approved the provisions of their new Parliamentary Bill which seeks to authorize the Corporation to erect a City Hall and carry out various extensions and improvements to the city services.

Objects of the Bill include power to erect a City Hall and construct new streets in connection with this scheme; and to acquire land for this scheme and for enlarging Paul Street parking-place and omnibus depot. Further power is sought to extend the outside area to which the Council may supply water; also in connection with the electricity undertaking; and with regard to streets and the control of buildings and signs, sanitary matters, noise nuisances, etc.

THE LATE SIR HAROLD BRAKSPEAR

We regret to announce the death of Sir Harold Brakspear, K.C.V.O., F.S.A., F.R.I.B.A., in a nursing home at Bath on Tuesday, November 20.

Born in 1870, he received his early architectural training in his father's office at Manchester. He became an A.R.I.B.A. in 1892 and among his early works are the Corsham Board Schools and Emmanuel Church, Exeter. Sir Harold Brakspear, however, was best known as a restorer of ancient buildings. His first work of this kind was Malmesbury Abbey in 1899, and this was followed by Nuneaton Priory, Shrewsbury Abbey Tower, Pershore Abbey, Worksop Priory, Bath Abbey, Sherborne Castle and Battle Abbey, as well as many other churches and country houses. In 1921 he was appointed architect for the restorations at St. George's Chapel, Windsor, and on the successful conclusion of this work in 1930 he received his knighthood. He was consulting architect to the Deans and Chapters of Windsor and Worcester and president of the Wessex Society of Architects. Sir Harold Brakspear was an authority on styles and on mediæval materials and methods of construction, and he published many papers in archæological journals.

ON THE AIR

The fifth of a series of broadcast talks on town and country planning is to be given by Mr. Geoffrey Boumphrey in the Midland Regional programme on November 30 at 7.15 p.m. According to *The Radio Times* Mr. Boumphrey will deal with "the special problems of Corby, where, in the midst of a quiet countryside, a new town has sprung up as the result of the place having been chosen for a steelworks. The development of the housing estates is still in progress on a definite plan."

Competitions Open

Dec. 7.—Proposed municipal offices, public library, free library and fire station, for the Wembley U.D.C. (Open to architects of British nationality resident in the British Isles.) Assessor: Stanley Hamp, F.R.I.B.A. Premiums: £300, £250, £150 and £100, for designs placed first, second, third and fourth, respectively. Conditions etc., are obtainable from E. R. Royle, O.B.E., Clerk to the Council, Council Offices, Wembley, Middlesex, on or before December 7. (Deposit £1 1s.) Latest date for submission of designs: March 1, 1935.

Dec. 22.—Proposed Public Offices, Bridge Road, Welwyn Garden City, for the Welwyn

Garden City U.D.C. (open to architects of British nationality). Assessor: C. H. James, F.R.I.B.A. Premiums: £75, £35 and £25, for designs placed first, second and third, respectively. Conditions, etc., obtainable from B. H. Deamer, Clerk to the Council, Council Offices, Bridge Road, Welwyn Garden City (deposit £1 1s.).

Dec. 31.—Proposed Council Offices, Wirral, for the Wirral U.D.C. Open to architects in practice in Birkenhead, Chester, Liverpool and Wirral. Assessor: Gilbert Fraser, F.R.I.B.A. Premiums: £40, £30 and £20, for the designs placed first, second and third respectively. Conditions are obtainable from Mr. W. F. Roberts, Clerk to the Council, Council Offices, Wirral. (Deposit £1 1s.)

January 19.—Designs for five-storey blocks of working-men's flats suitable for construction in reinforced concrete for the Cement Marketing Company. Assessors: Joseph Emberton, F.R.I.B.A., Burnard Geen, M.INST.C.E., and L. H. Keay, O.B.E., F.R.I.B.A. Premiums: £300, £200 and £100 for designs placed first, second and third, respectively. Copies of the conditions will be forwarded on application to the Publicity Department, the Cement Marketing Co., Portland House, Tothill Street, S.W.1. Latest date for submission of designs: January 19.

April 30.—The Croydon Corporation invite the submission of designs for laying out an area in Central Croydon which is to provide an extension of the Civic Centre of the Borough and to improve central means of communication. Assessor: Dr. Thomas Adams, F.R.I.B.A., F.S.I., M.T.I. Premiums: £500 for the design placed first; £350 to be divided (in proportions to be determined by the Assessor) for not more than three designs placed next in order of merit. A copy of the conditions is obtainable on application to the Town Clerk, Town Hall, Croydon (deposit of one guinea). Designs are to be submitted not later than April 30.

THIS ARSHETECTURE

There is something very attractive about our modern examples of half-timbered residences. They suggest a restfulness which is often lacking in modern architecture and one expects to find within such an entrance a main door of strong planks of good wood, with hinges and knockers that look as though the village blacksmith had been responsible for their make-up.

Dormer windows, too, are inseparable from this class of home and the glazing must be either diamond shaped or in little squares.

Within, the ingle fireplace and the low-beamed ceilings, and though the stone settle has given place to the shaped wooden ingle seats, thereby gaining comfort in general, the idea of the hearth place is still there, an idea which English people will find it difficult to root out of the home, however efficient modern heating may be.

The old custom of placing inscriptions or mottoes above the entrance door has not been much revived, but there is something to be said for the quaint custom which at least gave you some idea of the character of those who lived within.

—From the Johannesburg *Star*

THE INSTITUTE

DEFECTS AND REMEDIES

[BY ICONOCLAST]

III. THE CONSTITUTION AND THE FUTURE

BEFORE entering into details, it will be well to enumerate the general principles upon which this draft constitution is based.

So far as members practising in London and the provinces are concerned, the fact that the numerical list for London overlaps the corresponding list for the provinces does not matter, since I have worked on the principle that a man should have a vote wherever he has an established practice. I see no objection to this dual voting that is not outweighed by other considerations. This would not only apply to the case where a man would have a vote in London and one in the provinces, but where such a man would have a vote in two provincial centres.

From a general analysis of figures, it will be seen that the societies vary widely in strength, and an examination will show that they vary still more in representation. For instance, the East Anglian Society sends one representative to stand for about one hundred members. The South Eastern Society sends one representative to stand for over six hundred members. The vote in East Anglia is, therefore, more than six times the value it has in the Home Counties. The obvious principle that the vote should have as nearly the same value throughout the country will therefore be followed.

Special representatives on the Council are inevitable and desirable. Excluding those from the Allied Societies, there are at present sixteen, comprising the honorary secretary, two representatives from Ireland, four from the Dominions, and one from the A.A., one from the A.A.S.T.A., one from the Board of Architectural Education, four chairmen of standing committees, the chairman of the Allied Societies Conference, and the chairman of the Registration Council. Under the new Constitution, some of these would be redundant. My suggestion would be that the honorary secretary should be appointed by the Council out of the elected members of the Council. I see no useful purpose in swelling the strength of the Council by representatives from overseas, and I would maintain only a liaison department with those areas, with no voting strength on the Federal Council. The new London Society would make the A.A. representative redundant.

I agree the chairman of the Board of Architectural Education, the chairmen of the Standing Committees, and the representative from the A.A.S.T.A. and the chairman of the Registration Council would still be necessary and useful. The Allied Societies Conference would cease to exist, and would not therefore be represented.

This would provide eight members not elected under a system of proportional representation, including the President, and one Vice-President.

I am acting on the assumption also that the present R.I.B.A. Council is too big and unwieldy for speedy and effective work, and that the percentage of representation to electorate should therefore be lowered.

For this purpose, I believe a Council of as near as possible to fifty would be a sufficiently workable strength, leaving not more than 42 members to be elected to represent their respective districts or as nearly this number as can be divided. My figures give a total electorate on the foregoing principles of about 9,000, including, say, 3,000 Allied Society members not yet members of the R.I.B.A. The aim should, therefore, be to make each of these 42 Councillors the direct representatives of about 215 members.* The inequalities of district divisions make exact accuracy impossible, but the Council I suggest would allow one member at least to each Allied Society, one additional member where membership exceeded 320, and a third additional member where it exceeded 535; at the same time making some effort, by division or amalgamation, to equalize the strength of the societies. The London Society would be represented by one for every 215 votes.

Finance.—It is obvious that under the federal system the expenses of headquarters would be materially reduced, since correspondence would be carried out only with district headquarters. It is suggested that all subscriptions should be collected by the districts, and a proportion handed forward for central administration. I do not propose to suggest any hard and fast division of receipts, but merely to put forward the principle that as much of

* The figures quoted in this and subsequent articles were prepared before the last election and before the recent issue of the Kalendar.

the funds as possible should be spent where they are subscribed.

In formulating suggestions for rather drastic reforms there is always a danger of becoming so obsessed with the structural adventure as to forget the purpose of the structure. We must resist this in the present instance.

The purpose of the R.I.B.A. is to promote fine architecture, without any qualification whatever. "Architecture as a Trade" enters into the question, not because we desire to seize an opportunity to hold the community up to ransom, but because we believe firmly that fine architecture rarely emerges from the garret. The practitioner must be assured that he will be adequately rewarded for his labours before he can offer of his best to the community.

Therefore we become faced at once with a semblance of the trade union idea as the outcome of a high purpose. The business of the Institute becomes a matter of providing the opportunity of reflecting the will of the practitioner, and of bringing into effect, quickly and faithfully, measures for the common good as conceived by mass opinion.

Now it is obvious that discussion, which forms the means of crystallizing mass opinion, should take place as near the source as possible. The legislative assembly must be in touch. How does our draft constitution stand to this test?

Surely it is better for the Council to co-ordinate a few concrete proposals which have already sifted the wheat from the chaff, in the local committee room, than to attempt as one body to express the will of the country?

That should be the essence of the constitution, and machinery which will provide this must surely be valued.

The legislative process would become a dual one. The Federal executive would on occasion distribute ideas from above to below, for the test of local feeling. More often it would convey ideas from below to above to test with the feeling of other localities. There are all the means of maintaining this smooth intercourse by the methods I have suggested.

Finally, there is the common complaint about the subscription. How often do we hear members in the country say that they do not know what they have ever received in return for the three or five guineas a year they have subscribed. The complaint is not altogether honest, because it is obvious that the country is not peopled with philanthropist architects. The architect who pays and grumbles undoubtedly has some conviction that he acquires a better standing as a member than otherwise. But the fact remains that the complaint is widespread.

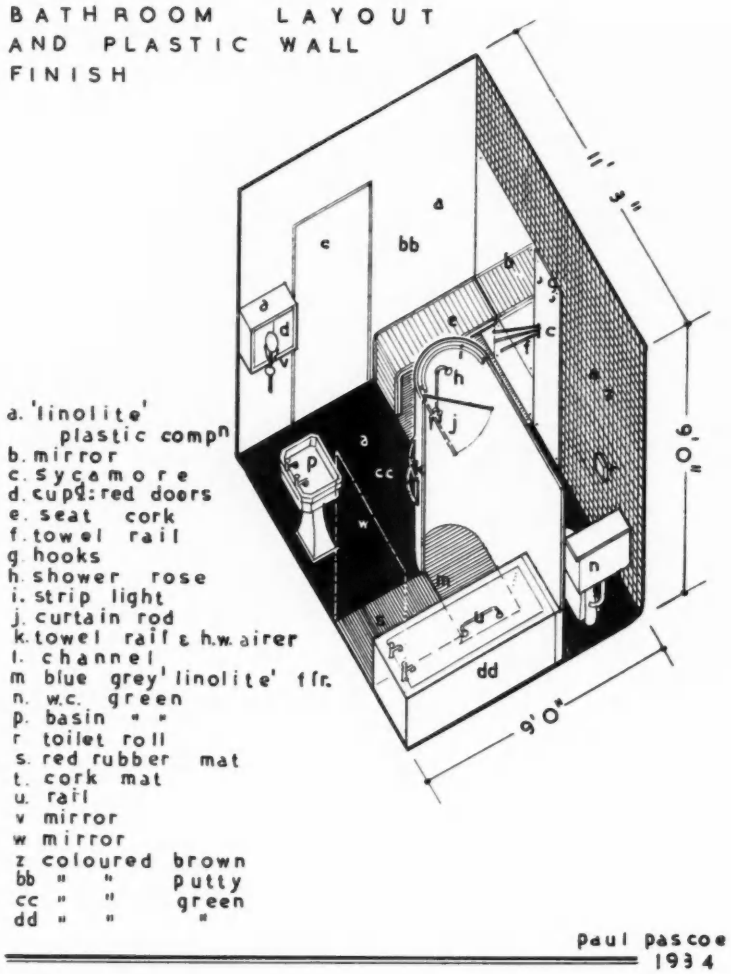
I have no doubt that if the funds were collected in local centres, and partly spent where they were collected before contributing to central funds, there would be more content among subscribers. They would lose that irritation which many feel in the provinces that they are receiving a "grant" from headquarters from funds which are already partly their own. London, on the doorstep of the Institute, would be less inclined to think of the provinces as hungry pensioners making a heavy call upon central funds.

It is hardly necessary to add that the control of the registered architect would become more effective in discipline and service under the federal system.

Now I hope sincerely that the scheme I have outlined will receive full consideration at all hands. I believe it, and intend it to be, a definitely constructive reform, out of which much good is likely to come, and I commend it to the various sections of practising architects who make up the membership personnel.

It is rare indeed to meet a brother architect in any part of the country who is content with his Institute, as it has proved itself to be. And while content may stand for slumber, the sort of impotent discontent we find stands for something worse.

If we can devise any means whereby the member in any part of the country may feel that the Institute is his Institute; that his voice can find its way through to the inner Council; that his subscription is paying service to him as well as to distant colleagues; that he is an active part of a movement designed to raise the standard of architecture throughout the British Isles; then we shall have laid the foundation stone of a mighty structure.



From the recent Exhibition of Contemporary Industrial Design in the Home, held at Dorland Hall; Bathroom designed by Connell, Ward and Lucas.

Institute of Fuel

Sir Harry McGowan, in his presidential address to the Institute of Fuel, at Burlington House, Piccadilly, on November 13, said he saw no reason why gas and electricity should not progress as friendly rivals. Some industrial operations could be far more economically undertaken by gas, yet there was only one reasonably sized gas grid—in the Midlands.

Church of the Resurrection, Mansfield. Architect: Hubert Worthington.
[From the R.I.B.A. Exhibition.]

R.I.B.A. EXHIBITION OF
INTERNATIONAL ARCHITECTURE
1924 : 1934

[By PETER FLEETWOOD-HESKETH]

Reflections inspired by a preliminary tour of the Exhibition, made while the photographs were still being hung. Further notes, with a selection of additional photographs, will be published next week.

THE Exhibition of International Architecture, to be opened tomorrow by the Princess Royal at the new R.I.B.A. building, is a courageous and successful attempt to present the architecture of the last ten years as a coherent whole. For convenience, the buildings have been grouped into sections, such as Health, Commerce, Religion, Dwellings and Pleasure, and a further section shows drawings prepared for the new Portland Place building, everything from the first competition plans to working details and rough sketches.

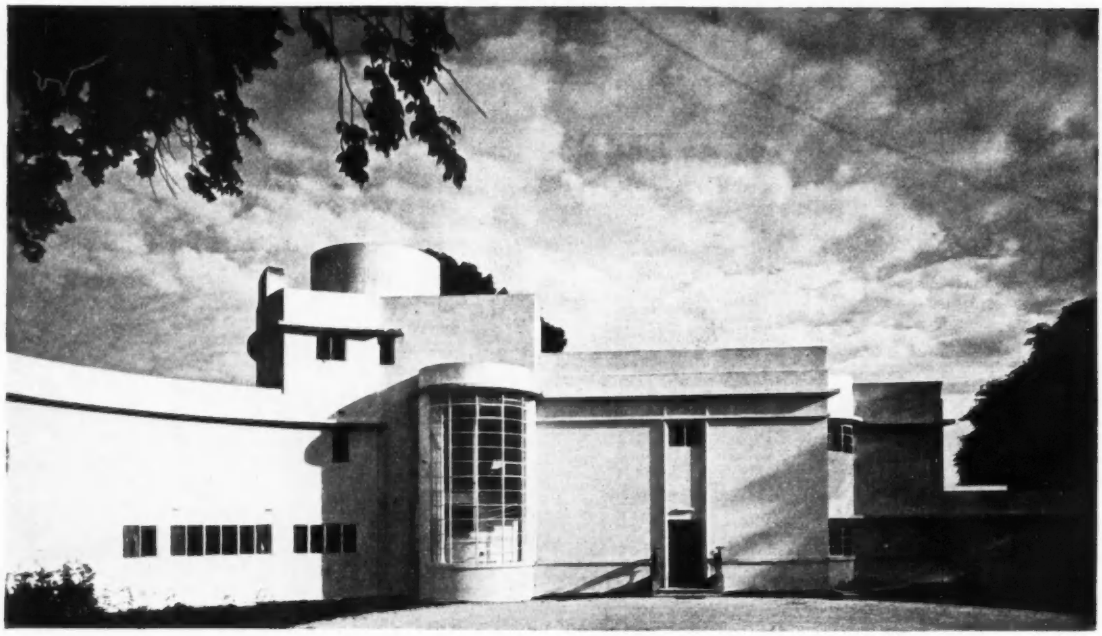
That the R.I.B.A. appreciates the importance of architecture and architects is supremely obvious, but the interest and knowledge of the public is also essential if architecture is to become anything more than an academic exercise, and for this reason the Exhibition, and the catalogue, have been arranged as much for the public as for the profession.

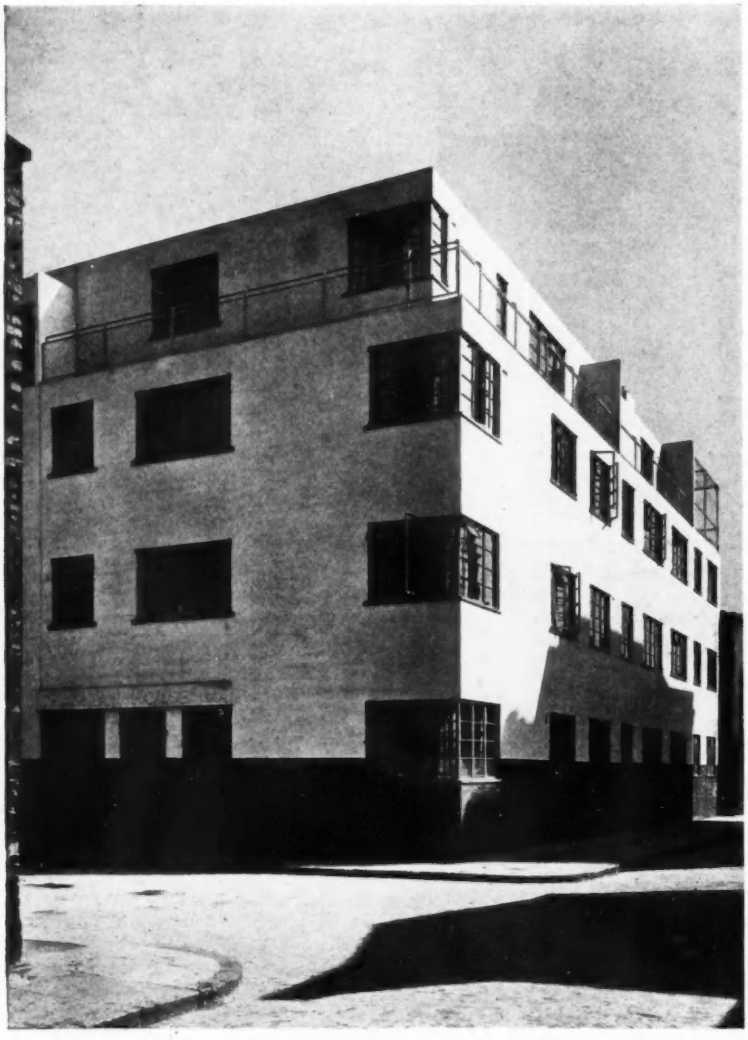
An architect is in a peculiarly responsible position, for he has power to give pleasure to, or to inflict pain upon, a much larger number of human beings than has any other creative artist, for architecture is imperative in its demand for attention—music can be listened to or not at will, nor need we look at a picture if we feel no desire to do so, but from architecture there is no escape. It becomes inevitably part of our world and on many occasions forms as much as we can see of it. A man may live for many years without reading a line of poetry, he may never once go to the opera or see a play, but he must constantly be aware of his architectural surroundings, which are insistently present, even when he is indulging his taste for the other arts. The architect has therefore a greater, if subtler, influence over the average person than any other artist. His work is also more costly to perform and more difficult to destroy. A poem or a book may be burnt in thirty seconds upon a good fire and a picture can be disposed of in the same way, but it takes many days and much money to pull down a house. Perhaps we ought to mind less about our environment when we are told that nowadays a building becomes obsolete in thirty years, and will be pulled down as a matter of course within that time, but when we look at some of the less fortunate examples of the 1925 style, and observe their great solidity, these statements tend to become a little less reassuring.

Ten years ago the standard of architecture in this country was probably lower than it has ever been in the history of mankind. It is difficult to imagine anything uglier than the average building erected in the middle 'twenties. Circumstances were against good architecture then, as they are now, but the strictly commercial nature of nearly everybody's activities, and the dull purposes for which people build, are in themselves no excuse for the bloodcurdling horrors of that period. The great bulk of building operations nowadays is purely commercial, and is therefore designed to please the taste of the mob; and ten years ago, mob-taste happened to be particularly low. I believe it is impossible to argue about taste, but there must indeed be few people who possess any sensitiveness to architecture and can behold the buildings of 1924 without a feeling of utter dismay.

Ecclesiastical architecture alone remained moderately good throughout those years of darkness, because it was uncommercial and had a strong tradition behind it. With astounding rapidity, several millions of little unarchitected houses sprang up during this period all over the country, but otherwise domestic architecture played only a small part in post-war history. The deplorable taste of that time (or was it only a general lack of taste?) was as conspicuous in the shapeless clothes of the period as in the ungainly coachwork then in fashion. It was probably due more to carelessness and general indifference than to any deliberate effort to make us miserable. There was a great spate of building at that time, and perhaps we can ascribe the regrettable character of the designs to the speed at which it was necessary to make them; but it has left us with much that we would prefer to be without.

Fashions, however, have changed, and have done so with quite astonishing





Two photographs from the R.I.B.A. Exhibition of International Architecture, 1924-1934.

Above: "Joldwynds," Surrey. By Oliver Hill.

Left: Chapman House, Stepney, E. By Joseph Emberton.

rapidity. Perhaps we have been shocked by our newly created surroundings into minding more what they are like. The most remarkable change which has taken place is the tremendous simplification of façades. Gone are those graceless bundles of fruit and vegetables, no longer do we see those curious square pieces of projecting stonework, in vain may we look for the mysterious brackets and labels. Truly, architecture has had her face washed, and no one can deny that the job has been done thoroughly. More than that, the moles have been removed and the eyebrows plucked, and who is not grateful for the change?

But let not the operation be too drastic. If no other remedy for the blemishes can be found than to destroy the mouth, to obliterate the nose, and to eradicate the eyes, what remains will be unrecognizable and quite incapable of expression. Because mouldings and decoration, the principal means of architectural expression, have been misapplied in the past, producing a meaningless jumble of nonsense, we shall get no nearer to sense by discarding them altogether. Our language, once so rich and expressive, has deteriorated largely because of the thoughtless discarding of many useful words, so that a few, whose meanings are vague, have now to do the work of many, whose meanings were distinct and precise. The yells of the younger generation, loud and penetrating though they be, are, generally, no nearer to eloquence than are the complicated mumblings of his older companion.

Ornament has gone out of fashion, and perhaps this is a necessary stage of our architectural development, for its use has admittedly degenerated into a cloak of intrinsic ugliness. But good architecture is worthy of good ornament, and is often improved by its use.

But I fear that I have painted only the darkest parts of the picture, and a visit to this Exhibition should remove any feelings of despair from which we may lately have been suffering.

Most architects who read their English and foreign periodicals fairly regularly will be familiar with the majority of the buildings shown, but the exhibition is, after all, intended mainly to arouse the interest of the general public, to impress upon them the need for the architect, and to give them, via an excellently arranged catalogue, some idea of what he does and how much it costs to employ him. His increasingly complex duties are admirably shown by a Wren drawing for St. Paul's Cathedral (in which a few dimensions are given and the rest left to the craftsmen) contrasted with a contemporary working drawing by Sir John Burnet, Tait and Lorne.

R.I.B.A. CENTENARY CONFERENCE

RECEPTION

THE Centenary Celebrations of the R.I.B.A. opened on November 21, when Sir Giles Gilbert Scott, R.A. (the President) and Lady Scott welcomed members, delegates and guests at a reception held in the new building in Portland Place, when all the public rooms of the Institute were open for inspection.

THE INAUGURAL ADDRESS

On the following day, at 10.30 a.m., Sir Giles delivered the inaugural address in the Henry Jarvis Memorial Hall. The large number of members and delegates present necessitated using the foyer—which is separated from the hall by the disappearing wall—to provide additional seating accommodation.

The President said :

I am no pessimist as regards the future, certainly the outlook for architects is exciting. I feel convinced that architects stand on the threshold of a great adventure ; circumstances are playing into our hands. Modern life has been allowed to develop as it will and, as a consequence, has got itself into a pretty mess ; only a drastic change in the mental outlook of those who direct the activities of the community can bring about an improvement ; there are, undoubtedly, indications that such a change is gradually taking place. Life has become so untidy, and so terribly untidy has been the industrial period, which we might say embraces the last 100 years, that there are few people today who do not realize that something has gone wrong. I would put untidiness as the most characteristic feature of our times, and architects are in a position to tidy up at least the outward material aspects of modern life.

I will not today stress the artistic qualifications of our profession ; indeed, it almost seems that if architects are to win the confidence of the industrialist and the practical men who direct the activities of the community, art is the last thing we ought to talk about. As it happens, the great need of the moment is for planning and tidiness. If we, as a nation, could get some kind of planning into our efforts, then I feel that art will be found to have arrived naturally and without conscious effort.

The architect is the only man in the community who not only has been trained to plan, but who spends much of his time planning, and so learns by practice as well as by precept how to reconcile conflicting and difficult requirements and how to merge them into one harmonious and workable unit, finding in fact the simple solution of a complex problem.

It is all wrong that the planning should be left to those who have had no training as planners ; they do the best they can, but it is not their fault if the result lacks the hall-mark of a good plan, namely, simplicity, directness, and tidiness. It is here that the architect, if he is permitted, can make a great and valuable contribution to public service.

Only recently do we read of the appointment of two "dictators" to deal with those depressing industrial districts that have become derelict and are known as "distressed areas." This work may involve demolition and building—it will certainly mean an effort to bring a little more brightness into lives that have had more than a fair share of drabness and unhappiness. Here is an opportunity of breaking with an industrial tradition that has caused such ugliness and chaos in the past—let us hope that architects will here be given an opportunity of serving the community.

Modern civilization is becoming more and more dependent upon a scientific solution of its problems. The old methods of muddling through have failed ; town planning, slum clearance, control of elevations, ribbon development, regulation of traffic, are only some of the many problems that confront us today as the result of lack of planning and foresight in the past. We *must* take the big view, and plan, not for immediate requirements only, but with a view to not making developments expensive, difficult or impossible for future generations.

London is rich in opportunities for planning ; rapid transport by road and rail has so altered conditions that new problems have got to be faced. Take the development of the south side of the Thames. This has taken on an entirely different complexion in recent years with the advent of tubes and motor buses. A great change is going to take place here, and although the river front will be the first to change, it should not be considered as a detached unit, complete in itself, but as part of a general scheme of which it will eventually form only a portion. It is essential, however, that such a scheme should be prepared by expert planners, who have been furnished with all the necessary requirements of the problem. The traffic experts of road, railway, river and air, should state their requirements and the reasons for these requirements ; the engineering difficulties, valuations, finances and, indeed, all the information possible, should be at the disposal of the planners, whose job it is, if they can, to reconcile all the requirements. Sometimes the requirements are such that a really all-round satisfactory solution is impossible ; my experience on the L.C.C. Advisory Committee for the Charing Cross Bridge convinced me that the requirements, or rather one requirement, in that problem, rendered an entirely satisfactory solution impossible. All the difficulties could be satisfactorily met, except the requirement that the Southern Railway must come into London overhead, and have a station at a particular spot on the river bank ; this proved an insurmountable difficulty. The overhead approach completely blocked a satisfactory solution ; a number of ingenious proposals were put forward, though many of them were prepared by those who were not in possession of all the facts and requirements. I cannot help feeling that overhead approach of railways into large cities is old-fashioned and out of date, and will eventually give way to underground approach. As this matter of Charing Cross Bridge seems to be reviving, I should like to plead for a thorough investigation of this railway question as a first preliminary ; it seems indeed to be the key factor upon which the whole scheme depends, for until this question is settled, no plan can be prepared ; but let it be investigated by independent experts and not by any of the interested parties, who

should only be called upon to give evidence. Convinced as I am that no satisfactory solution is possible under the prevailing railway conditions, I do not regret the abandonment of the whole scheme until such time as railway requirements might be different or Government action render a satisfactory solution possible.

But can London afford to wait? The matter is one of very great importance and should not be allowed to rest, especially as properties may be rebuilt, which would increase the financial difficulties of the problem. Here, again, the bridge and its immediate surroundings should form part of a general scheme and not be an isolated unit that will have to be worked to in the future as best it may.

There are many examples in London where the need for planners and a plan is urgent, and I find it difficult to choose a few illustrations from so large a selection, but, if I might, I should like to take you now from the centre of London to the outskirts, where we have a remarkable development of factory building. A number of industries are moving south, but a still greater number of new industries are building factories around London. Those of us who only use the main arterial roads out of London might think that the awful lesson taught by the North and Midland manufacturing towns had been learnt, and that a repetition of such a state of affairs was not likely to occur. But, unfortunately, it is only on the main road frontages that any attempt is made to render these factory buildings attractive, and even here, only the front portion of the building is treated for advertisement purposes. However, it is not these factories on the main routes that I criticize; we must be thankful that some attempt is being made to improve them, but large numbers of the factories on subsidiary roads, at the back, display the same depressing muddle and chaos that one had thought was a relic of the past. Not only are the buildings untidy, and indeed chaotic in themselves, but there seems no attempt to plan or group the various units into some sort of tidy arrangement. The psychological effect upon employees of working in depressing surroundings must be very considerable, and some enlightened companies appreciate this, but one has almost given up expecting the rank and file of manufacturing companies to consider appearances, except when there is an advertisement value to be taken into account. I should like to see architects employed on the planning and lay-out of factories, and not merely being asked to design frontages for advertising purposes.

I have touched upon one or two examples from London, but public bodies throughout the country have many opportunities for planning. In view of this, it is surprising that a number of public authorities have no qualified architect to advise them in these matters. Surely it is not impossible to arrange for these public bodies to retain the services of some well-qualified architects to advise them on planning matters, when and as they arise. *Planning* has become necessary, and is gradually being recognized as essential to future development; if public authorities learn to value it, they cannot but employ the only professional man who can give it to them.

Our streets are another example of modern untidiness—they are full of advertisements, signs, kiosks, standards, studs and beacons, traffic lights and notices—these and the restless variety of buildings all tend to make our thoroughfares bewildering and untidy; we keep adding new signs and features, making confusion worse confounded. We need to "streamline" our streets and endeavour to get a simpler, more efficient and less confusing equipment than exists at present. I see many opportunities in the future for the architect as an adviser upon amenities of all kinds, as well as upon such matters as Belisha beacons and balconies for babies!

I do not think I need elaborate my point by further examples of cases in which the architect might render valuable service to the community, but it is primarily as a planner that I think he can, if he is permitted, make a greater and more valuable contribution to public service than he had been allowed to do in the past.

Sir Raymond Unwin, PP.R.I.B.A., proposing the vote of thanks, said:

A very great honour has been conferred on me in asking me to propose a vote of thanks to the President on this historic occasion.

Possibly I have been selected because my experience of the past period of muddle goes back further than that of most of you. I cannot remember when those Minutes which were read to us were signed, but I can clearly remember more than 60 per cent. of the period that has elapsed since, and I had the good fortune in my early days to come under the influence of two of those men whose knowledge of art and design led them to be among the first to recognize that sooner or later the period of haphazard muddle must give way to one of design and planning; I refer to John Ruskin and William Morris.

It is therefore with peculiar satisfaction as well as with a realization of the honour that I find myself chosen today to thank the President for the address which he has given us. He might have spoken to us of Gothic cathedrals; he might have spoken to us of modernist bridges; but instead he has chosen to lead us into the new age, and fittingly to open the next century of the life of this great Institute by emphasizing that principle which evidently to all of us is that which is going to dominate this period, if this period is to see another 100 years at all, and that is the principle of order and planning.

I have to convey to the President from the American Institute of Architects the reason that they are not able to be here, and it applies to the Canadians also. It is because in that great country, which has adhered more thoroughly to the principle of what they call rugged individualism—which is another phrase for muddling through—than any other, the breakdown has been consequently more severe; so severe, in fact, that we have no conception in this country, or I think in any other European country, of the extent to which the building industry and the architectural profession have suffered owing to the breakdown.

There are some people who are afraid of planning because they think that you may make a mistake. I wonder whether they realize that if you try to carry on without planning you can make little else but mistakes. I think that is a point which should be emphasized.

Mr. Alan Arnold (President of the Chartered Surveyors' Institution), seconding the vote of thanks, said:

The relations which exist now, and I hope always will, between the chartered architect and the chartered surveyor are close and affectionate. Our ties of common membership are binding enough of themselves to keep unbroken the seal which long since was set upon our friendship. But there are other bonds which are stronger still. We include in our fold a thousand chartered quantity surveyors working in close and daily co-operation with your members. You architects and we surveyors in our different capacities are firmly attached to a common ideal, the ideal of service to the cause of good building. As your co-operators, therefore, and as your friends we congratulate you upon a century of progress as a body corporate; upon a hundred years of endeavour and achievement in the promotion of architectural education, in the cultivation of public interest and public taste in good building, in the advancement of the art and the profession of architecture. We know, no one better, that at this milestone in your history you may look back over the years with pride in a great work well done. We also know that your task, like ours, is never finished, and that on an occasion like this your eyes, like ours, must turn to the road ahead. The story of your first hundred years tells us, no less than does the great position which you hold today, that you may march on to meet your destiny strong and confident in the future.

ORNAMENT IN MODERN ARCHITECTURE

On Friday morning, November 23, lectures and discussions took place in the new building. Mr. Kenneth Clark, M.A., Director of the National Gallery, read a paper on "Ornament in Modern Architecture." He said:

I have chosen to speak to you about ornament, because I believe that this is the part of modern architecture which has been least successful. How often, in criticising a modern building, do we praise the proportions, the plan, the choice of materials, the firmness of construction; and then, to our dismay, we catch sight of some ornamental detail, a balcony or the surround of a door, or even the enrichment of a soffit. Often the ornament is well placed and well executed. But it is timid, meagre, uninventive, lacking in conviction. We are agreed on the value of good proportion and sound construction. But over ornament we are uncertain. We are in a state of reaction, not creation.

Let me remind you how this reaction arose. The mid-nineteenth century was the period of historical styles. I need not mention the efforts then made to recreate the architecture of the Middle Ages, but I may remind you that Gothic, though the most widely attempted, was not the only style then imitated. A visit to the old South Kensington Museum will show you one of the heroic efforts made to recapture the style of the Italian renaissance—efforts which engulfed such a great artist as Alfred Stevens. Even the despised Baroque was called in, and was in fact the dominating influence on domestic furniture, on wardrobes, sideboards or four-poster beds.

Now all these were essentially *ornamental* styles. Even in the originals they depended for their effect on ornament, and their Victorian counterparts were often forced, by a difference of purpose, to abandon structure altogether, and to rely solely on decoration to give the impression of style. The truth is that these elaborate styles were not chosen purely for pedantic or archæological reasons, but because they fulfilled the æsthetic needs of the time. In every branch of life the mid-nineteenth century spirit manifested a *horor vacui*, a dread of emptiness. That rich, dense, material civilization wished to be surrounded by rich, dense, material objects. Simple lines, plain surfaces, choice of concentrated ornament, gave to the patrons of that golden age a feeling of chill, of the niggardliness of nature. They preferred to believe in abundance, and we can hardly blame them for failing to foresee that abundance was to prove more disastrous than famine.

This, then, is the chief cause of the reaction in which we now find ourselves. And when we examine nineteenth-century ornament, we may persuade ourselves that it is a justifiable reaction. Like guests at an unwholesome banquet we have woken up feeling that the pangs of hunger must be preferable to indigestion. And, in consequence, our best architects have created a style of such severity that every decorative motive, even the simplest moulding, has been excluded. They have created what, in the last century, would have been considered a contradiction in terms: an architecture without ornament. Now, far from wishing to decry this style, I believe that the critic of the future will be astonished at how successful it has been. He will marvel at the ingenuity with which our

best builders have avoided the ornament of discarded styles, and at the austerity with which they have denied themselves what had come to be the daily bread of design. In factory architecture and in certain types of domestic architecture, he will agree that the movement has produced buildings of great merit. The factory does not require ornament. Bold masses and unbroken lines are suited to its scale and purpose ; and where it requires emphasis or enrichment this can be given by such simple devices as a band of chanelled concrete. For a very different reason the small house or flat can exist without ornament. Its place can be taken by superimposed and changeable units of decoration—by bright curtains, masses of flowers, effects of lighting—and even (though professional decorators are much opposed to them) by pictures. The effects thus achieved, though they have not the solid, all-weather beauties of the traditional styles are, to me, more exhilarating than the antiquarian clutter of period rooms. But there are whole branches of architecture in which the total exclusion of ornament is much less satisfactory. In nearly all public buildings—in theatres, town halls, government offices—some ornament is necessary to give dignity to architecture, to break the monotony of a street, and to distinguish between such buildings and a factory. We may say that such a distinction is purely artificial. But that is precisely where our trouble lies. We have abandoned the conventions of architecture before abandoning the conventions of life. As a result, our architects find it difficult to rise to great occasions ; and the more intelligent of them can hardly comply with ordinary architectural good manners. It is as if a speaker were not only debarred from all rhetoric or figures of speech, but even prevented from saying "How do you do"? or referring to the weather. The same inability to use conventional ornament has, of course, overtaken all the arts. The poet and the musician can no longer spin out their work with ready-made tropes and twiddles. The result of abolishing all these familiar pegs on which to hang ideas is that the ideas themselves have grown fewer, and it is all too plain that modern simplicity does not always arise from a fastidious self-criticism but from poverty of invention.

Now I cannot believe that the human spirit will for long be content on such starvation diet. Bread and water were necessary for our period of convalescence, but as we recover from the æsthetic debauches of the last century our natural appetite will reassert itself. We shall not think of ornament as a boring adjunct, to be avoided as far as possible, or to be stuck on in a few important places. We shall think of it as an essential part of the whole design. But as soon as we attempt an ornamental style we shall find ourselves in difficulties. Much as we may dislike the fact, I fear it is possible to distinguish between two different forms of ornament ; that which is done by the individual sculptor, and that done by the ordinary workman. We all know that this is undesirable. We should all like to return to mediæval conditions when the same mason cut the figure and its decorative niche, and the string course above it. We may even envy the baroque architects, with their army of skilled workmen equally able to carve a cornucopia or an Ascension of the Virgin. But we know that those conditions are gone, and no amount of make-believe will bring them back in our time. Mr. Eric Gill may continue to write books professing that he is an ordinary carver, but we only have to walk down the street to see that he is a highly individual sculptor, and that his decoration of modern buildings consists of good pieces of sculpture, arranged like well-placed oases on the edge of the Sahara. Of this ornament done by the individual sculptor we have made considerable use in the last few years. In some instances the sculpture has no more relation to the architecture than if it stood in the hall ; in others it is stuck on to the bare wall in place of a window ; occasionally, as in the Prospero and Ariel at Broadcasting House, it has a real architectural meaning. But ultimately the success of this kind of decoration will depend on the merit of the sculptor employed ; and as sculptors of outstanding individual talent are rare, it cannot be made the basis of new ornamental style. That must rest on the work of ordinary carvers who do no more than carry out ornamental motives. And so we are brought to face the problem, from whence shall our stock of ornamental motives be drawn ?

We cannot hope to resurrect a style of ornament from the remote past : that was demonstrated clearly enough in the last century. Even the classical style, which has survived persistent misuse, can hardly be revived again. At last we are cut off from that ancient inheritance, and we may have to wait a long time before we can evolve a substitute, current and flexible enough for the average architect to use it with assurance. For the invention of a new style is a long, a painful and a mysterious process. It is almost as difficult to invent a style of ornament independent of the past as it would be to invent an entirely new language. Ornament must be a common language. It must grow up slowly. Only by a long process of attrition will it come to have an essential relation to the building which it adorns. It must be so familiar that we can use it with perfect freedom, and yet remain idiomatic. The best achievements of modern design are too complicated and personal for the ordinary craftsman, and there is nothing in art more feeble than the attempts at modernism—little cubist patterns of designs in coloured wood let into the panelling of dining-cars, or cheap cubist rugs and curtains—with which commercial interests hope to profit from the prevailing fashions. Indeed, the modern designs which derive from the cubist movement are naturally unfitted to architectural ornament. They are essentially asymmetrical and free, and incapable of repetition. Nevertheless, I think it is from them that our new system of ornament may be deduced. Already in modern advertising and poster design we see that the inventions of Picasso can be rendered in comparatively simple and agreeable formulas, and it is possible that when such designs become widely diffused our architects will be able to build up a new grammar of ornament. Or, if they prove too hard to assimilate, we must wait for some man of genius in whose work there are simple rhythms and a less elaborate plasticity, from which ornament may be evolved. In the meantime, the best we can do is to encourage the experiments out of which an ornamental style must evolve. We can value, in our architects, positive invention rather than negative good taste ; we can demand of them some of the imaginative power which we expect of those who practise the other arts. During the heroic period of bad ornament, Ruskin wrote the following words : "This is universal law. No person who is not a sculptor and painter can be an architect." Such a dictum could hardly survive the architecture which it inspired. Yet in a wide sense it is true. Architecture, for all its technicalities, cannot be divorced from the other plastic arts, which have their roots in the imagination, and in a full and passionate experience of life. And in all great architecture, ornament has been one of the chief means through which the creative imagination has found expression.

UNNEIGHBOURLINESS IN BUILDINGS

Mr. F. B. Malim, M.A. (Master of Wellington College), in the course of an address on "Unneighbourliness in Buildings," said :

I do not know at all how many of you have seen our buildings, but I imagine few see them for the first time without some surprise. The headmaster of a school not very far away observed to me once, "Wellington is like a French railway station ; you have even put up the name of the station." That criticism, which has always appeared to me to have been prompted by envy, is true in one particular. The architect quite deliberately placed among the heather and pinewood of the old forest of Windsor an unmistakably French building. There are the mansard roofs, the *œil-de-bœuf* windows, the festoons of stone work, the slightly fantastic towers, which give the stranger a dimly puzzled feeling that he has strayed into the purlieus of Versailles and that Le Petit Trianon is somewhere around the corner.

The architect of this relic of the *ancien régime* was Mr. John Shaw. Now let us consider for a moment the problem he was set.

Arthur, First Duke of Wellington, died in 1852. A grateful country, which some twenty years earlier had broken his windows, decided that he must be commemorated, and the Ministry, in order to endear his memory to the Army of that time, stopped one day's pay from every officer and man. After this promising start subscriptions came in handsomely, and the Committee, which had been charged with the raising of the fund, faced a new embarrassment when they realized that no one had any idea what to do with the money. A deputation waited upon the second Duke, who helpfully suggested that a statue of his father should be erected in every market town in England. The deputation thanked His Grace and withdrew. It was then that a man whose merits we are only slowly learning to appreciate, the Prince Consort, suggested that a school should be built and endowed to educate the sons of dead officers in Her Majesty's Army. The suggestion was adopted, and the Prince personally interested himself in the details of the scheme.

But the whole of Shaw's plan was never carried out. There was, to begin with, no chapel, one of the dormitories being adapted temporarily for the purpose of worship ; the first master had no house of his own, but was allotted for his use part of the main block. The plans for a chapel in a suitable French style drawn by Mr. Shaw are in existence, but they were never executed, for there was now another will at work, the will of Edward White Benson, sometime Archbishop of Canterbury, our First Master. He was not only a masterful man, but he was a protagonist of the ecclesiastical movement of the middle of the nineteenth century and an enthusiastic admirer of the work of Sir Gilbert Scott and the other architects of the Gothic Revival—the thought of English boys worshipping in a Louis Quinze chapel was more than he could bear. The new chapel must be a Gothic chapel. How he prevailed upon the Governors I do not know. But whatever his methods of persuasion, he won the day ; and Sir Gilbert Scott was commissioned to design a chapel, and to incorporated in his design a gateway which might link, if possible harmoniously, his thirteenth-century chapel with Mr. Shaw's Louis Quinze cloister.

It is impossible now, except for an imagination more expert than mine, to judge of what the original chapel was. It has been enlarged by the addition on either side of a wide aisle, and the original proportions are entirely lost. But enough remains to show that the description given by Dr. Arthur Benson is not inaccurate, when he speaks of "a chapel of really exquisite proportions and fine detail, studied from Nature."

And after the chapel he built the Master's Lodge. I live in it, and I can testify that it is comfortable and convenient. But Mr. Talboys holds "there must ever be a regret that the Anglican Manse should have ousted a small French château, such as would have completed the lovely line of the South front." Dr. Arthur Benson is more trenchant. "Of course, the Master's Lodge should have been built in the fine Louis Quinze style of the College ; but my father was allowed a free hand ; and he

The Conference photograph, taken in the Henry Florence

was a purist, that most fatal of all obsessions, because the purist of one century only evokes the hatred and derision of the purist of the next. The house was accordingly built in the nondescript sort of Gothic made fashionable by Ruskin."

These quotations, of which I have perhaps given you too many, have made clear the view of these two gentlemen, that it is a matter for regret that Dr. Benson succeeded in inducing the Governors of Wellington to depart from the plans of Mr. Shaw, and to erect by the side of his work structures so unneighbourly as the chapel and the Master's Lodge. This juxtaposition of Dr. Pusey and Talleyrand seems to them æsthetically indefensible.

That I am not prepared to deny. I am perfectly incompetent to argue anything on æsthetic grounds. I am wholly lacking in æsthetic perception or appreciation ; and such mild efforts as I have made to learn from the works of critics and historians of art what I ought to admire, have aroused in my mind the unworthy suspicion that the only thing one can be sure of is that what we admire today our children will not tomorrow ; that the purist of one century only evokes the hatred and derision of the purist of the next.

I do not regret the interruption of the original design of Wellington ; but my argument has no artistic basis. It has a bearing only on buildings which house a great and changing society such as a school or a college. It has no relevance to the questions with which architects are faced when they rebuild Regent Street or Portland Place. It is perhaps a groundless fancy of mind, but I think I can detect in these societies a real personality. It is a delicate, an intangible thing, but it is there.

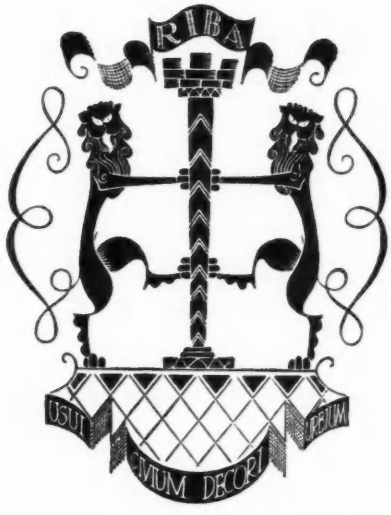
Almost all schools that have attained even a modest antiquity can show some buildings of character and individuality. They may be unneighbourly ; they may sometimes seem to be ostentatiously indifferent to their surroundings, but to the historical imagination they tell their own tale of the men who raised them of the age in which they lived, and the beliefs for which they worked, and I would not have it otherwise.

THE CENTENARY BANQUET

The Centenary Banquet was held in the Guildhall on November 22 : Sir Giles Gilbert Scott presided over 1,000 members, delegates and guests. The toast list was as follows :

"The Loyal Toasts." Proposed by the President and responded to by H.R.H. the Prince of Wales.

"The R.I.B.A. and its Allied Societies."



From the title page of the menu of the R.I.B.A. Banquet.

Memorial Hall of the R.I.B.A. Building on Thursday last.

Proposed by H.R.H. the Prince of Wales and responded to by the President.

"Our Guests." Proposed by Mr. H. S. Goodhart-Rendel, M.A. (Vice-President) and seconded by the Rt. Hon. the Earl of Crawford and Balcarres.

H.R.H. the Prince of Wales said :

I am quite sure that those of you connected with this great Institute consider tonight one of the most important events of your centenary celebration, but it has been preceded a fortnight ago by another very important event, the inauguration of your new building in Portland Place by His Majesty the King. That was a great event. It is indeed fitting that after 100 years you should have a real permanent home of your own, designed by an architect for the use of architects.

I have had the pleasure of being shown over your new building by your President and I can describe it as being modern without being modernistic, not over-elaborate, well adapted to its purpose, and I would think the brightest and the lightest of any building of its kind in this great city. I have already congratulated Mr. Wornum privately on this achievement, because I am very interested in modern architecture. I do so now publicly. I congratulate him on his fine conception of modern design.

Today we are not the individualists we were in Victorian and Edwardian days. We are now living, mostly because of the results of the world war, a life which is far more collective in principle than individualistic. Wealth is more evenly distributed throughout the country than it has ever been, and the interest of professional men in common with the interest of commercial men is being directed to a closer consideration of the mass of the people and their requirements than it is to the individual plan.

I think you who are connected with this great Institute know how concerned I am over the living conditions of the great mass of our people, and how anxious I am to see these conditions improved as quickly as they possibly can be.

I have taken every opportunity that has presented itself to proclaim my opinion on this important matter. Your Institute has given me another opportunity tonight, and I want to request your profession, which is so intimately connected with the building of the homes of the people, to make a special study of this great housing problem and to see what can be done not only to lessen the cost of those living conditions, but to raise their quality and their amenities.

The housing of our people has not been taken too good care of in the past, and in your study of this problem I would ask you to include at the same time along the same lines the school and buildings in which they are reared as children and the hospitals in which they are treated when they are sick.

The first aspect of this problem is the planning and arrangement of our towns and cities. The meanness of our narrow twisting streets is the major cause of two great evils—the congestion of transportation on the one hand and the lack of civic pride on the other. Widening these streets and raising the height of buildings so that they could be spaced at greater distances from each other, would tend to greater openness and less congestion. You could make areas where no vehicles except fire engines or the trucks that collect refuse could enter, so that you would get an area with houses wider apart.

In other words, we should take a bigger and more generous outlook on the planning of our cities following the trend of our times, which is to think less of the limited group of individualists and more of the national point of view.

The second aspect of the problem is the building of the dwellings themselves, whether they be in the form of houses or flats. Modern science and invention have produced and improved all those various articles and devices which go to make for greater health and comfort in the home. Our great industrial and commercial concerns, such as motor-car manufacturers and the great multiple stores, have shown what can be done by mass production to produce attractively at low costs those amenities of life which formerly only

existed for what we might call the well-to-do. Amazing things have been done in this respect, and perhaps the same principles can be applied to housing.

I ask you to carry the principle of mass production over to architecture and the building trades. I am convinced that in no other way will it be possible to raise the living conditions of the great majority of our people. They should have better conditions, and they can have them by these means.

I am sure that the principles of mass production can be applied to housing, and I am equally sure that you can do it, and that you will be able to overcome any barriers of prejudice that may exist.

You may at first find it difficult in designing a building to keep it good to look at from the outside and yet give the housewife the comfort that she is entitled to inside. I think this difficulty lies in the fact that, as artists, you have been devoting your time to the consideration of the abstract ideal, which is good in itself when you are considering only the individual client.

You must give consideration to another—a greater and more important—ideal, designing and working for the great majority of our people, instead of studying the needs of the minority, which is ever dwindling.

Sir Giles Gilbert Scott said :

Unfortunately, the percentage of buildings designed by architects in this country is small ; this may sound surprising to some, but so large a proportion of our buildings consists either of small houses erected by speculating builders, or industrial buildings, such as factories, etc., practically all of which have been built without any assistance from architects ; vast blighted areas have arisen throughout the manufacturing districts of the north and midlands, and these have been accepted as the inevitable accompaniment of industry. We architects know that ugliness, untidyness and lack of planning, so evident in these examples, are not the inevitable accompaniment of industry ; we deny that industrial district and buildings need necessarily be hideous, and we claim that beauty can be achieved with utter simplicity, combined with good planning and imagination. The pity is that the good psychological effect of cheerful, bright and tidy surroundings upon those engaged in industry has only been appreciated by so few industrialists. In so far as the community has ignored in these matters the contribution that architects are alone trained to supply, I say that the community is, and has been shown to be, definitely and dangerously wrong.

Mr. H. S. Goodhart-Rendel said :

Centennial anniversaries of institutions cannot, perhaps, be infrequent in an old country such as ours, and they often may mean very little more than that for a hundred years the institution celebrating such an anniversary has somehow kept out of trouble and managed to survive in some way or other. We feel some confidence, however, that our centennial anniversary has a better justification than that, and we are encouraged in that confidence by the favours shown us by Their Majesties, by Your Royal Highness, and by the promise of Her Royal Highness the Princess Royal to open the Exhibition with which our festival is to conclude.

To speak of our past would, I feel, be inappropriate on this occasion. We hope that the Royal Institute has now entered not only into a brave new building but also into a brave new existence in a world which I hope will not be brave and new in the sense of Mr. Aldous Huxley's predictions, but which certainly will show little mercy to timidity and no exaggerated respect for age.

LETTERS FROM READERS

Manufacturers and their Products

H. W. N. SOLEY

SIR,—As one interested in discovering the most satisfactory method by which manufacturers can bring their wares to the notice of architects, I have discussed the subject with a few who have proved to be benevolently disposed, and I have carried out several experiments, but the solution to this problem has yet to be found. In analysing the situation I find that with at least 80 per cent. of the practising architects it is impossible, or extremely difficult, to obtain an interview, either by calling or by writing to ask for an appointment ; and in my experience a far larger percentage represents the wastage when an appeal is made by direct circularizing.

Much has been said and written about the firm which fails to give technical or other information in their catalogues or advertisements and also concerning the employment of travellers whose knowledge of their wares is limited to what is nothing more than " commercial jargon " and the use of extravagant phrases. The catalogue and the advertisement of today rely far too much on illustrations of buildings upon which, or in which, the product has been used, and they often serve only as a splendid example of the printer's craftsmanship, the architect looking in vain for the details he requires. But are these failings on the part of the manufacturer the real reason why the catalogue is consigned to the waste-paper basket, or its equivalent on some already heavily loaded shelf, and the traveller faced with the popular notice, " Representatives seen only by appointment," or given the meaningless message, " Nothing today, thank you " ? In how many cases would an interview be granted if the firm wrote asking for an appointment ? I wrote to sixty architects, chosen at random in various parts of the country, and enclosed with each a prepaid postcard. Not one replied ! Ignorance or garrulousness on the part of the traveller is always taken for granted, and as a class they are condemned, or else the architect assumes that the matter to be discussed is of no interest.

In no other section of the commercial world is a traveller's task more difficult. It is possible for him to obtain an interview with the harassed buyer of almost any firm in the country, despite the fact that " buying " is only one of many functions. Success is necessarily dependent upon price and quality of the wares and largely upon the traveller having a thorough knowledge of them ; as a consequence the standard of traveller employed by most firms associated with the building and decorating trades is steadily improving, and an interview limited to, say, five or ten minutes is not always a waste of time.

One can sympathize with the professional man who is asked to grant an interview at a time when his mind is concentrated upon some absorbing task, but it should be possible for him to allocate an hour or two once, or even twice a week for the purpose. A notice to that effect displayed outside the door would be recorded and respected ; in an exigency these times could be altered.

H. W. N. SOLEY
London

Timber Research

PROFESSOR M. GILL
University of Malta

SIR,—May I ask the hospitality of your JOURNAL in expressing my opinion about the general conclusion on " Progress in Timber Research," which appeared on page 728 of your issue for November 15.

Contrary to all experience and practice, new timbers in general are more susceptible to shrinkage than old timbers.

We generally use red and white deal for structural work.

All carpenters and joiners invariably expose their unshaped timber to the air and sun before finally adjusting and joining it into the finished article. This is done to prevent unsightly cracks after the article is made.

I am of opinion that so long as the natural sap of the timber is not totally removed by airing or artificial drying, there is invariably cracking and shrinking with all woods.

From this stage onwards, naturally the shrinkage is less and less, and when all moisture is totally removed then old timbers and new timbers might not vary materially in the characteristic in question.

What is very important in practice is to know the minimum time that a particular timber requires to have its sap completely dried up. The term " new timber " in the conclusion of the report is therefore misleading.

M. GILL
Malta

AT THE R.I.B.A. CENTENARY BANQUET

The President (Sir Giles Gilbert Scott, R.A.) and some of the members and guests present at the R.I.B.A. Centenary Banquet, held in the Guildhall, E.C., on November 22. The sketches are by Fred May.

PLAN THE BUILDING INDUSTRY

[*BY CYRIL SWEETT, F.S.I.*]

This is the first of a series of articles dealing with the present state of the building industry, and reviews the existing chaos and its attendant evils. Further articles will give concrete suggestions for suitable research into the underlying factors controlling cyclical variations in the demand for buildings.

THE building industry, taken in its broadest sense, gives employment to a greater number of persons than any other individual industry in this country. It is, furthermore, subject less to external disturbances than most of the other industries; but in spite of this it consists of a great number of units working individually, governed by no law other than that of immediate demand. It does not know what will be required tomorrow. It is, from a production point of view, quite unplanned, in that no attempt is made logically to forecast possible future requirements.

The demands upon the industry are fluctuating, resulting in what are known as boom periods and slump periods. Everyone connected with the industry knows this and it seems almost unbelievable that no organized attempt has so far been made to ascertain the *causes* of these slump and boom periods. No one knows how long a boom will last, when a slump will end, or when either can be expected.

It is obvious that these slumps and booms are caused by outside circumstances, and it is probable that time and money might be well spent by the industry in an endeavour to analyse past and existing conditions with a view to some intelligent forecast of the future. At the moment no records are kept and no statistics are available which demonstrate the effect of economic, political or other conditions upon the industry.

The results of the lack of planning are well known. During the slump period there is general depression and unemployment, with resultant low and uneconomic tendering by firms who must have work at any price to keep their organizations going, pending better conditions. The undercutting of prices spreads through all branches of the industry, with well-known and obviously unfortunate results.

With a boom period, which usually arrives suddenly and unexpectedly, the results are equally unfortunate. Capital has been drawn upon to tide over the preceding difficult period; materials and skilled labour are not immediately available; prices rise, and the industry enters on a period of feverish activity in an endeavour to fulfil demand. Temporary and often uneconomic measures are adopted to increase output, unavoidable delays take place and quality is affected. Mushroom firms with little or no experience spring into being, started and run by people who are prepared to manufacture anything for which there is an immediate demand, and to cease work as soon as that demand has been satisfied. These people are a serious menace to the industry and to the established and conscientious manufacturer who is as interested in the quality of his product as in the profit which he hopes to make from its manufacture. He has behind him not only the experience of years of manufacture but also the machinery and the craftsmen able to produce good materials. It is not only unfair but discouraging to him that he should be subjected to the unfair competition of an unscrupulous speculator.

The consumer under these conditions is faced with two alternatives; either he must wait for materials which he knows to be satisfactory, or he must buy those which he knows to be inferior—often at inflated prices. In these days of high-speed building it is obvious which of these two alternatives he is more often compelled to take. The results of all the research and care of the established and reputable firms are lost in the wild panic for materials, mechanics and buildings.

The boom period ends often as suddenly as it began, much defective work has been done, the mushroom firms go out of business with their ill-gotten gains, and the established manufacturer reduces his staff to a skeleton organization to await the next period of activity. It is obviously wrong that the greatest industry in this country should be in this chaotic condition. With some forecast work could be continued, through the slump ready for and in anticipation of a period of increased demand, orders could be fulfilled without panic and the industry established on a reasonable and economically sound basis.

No section of the building industry can be individually blamed for these conditions. The prosperity of the industry, however, must be dependent on certain factors or combination of circumstances which should be discovered and analysed so that it may be possible with a minimum margin of error to forecast the requirements of the industry for a given period. It should be possible for the architect, the builder and the manufacturer to plan ahead and to meet in a reasonable manner the demands which are likely to be made upon them. The established speculative builder, by his study of marriage statistics and distribution of population, has something to teach in this direction, for it is on his study of these and other facts concerning his business that he plans ahead, forecasting the number of houses it will be necessary for him to build in a certain area during given periods of the following year. He buys his land and orders his material on the basis of his forecast, and apparently finds it worth while.

Careful study and co-ordination of conditions affecting the building industry would result in organized planning and spreading of work over a given period; the uncertainty which exists today would disappear and confidence would be restored; the large number of roving assistants and workmen who at present exist would be absorbed and kept permanently engaged working reasonable hours. An anticipated and planned period of prosperity would inspire confidence and encourage research and development among all branches to meet the demands to be made upon them. It is unreasonable during a boom period under present conditions to expect any architect, builder or manufacturer to expand his activities which may necessitate heavy capital expenditure when he does not know how long the boom, or the slump which follows, may last. Work during a boom is in consequence carried on with the minimum development under difficulties of inadequate accommodation. A prolonged period of activity may result in the more adventurous extending and developing their establishments and plant. This development must at the moment be blind and is often the result of quite unjustified confidence. Should a slump follow soon after this development the results are disastrous.

Planning for the future of the building industry, with fair competition and regular employment for the vast number of people engaged in it, is surely something which is worth striving for and something which merits the closest co-operation of everyone concerned. It is a thing which by its newness may be received with suspicion and condemnation by those whom it should ultimately benefit. It has been done in other industries, admittedly less complex than that of building, with excellent results.

THE ZETT-HAUS, ZÜRICH

BY

CARL HUBACHER AND RUDOLF STEIGER

(in association with Robert Winkler)

SITE

THE buildings are in the centre of Zürich and occupy about a third of an important island site, of which they form the western end, with a three-sided frontage. The lay-out was complicated by the irrational parcellation of the ground, which could only be partially improved.

Three separate buildings occupy this site: a six-storeyed office block (with shops below and small flats in the attic floor) on the rounded-off corner of the Badener- and Bocherstrasse, having a short return on the Rebgasse; a much lower cinema next to it, with a garage for 35 cars below; and a four-storeyed restaurant building at the corner of the Rebgasse and Müllerstrasse.

OFFICE BLOCK

The dominant features of the structural design are the spacing of the supporting members at 22 ft. 6 in. centres—a distance equally favourable for shop-window openings and the room dimensions of the flats in the attic-storey and the setting of them well back behind the frontage, but in such a way as to avoid encumbering floor space. The ground floor is 23 ft. high: sufficient to provide a row of shops each with a mezzanine floor above. The sixth floor (flats) is set back behind the building line. The flats have kitchenettes, and a 6 ft. 6 in. wide balcony on the south side. There is also a roof garden with a swimming pool, douches and dressing cubicles, used by employees of the shops and offices in the building in the lunch interval.

CINEMA

The cinema ("Roxy"), seating 1,000, lies parallel to the Badenerstrasse, but separated from it by the office block, and has a separate studio for broadcasting. The cloakroom lies between the two entrances. The absence of a gallery simplifies visibility, and ensures rapidity in emptying the hall and good acoustics. The vertical parts of the walls are covered with building board. An appropriate shape assures perfect acoustics even when the sliding roof is opened. Automatic ventilation and air conditioning is by the carrier system, which is draught-free, since it works from the front instead of the sides of the seats. The sliding roof, a boon on hot summer evenings, measures 26 ft. by 50 ft. and opens sideways. The special tubular-steel seating is designed to fold up, allowing a 1 ft. 8 in. space between each row of seats, and therefore considerably simplifying emptying and cleaning.

RESTAURANT

A very awkward site required the greatest possible utilization of the relatively small superficial area available. Three different floor levels are provided, the total seating capacity being 140. The second floor connects directly with the auditorium of the cinema. The first floor, which lies about a metre above the street level, is disposed so as to allow good lighting and ventilation for the all-electric kitchens underneath it. The ventilation system of the restaurant—which represents the most concentrated planning possible with practical convenience—is entirely separate from that of the cinema. Above the restaurant are one- and two-roomed flats (with kitchenette and shower baths) and two roomy studio flats.

MATERIALS

The exterior walls (except party walls) are faced with polished precast-stone slabs with cork insulation adhering to their inner face. Sliding metal-framed casements are fitted, except on the north side, where there are double wooden-framed windows. The roof is covered with three layers of special tarred paper with a heavy gravel surfacing, laid on a cork insulation. The ceilings in the office rooms and flats are of $\frac{3}{8}$ in. insulating board.

BUILDING COSTS

Per cubic foot (without fittings, and, in the case of the cinema, without technical equipment, but including the sliding roof, lighting, display cases, and consultants' fees):

Office Block:	2·24	Swiss francs
Cinema Building:	2·78	,, ,,
Restaurant (and flats):	2·24	,, ,,

CONSTRUCTION

Office Building: The sequence of windows, which is unbroken by the stanchions which are carried right up to the roof, clearly necessitated a steel-framed structure.

Cinema: The problem of a large 65 ft. by 100 ft. auditorium without interior supporting members, complicated by an irregularly rising site, which imposed exits at different levels, was of a kind best solved by monolithic construction: a concrete roof shell supported on four separate stilt-like stanchions. The considerable variable load of the roof, which called for a substructure of the utmost rigidity, as also the necessity for absolutely fireproof construction (increased by the presence of a garage immediately underneath), emphasized the practical superiority of reinforced concrete.

The Restaurant Building: Carried out in ordinary brick walling, because here the structural subdivision of the flats was predetermined.

STRUCTURAL SEPARATION

The office block required complete acoustic insulation from the cinema, in which revue performances are given and broadcasting loud-speakers are installed. The dimensions required, and the disparate number of floors in

THE ZETT-HAUS, ZÜRICH:

the three buildings, meant that quite different shrinkages had to be expected in each. This dictated the structural separation of the cinema on separate foundations, though the cramped nature of the site necessitated partial dovetailing of its superstructure into that of the office block: an expedient usually attended with difficulties, which were overcome in this case by the type of construction adopted. In the same way the restaurant building is, structurally speaking, entirely independent of the cinema.

STRUCTURE: OFFICE BLOCK

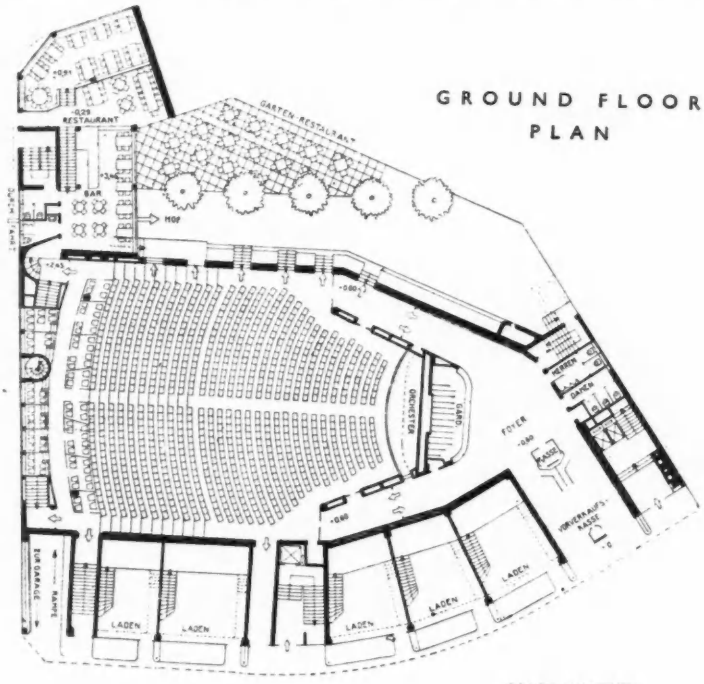
An overall concrete-raft foundation was decided on as offering a good distribution of the load and a safeguard against the possibility of water seeping in from the subsoil. A patent flooring (precast reinforced concrete beams used as ribbing for hollow-tile filling, covered with a reinforced-concrete slab) was employed for the upper surface of the raft, as this enabled shuttering to be dispensed with. The depth at which ground water was actually encountered made it unnecessary to waterproof the cellar floor; the danger of moisture gradually percolating through the raft being overcome by laying a system of pipes in the flooring of each of the basement rooms connecting with the garage pumps. The expansion joints between the three buildings were not filled in.

The dry wall built to take up the earth pressure during construction was braced with railway rails and steel shoring girders on the inside. This dry wall served as exterior shuttering for the reinforced concrete retaining wall that was built up inside it, the embedded rails and girders constituting a definite and fully utilized part of the reinforcement.

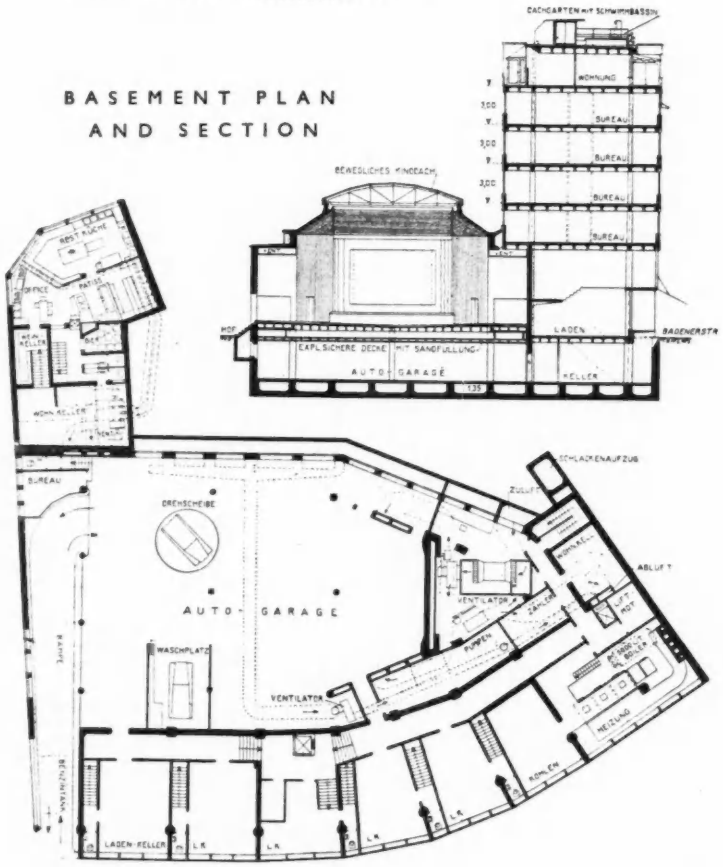
Superstructure. — All horizontal loads and wind-stresses are transmitted to the foundations by a separate and entirely independent supporting system which has the effect of freeing the stanchions from all except vertical loads. This system consists of diagonally reinforced partition walls on the middle landings, and a party wall on the east side. These walls are not parallel, but the partitions are firmly attached to them and, combining with the centre ribs of the floors of the various storeys, form a rigidly braced structure.

The lay-out—partial dovetailing of the cinema into the structure of the office block—decided the height of the shop-fronts; existing building regulations for room heights leaving available a depth of only 17 in. for the main beams. But though this fixed depth required a special form of construction for the main crossbeams (twin steel beams without casing) the same depth as applied to the secondary ribs of the concrete floor between the cross-beams allowed a relatively deep and rigid (and therefore light and economical) type of flooring. The span widths of 16 to 22 ft. and the dimensions of the pipe ducts (hollow reed mesh wired

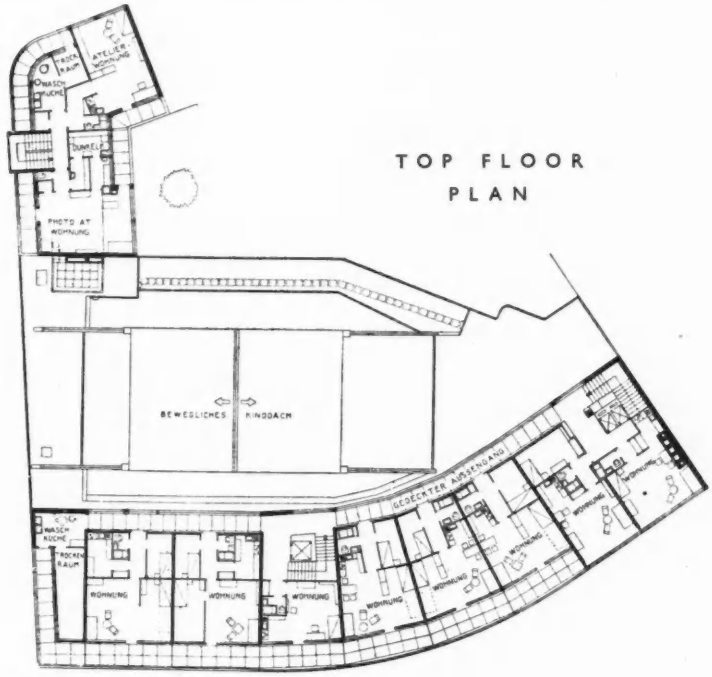
GROUND FLOOR PLAN

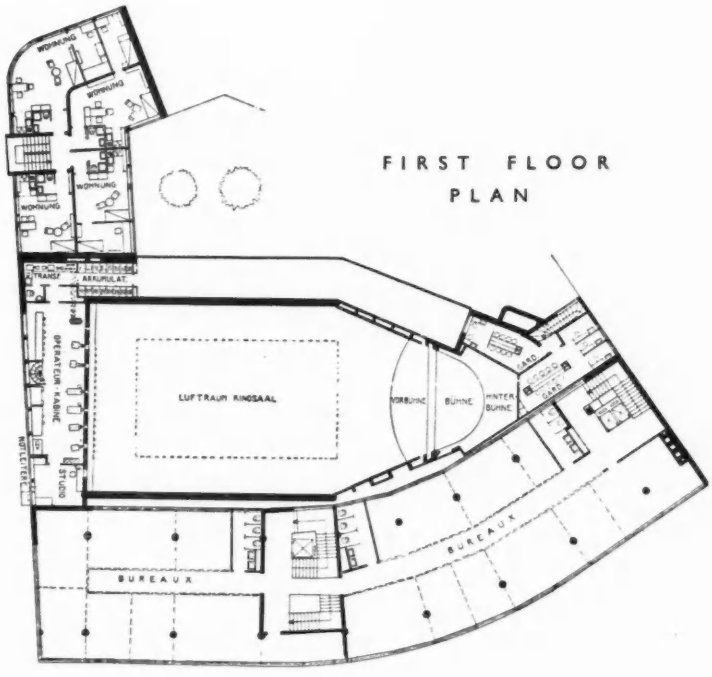


BASEMENT PLAN AND SECTION



BY HUBACHER AND STEIGER





to thin wooden frames with turned-up edges) made it necessary to substitute cavity floors for the hollow tile floors used elsewhere.

Stanchions.—Researches were made into the dimensions and cost of the columns, and applied (*a*) to spirally reinforced concrete columns; (*b*) steel girders with a 1¼ in. fireproofing casing of concrete; (*c*) columns made of compensated cast steel cased in fireproof Eternit tubes; and (*d*) reinforced concrete columns with a rigid core section in which the encasing concrete also plays its part.

In spite of their exceptionally small dimensions the rigidly reinforced concrete columns gave very good and economical results. The steel girder is fully utilized, since it can be stressed to over 9.5 tons per sq. in. as a partially loaded composite section before being encased in concrete, quite apart from a compressive load on the concrete, without the margin of safety of the whole constructional unit falling below its usual level.

In order to obtain more exact knowledge of the behaviour of the component rigid girders, vertical reinforcement, spiral armatures and concrete under different loadings, and progressively increasing eccentricity of load, four columns of the same size as it was planned to use in the building were prepared and tested. The tests furnished interesting results, especially in regard to the spiral armature. Since only four columns were tested, it follows that no scientific data of authoritative value could be expected. All the same, the tests bore out most of the basic calculations and gave an indication of the direction future investigations into structural economy should pursue.

During the tests it was, unfortunately, not possible to concrete the columns while the girders were being initially loaded. The measurements taken during the construction of the Zett-Haus were, therefore, of greater value. In order to control the elastic behaviour of the various structural members about 170 measurement studs were built in during construction, the greatest concentration being on two different standard columns: a particularly heavily reinforced square composite column, and a circular spirally reinforced concrete column in the cinema. In each column three cross-sections were investigated: one as close as possible to the head, another at the foot, and a third in the middle. Each cross-section was divided into four measured fields in the concrete and four in the steel girder; the latter had ½ in. square studs welded on to them, but isolated from the concrete. The degree of expansion and contraction in the concrete were tested by small beams which were poured at the same time as the columns and made from the same mix.

Application of the Test Results.—The results obtained were close enough to the assumptions of the original calculations. The laboratory tests, and those for deformation subsequently made on the building itself, showed that, compared to the usual margins of safety applicable to steel-framed structures, these composite columns were over-dimensioned. In the opinion of the engineer there is no reason to insist on a sensibly greater margin of safety in a composite than in a steel-

framed structure. The contractor must naturally be compensated for the additional degree of precision required, but this extra care results in work of higher quality and amply repays him by the economies it ensures.

Construction of the Stanchions.—The calculated initial loading was imposed on the steel sections by pouring and striking the floor shuttering before the stanchions were concreted. The concreting of the columns was effected with octagonal shuttering in vertical lifts of about 18 in.

The concrete was introduced in layers, and tamped down with hand rammers up to about 6 in. short of the heads of the columns, the shuttering being vibrated externally by intensive hammering. The tops of the columns were separately concreted after the rest of the shafts had set.

Facing.—The clamped reconstructed stone slabs provide a water-tight exterior facing. A layer of cork, introduced in the form of permanent inside shuttering during the moulding of the slabs, which is therefore firmly attached to them, provides heat insulation. Artificial stone and cork sheeting were introduced as pre-fabricated materials simultaneously with the reinforcement. In consequence, the whole of the reinforced concrete used in the building is properly insulated—that is to say, it is the basis of a stable system of heating, the result being that the difference in temperature between any two concrete members of the building is very slight.

STRUCTURE : THE CINEMA BUILDING

Foundations are as for the office building.

Nature of ground beneath the Auditorium.—Protection against petrol explosions necessitated separate and separating roof construction for both divisions of the garage. The roofs are independent of the supporting flooring and consist of two 2½ in. thick reinforced concrete slabs, with 14 in. longitudinal ribs packed with sand filling between them. The widest possible interval is provided between the columns, allowing freedom of circulation in the garage—in spite of the low head-room already mentioned it was possible to contrive a clear span of 32 ft. by giving the ribs both top and bottom plates. The auditorium has a normal reinforced concrete ribbed floor between which and the safety ceiling of the garage there is an interval of 2 ft. 6 in. The space between the two (which is accessible by crawling) is utilized for various ducts.

Roof of the Auditorium.—This, like the projection-chamber suspended from it, is supported on four round spirally reinforced concrete stanchions. The

THE ZETT-HAUS, ZÜRICH :

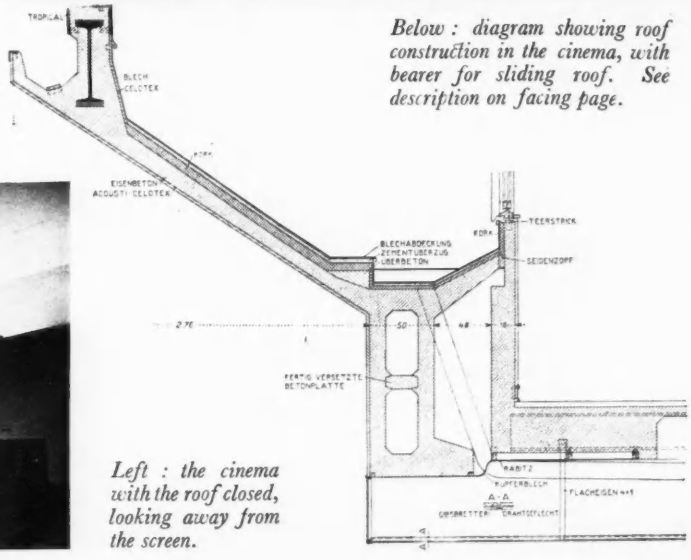
The exterior, showing the entrance to the restaurant, which is on the ground floor with flats above. On the right is the end of the cinema and the ramp down to the garage.

The façade at right angles to the above, with shops at ground level and offices above.

cylindrical concrete wall of the exterior spiral staircase leading to the projection chamber acts as a wind-brace in the north-west corner. The remaining exterior and partition walls were executed in ordinary brickwork. Two large Z-shaped cantilevered beams of about 60 ft. span support the main

BY CARL HUBACHER AND RUDOLF STEIGER

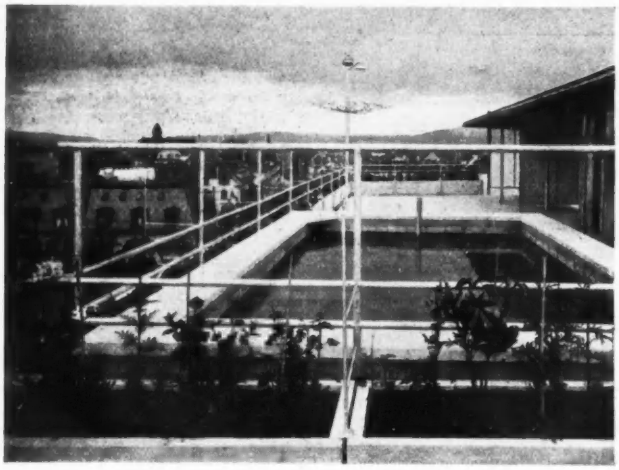
Above : the cinema auditorium, showing the sliding roof fully open.



Below : diagram showing roof construction in the cinema, with bearer for sliding roof. See description on facing page.

Left : the cinema with the roof closed, looking away from the screen.

THE ZETT-HAUS, ZÜRICH



Above : the interior of the restaurant on the first floor. Left : the swimming pool on the roof.

BY HUBACHER AND STEIGER

(In association with Robert Winkler)

load of the roof. As these beams are asymmetrical they have to sustain torsional moments, which prevented any further reduction of their breadth ; thus, in order to save weight, two voids, separated by a precast concrete rib, were slotted out of their webs. (See drawing overleaf.)

Sliding Roof.—The varying load of the two sliding halves of the roof involved special precautions. To avoid spoiling its appearance as seen from the auditorium it was necessary to keep the wall supports of the sliding grooves, which defined the opening on either side of it, as low as possible. These were therefore formed of I-beams, with a pair of sole-plates riveted to each of them. A maximum of rigidity had to be provided to ensure smooth working of the sliding mechanism and perfect closing of the two halves, and also in order to obviate cracks in the ceiling. As the connection of the roof plates with the slotted Z-shaped beams just described would cause a deflection of the 70 ft. free span of the beams supporting the runners, and so impose an additional torsional strain on the first of these, this combined bending stress from a constant and a rolling load had to be overcome as far as possible. This was achieved by artificial preliminary loading of the steel girders before they were encased in concrete, which caused a deflection in them corresponding to the resultant of the moment active upon them when the roof is closed. The concrete in its composite cross-section is therefore practically without tension when the roof is closed, and the ceiling may consequently be regarded as immune from cracks.

By the use of insulating board the whole of the concrete forming the roof of the cinema was brought within the heat-insulated areas. The exterior covering is of lead sheeting.

The prior loading of the guides was carried out as follows : The steel sections were placed in position on the partially completed substructure, riveted together surrounded by their special reinforcement and concreted on to their abutments. After the concrete had hardened—which left the steel sections entirely uncovered along their span of 22 metres—the sections were anchored down to the foundations by collars attached to them in four different places. Hydraulic presses with measuring instruments were then connected up, which enabled accurately regulated loads to be applied to these collars. The preliminary loading was controlled according to the ultimate intended load. Measurements taken after six months' service proved that the longitudinal roof beams and the greater part of the roof's shell have remained entirely unaffected by the movement of the sliding roof.

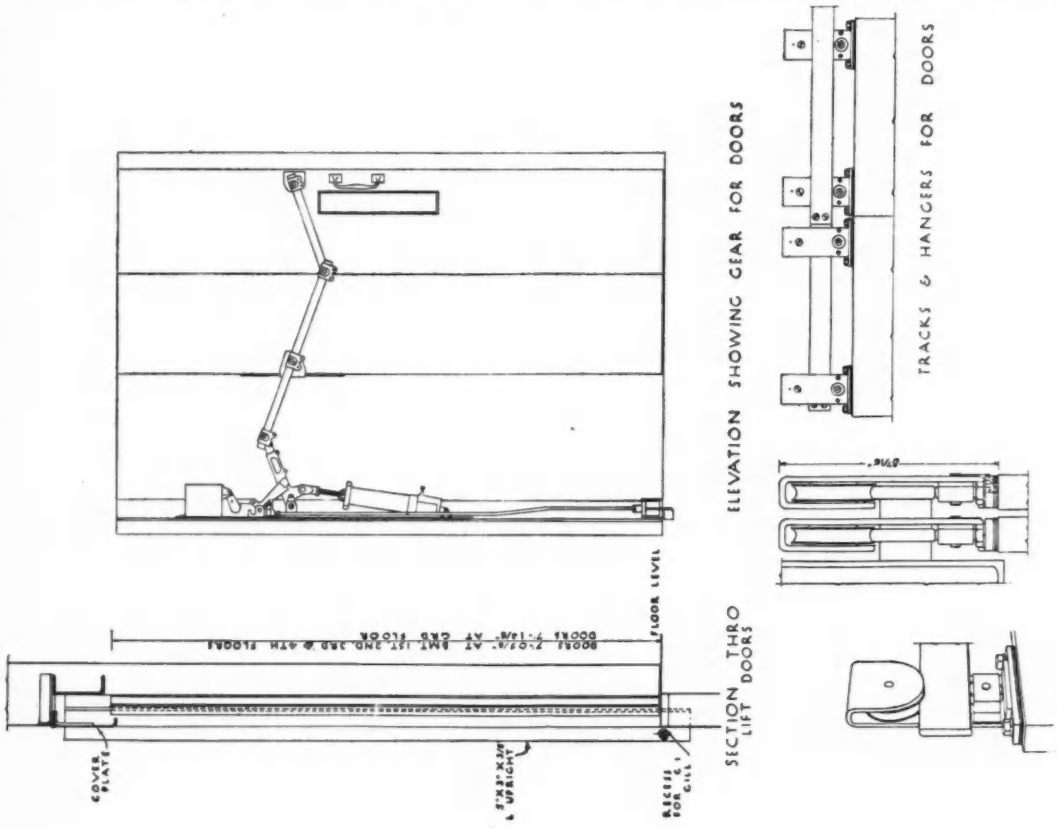
WORKING DETAILS : 165

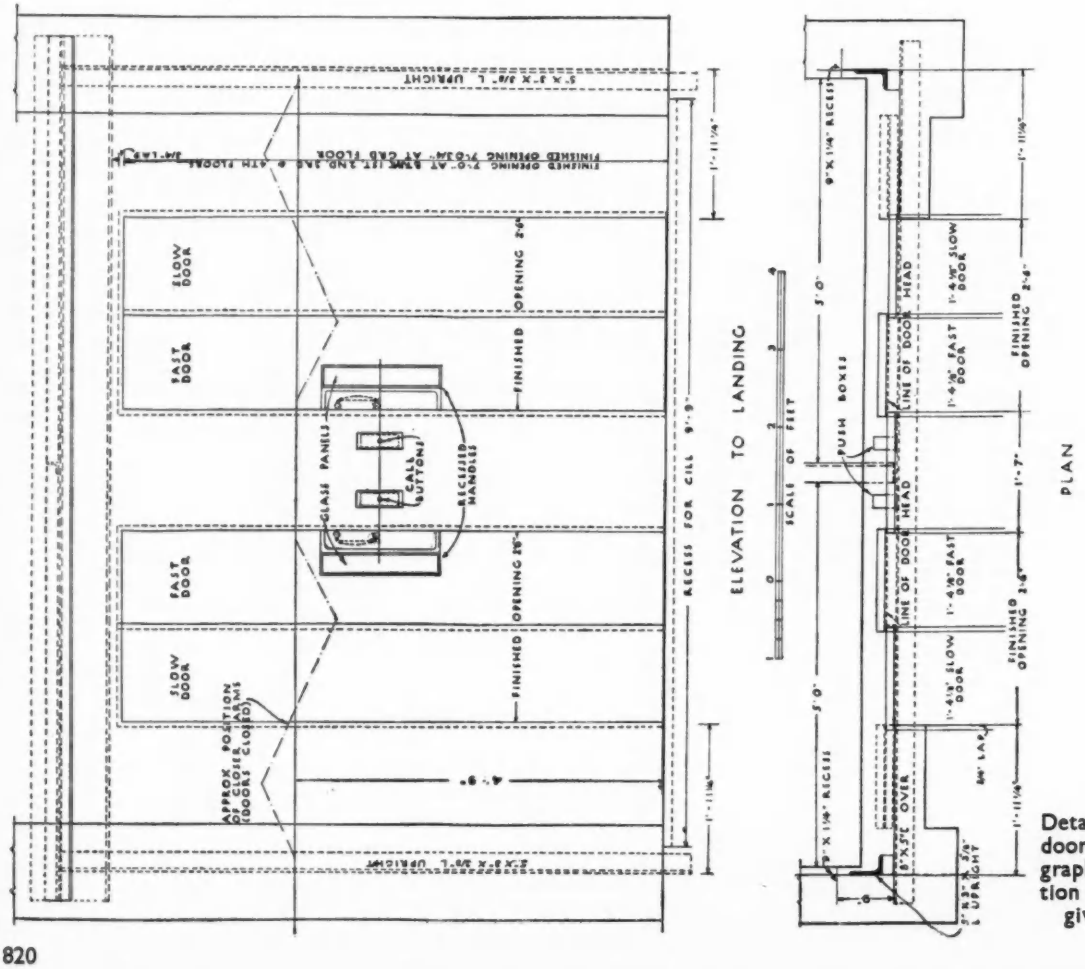
LIFT DOORS • R.I.B.A. BUILDING, PORTLAND PLACE, W.1 • G. GREY WORNUM

The lift doors illustrated above provide a flush surface when closed ; each door is made up of two offset sliding leaves, which are closed automatically by a compression spring. To prevent slamming the closer is fitted with an oil dashpot. The doors are of steel, packed with insulating material and finished in scumbled green cellulose enamel. The drawings overleaf show the general arrangement of the doors, the spacing of the tracks, and the method of fixing the hangers to the doors. The leading "fast" leaf has twice the travel of the second "slow" leaf, and this speed difference is accommodated by varying the lengths of the closer arms. The leading leaf has a small glazed panel through which can be seen the arrival of the illuminated lift cage.

WORKING DETAILS : 166

LIFT DOORS • R.I.B.A. BUILDING, PORTLAND PLACE, W.I. • G. GREY WORNUM

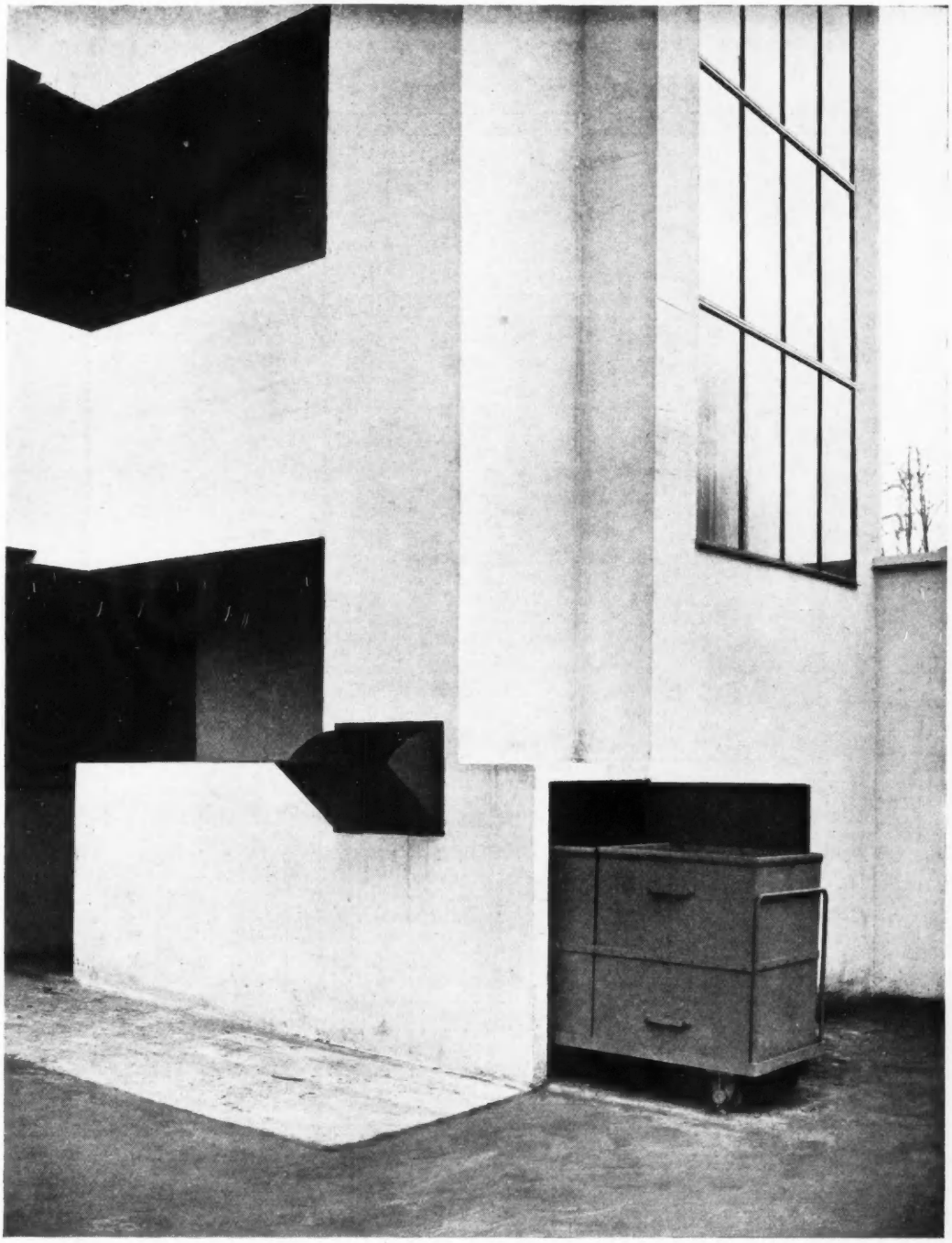




Details of the lift doors, a photograph and description of which are given overleaf.

WORKING DETAILS : 167

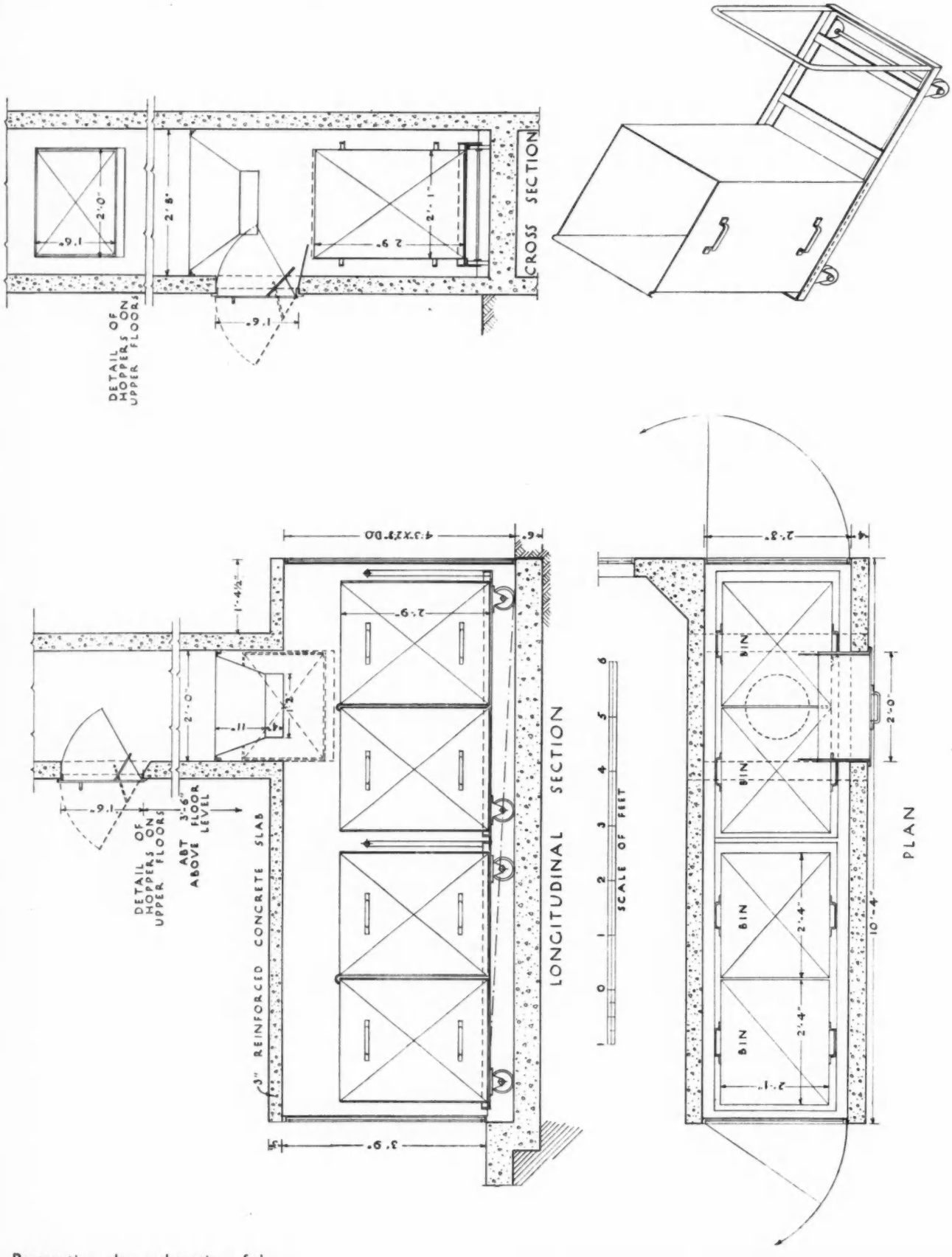
REFUSE-CHUTES ● FLATS AT PECKHAM ● ADAMS, THOMPSON AND FRY (IN COLLABORATION WITH MISS E. DENBY)



The refuse-chute illustrated above serves a total of twenty flats on the ground and four upper floors. The drawings overleaf show the lay-out of the chute which runs vertically to a vent above roof level. Hoppers are provided on each floor and the chute discharges over a pair of bins placed on a single trolley, one lip of each bin being turned over its neighbour, thus preventing refuse from falling between the bins.

WORKING DETAILS : 168

REFUSE-CHUTES • FLATS AT PECKHAM • ADAMS, THOMPSON AND FRY (IN COLLABORATION WITH MISS E. DENBY)



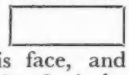
Perspective, plan and section of the refuse-chutes described overleaf.

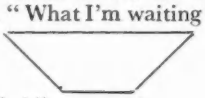
DESIGN IN AMERICA

[BY JOHN GLOAG]

II. PRINCIPLES AND PATRONAGE

LEGENDS gather about great men, and after their death they multiply. Some of the stories told about that humorous genius, the late Ray ond Hood, are obviously manufactured; but this one has an authentic ring. He was asked one day by some earnest person upon what principles he designed his great buildings.

"If a client wants a building like this," he replied, indicating this shape with his hands, "why, I give him verticality. If he wants something like this then  I give him horizontality."

A smile flitted across his face, and he added, "What I'm waiting for is the client who wants a building like  this. He'd get it!"

I have been told, rather severely by several people, that *of course* Raymond Hood wasn't a *modern* architect. He was a pioneer who had rather an abrupt way with conventional people, and although he manfully resisted the temptation to pull every leg in sight, one gathers that he pulled a good many, and the academic mind finds it difficult to forgive anybody who jests about sacred professional matters. One thing is certain: that until he died, Raymond Hood's mind remained young and flexible. He would have cheerfully made any experiment in design that patronage permitted; and in this country, that has all the charm of youth and all its abundant, innocent and rather irresponsible vitality, patronage is very different from the "safety first" patronage that the hierarchy of English commerce doles out to the architectural profession.

I am told that when one of the great, spectacular skyscrapers was being built, that the architects and the structural engineers set an economic limit to the height. "Above this limit," they said, "the building will not be economically sound. You can go up another three hundred feet; but it won't pay."

"Go up another three hundred," said the patrons, "it's good advertising."

The eighteenth-century patron of architecture was educated in classic architecture: the twentieth-century patron of architecture in America is educated in commercial advertising. The buildings of New York are largely the result of the spirit of salesmanship that pervades the place. And the spirit of salesmanship doesn't ossify over here as it does occasionally in England. There is apparently less of "*we* know this sort of thing is just what the public wants, we've been selling it for years." There is a readiness, an eagerness to experiment, which frequently leads to what can only be described as a topical building. The Woolworth building was topical in its day; so was the Chrysler building; but Al Smith's handiwork, the Empire State Building, has authentic individuality; and it will last after styles in trimmings (from which the Woolworth building suffers) and in ornamental lids (which is the complaint of the Chrysler building) are stale and withered.

Here the architect has been called in to give expression to the theme song of commerce, which is: TELL THE WORLD. An interesting contrast with our habits, for, with the exception of Lord Beaverbrook, Sir William Crawford and the directors of Messrs. Beck and Pollitzer, who have all sponsored buildings in the architectural idiom of their own century, English business men seem to say to their architects: "For God's sake don't let anybody know we're in [and they gulp a bit and finger the old school tie before pronouncing the horrid word] *trade!*"

But this enlightened American patronage has dried up since the depression. There is a little building in progress in New York; but the architectural profession here has suddenly been cut off from all commissions. Offices that were employing from fifty to two hundred draughtsmen and assistants, are now reduced to two or three, and the partners. Any number of skilled men are looking for some new form of activity in which they can use their specialized training.

"The architectural profession will have to be reorganized upon a different basis, when the depression's over," I've been told. (Here and there one finds hints that the depression is beginning to move away: increased retail trade in the city is one hopeful indication.) Instead of spinning out vague theories of the way it could be reorganized, the architects who mentioned the matter were beautifully frank. "*We* don't know how it'll be reorganized," they said; "but we'll have to get in on the economic side of building and development."

Meanwhile architects are finding work as advisors upon design in a number of industries where products are known to have extra selling value when they are "styled." The architect is regarded as a competent "styliser," and some of the younger ones swallow their functionalism and regain their humanity by the healthy exercise of their talent for creating patterns and inventing agreeable shapes. So much the better for American industry; only in America, as in England, the great obstacle to really good designs being put before the public is the retail buyer. Over here there is a big and growing and increasingly impatient public which wants good-looking things, in equipment, in furniture, and all the oddments and fitments that go into a home. A generation of intensive education in well-arranged interiors illustrated by the magazines has had its effect. People are beginning to want what the retail buyer can't give them, and he is getting very worried. He has heard the word design, without knowing in the least what it means, but because he has heard it, and because he is frightened, many young architects have been able to survive these harsh, lean years that have troubled and humbled America, and have probably strengthened the national appetite for experiment. Something unusual must come out of this panic-born association of design and industry. Meanwhile the American architect accepts a wider responsibility to his great commercial civilisation.

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Royal Sanitary Institute

A discussion on "the Moyne Report on Housing" is to take place at the Royal Sanitary Institute, 90, Buckingham Palace Road, S.W.1. on Tuesday, December 11. The discussion will be opened by Mr. H. G. Clinch, Chief Sanitary Inspector, West Ham.

Exhibition of Georgian Architecture

An exhibition of Georgian architecture is being organized in Tiflis by the Union of Soviet Architects of Georgia. One section of the exhibition will be devoted to designs and drawings of the pre-revolution period, dating as far back as the fourth century. Another section will show plans, drawings and photographs of buildings erected after the establishment of a Soviet regime in Georgia.

West Yorkshire Society of Architects

Mr. Victor Bain, F.R.I.B.A., presided at a meeting of the West Yorkshire Society of Architects, held at the Leeds College of Art on November 15, when a discussion took place on the relationship between art and industry. The speakers included Messrs. Norman Culley, F.R.I.B.A., D. S. Andrews (Principal, Leeds College of Art), G. H. Foggitt, F.R.I.B.A., and R. A. Easdale, A.R.I.B.A.

R. E. SASSOON HOUSE : WORKING-CLASS

This block of flats, built by Mrs. Meyer Sassoon in memory of her son, the late Mr. R. E. Sassoon, was opened recently by Sir Samuel Hoare.

The photographs show : above, the south front, showing the living-room windows and the verandahs off the living-rooms. Each verandah is large enough to accommodate two small beds.

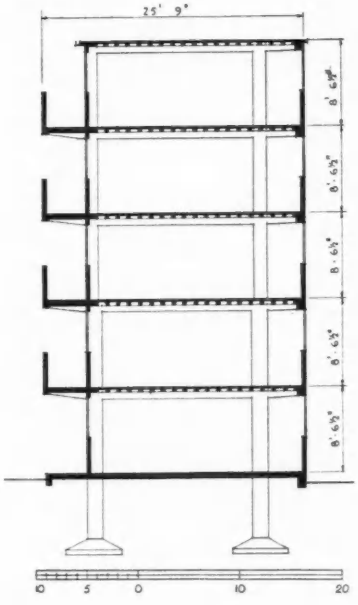
Left : A general view from St. Mary's Road, showing the main entrance and the staircase and refuse-chute tower. On the wall on the left of the entrance is a figure of a horse and rider, executed in red, black and yellow glass. It is the work of Hans Feibusch.

FLATS IN ST. MARY'S ROAD, PECKHAM

DESIGNED BY

ADAMS THOMPSON AND FRY

IN COLLABORATION WITH MISS E. DENBY



On this page are reproduced a close-up view of the verandahs on the south front, and a cross section. Following are some details of the construction of the building :

COST : Approximately £7,400 ; £370 per flat ; 1s. 1¼d. per foot cube.

ACCOMMODATION : 20 flats ; nine three-bedroom, 10 two-bedroom, one with two large bedrooms. Each flat has a balcony 11 ft. by 4 ft. 6 in.

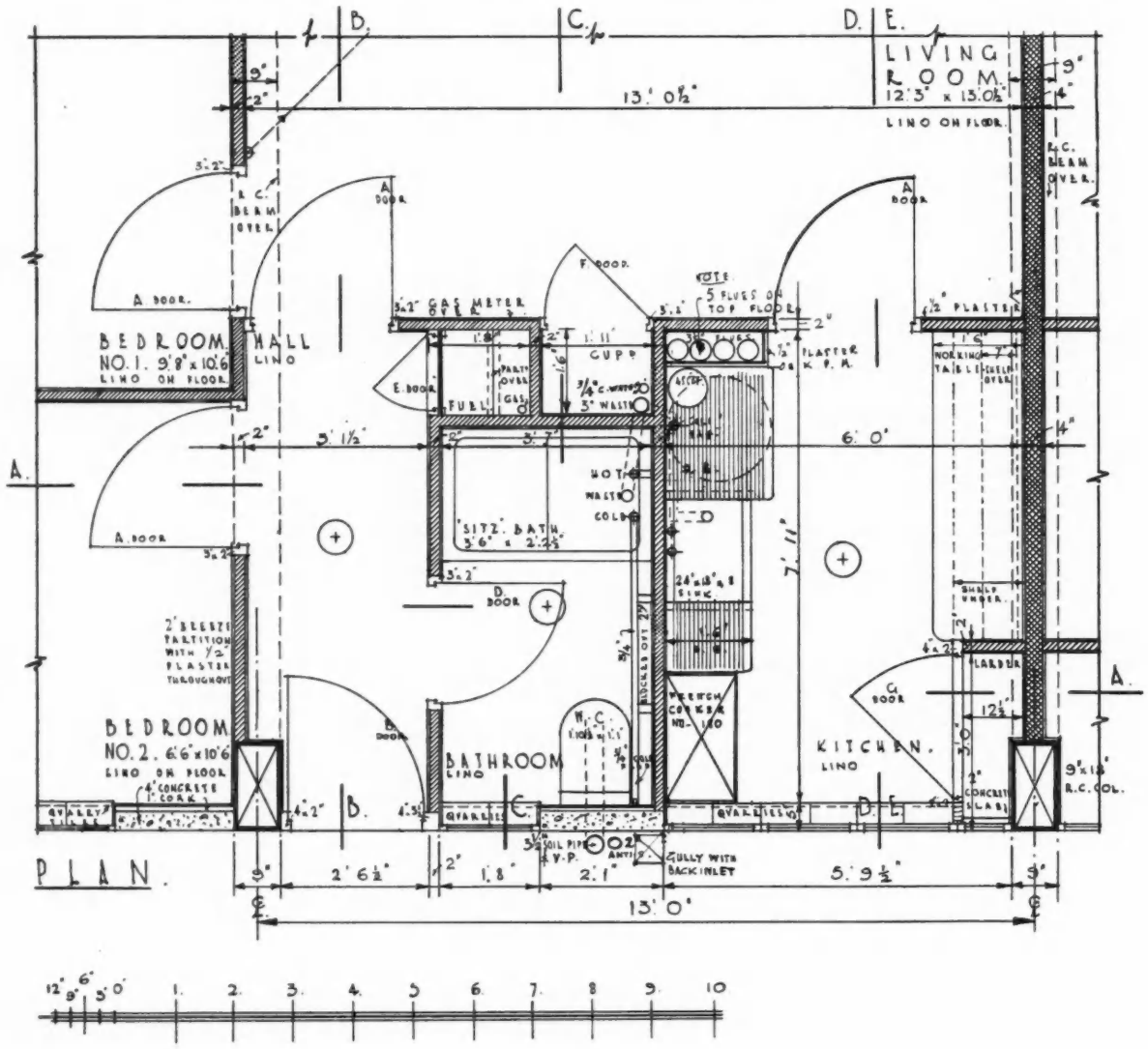
RENTS : 9s. to 11s. per week.

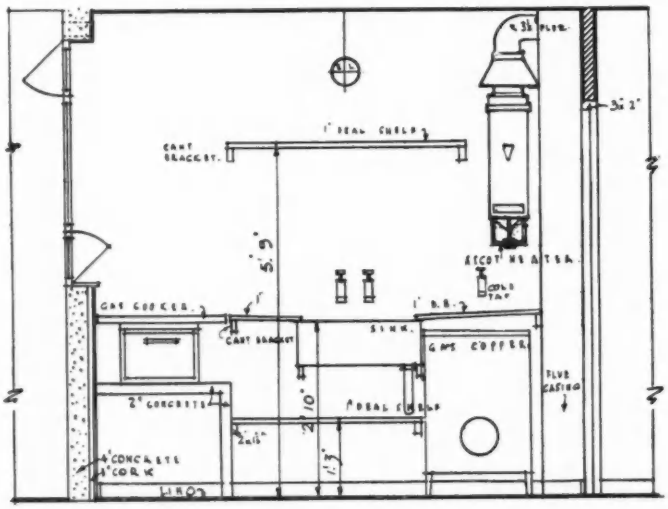
STRUCTURE : Reinforced concrete frame with a standard dimension of 13 ft. between stanchions, the centre span being 16 ft. Walls are 4 in. concrete with 1 in. cork permanent shuttering, covered with a skim coat of plaster.

FINISHES : External concrete painted in yellow, grey and cinnamon, floors throughout of ½ in. cork linoleum.

EQUIPMENT : Short type "Sitz" bath fed from gas copper, instantaneous gas water-heater ; gas cooker ; slow burning coke stove with oven in living room.

R. E. SASSOON HOUSE: WORKING-CLASS

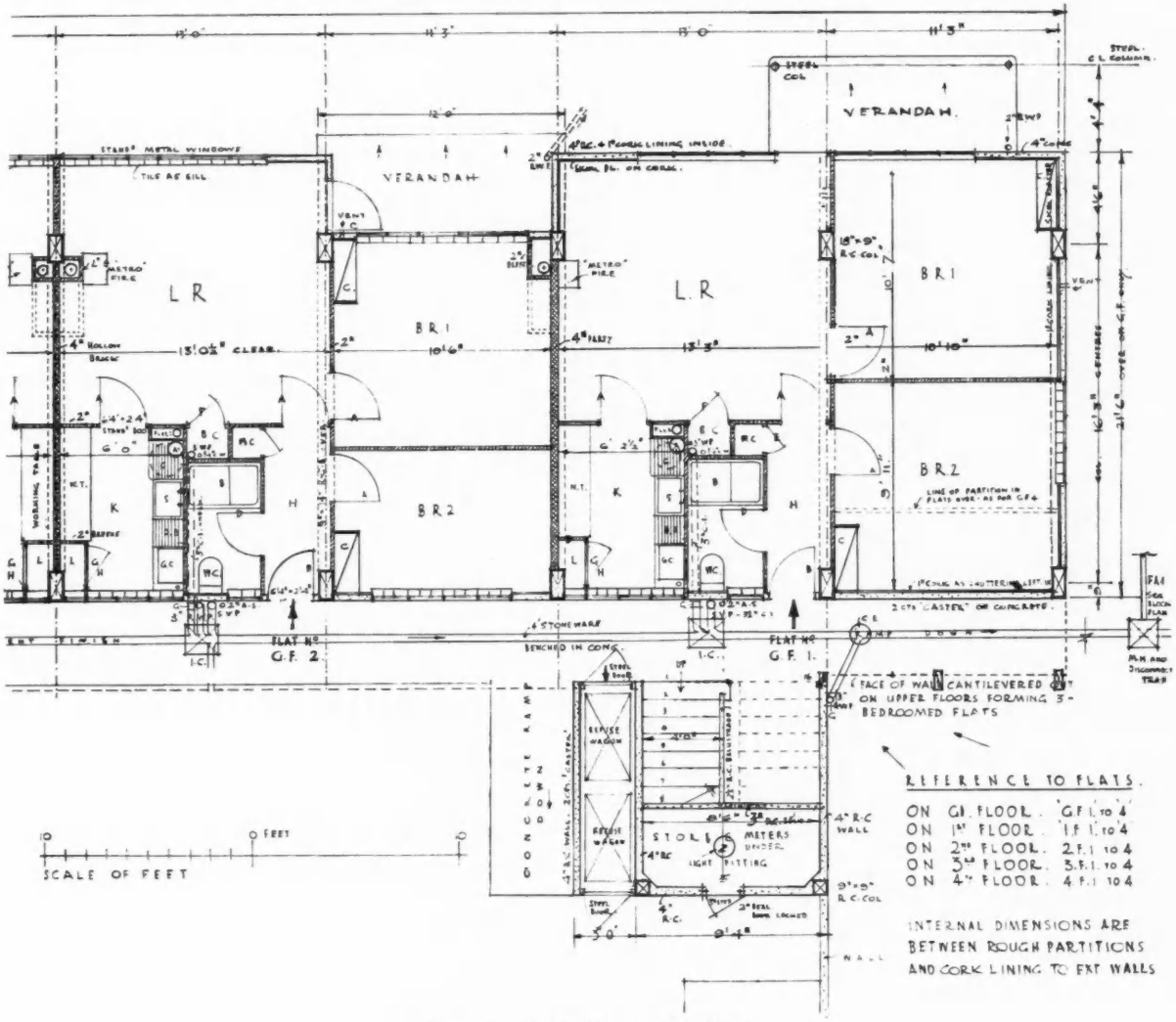




Above, a detail plan of the kitchen and bathroom lay-out. Below, elevation of the east wall of the kitchen. The kitchen is planned with all working equipment on the side receiving left-hand light, with table space and larder on the other side.

DESIGNED BY ADAMS, THOMPSON AND FRY (IN COLLABORATION WITH MISS E. DENBY)

FLATS IN ST. MARY'S ROAD, PECKHAM



Plan of one half of the complete block.

LAW REPORT

CLAIM FOR FEES

Pearson v. *Palmer.—King's Bench Division. Before Mr. Justice Singleton.*

THIS was an action by Mr. John Henry Pearson, a Fellow of the Faculty of Architects and Surveyors, and surveyor and land agent of Norbury Crescent, Norbury, London, against Mr. John Herbert Palmer, of High Street, Thornton Heath, to recover the sum of £396 2s., balance owing for work done as architect and surveyor and land estate agent.

Defendant denied liability, and said the plaintiff was not employed by him except as a surveyor for the purpose of drafting preliminary survey plans relating to land at Eden Park, Beckenham. He further said plaintiff had been remunerated for his services.

Mr. Cartwright Sharp, K.C., for the plaintiff, said that his client, in June, 1932, saw defendant about selling this land and he instructed the plaintiff to prepare a lay-out, as to what could be done to the land to the best advantage of defendant, and also to try to find a suitable offer for the estate. Plaintiff used his skill to his best advantage, and now claimed the sum in question.

Plaintiff gave evidence in support of his case.

Mr. Beyfus, K.C., for the defendant, cross-examined plaintiff as to the scale of fees he charged, and plaintiff replied that his charges and fees were in accordance with the scales of the Surveyors' Institute and the Auctioneers' Institute. Plaintiff admitted that his work involved practising as an architect, surveyor and estate agent.

Mr. Beyfus contended that plaintiff was never instructed to try to effect a sale, nor did he introduce any effective buyer to the defendant.

His lordship, in giving judgment, said that one thing must have been clear to the defendant: the plaintiff, who was among other things an estate agent, had said that he could not accept 150 guineas if this sale went through, because he first introduced the notice of the estate sale to a prospective buyer, and was therefore entitled to commission, if the sale took place. His lordship said he was satisfied that the plaintiff's efforts were an effective cause of sale. Plaintiff was an estate agent and those dealing with an estate agent under such circumstances as narrated in the evidence must expect to pay an estate agent for his services. The scale of fees, which the plaintiff charged, was sanctioned by the autioneers' scale and recognized everywhere. He thought, that the evidence given generally on behalf of the defence was unreliable. There would be judgment for the plaintiff for the amount claimed, with costs.

A stay was granted with a view to an appeal.

Obituary

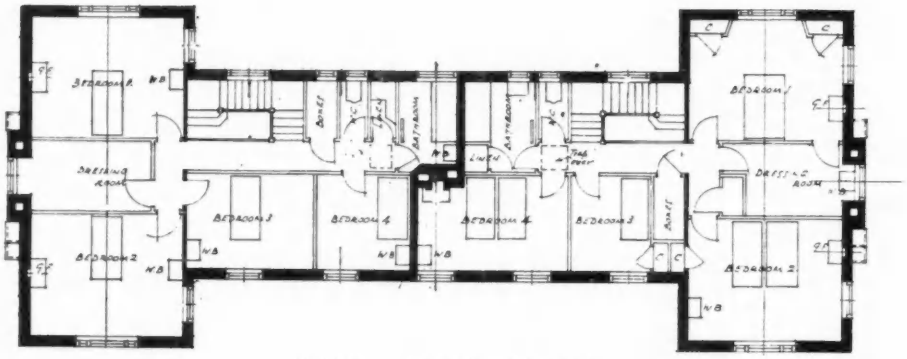
We regret to record the death of Mr. Donald Mathewson, F.R.I.B.A., of Dingwall, near Glasgow. The architect of many northern buildings, he was engaged just before his death on the plans of the new £50,000 Dingwall Academy.

PAIR OF HOUSES IN HAMPSTEAD

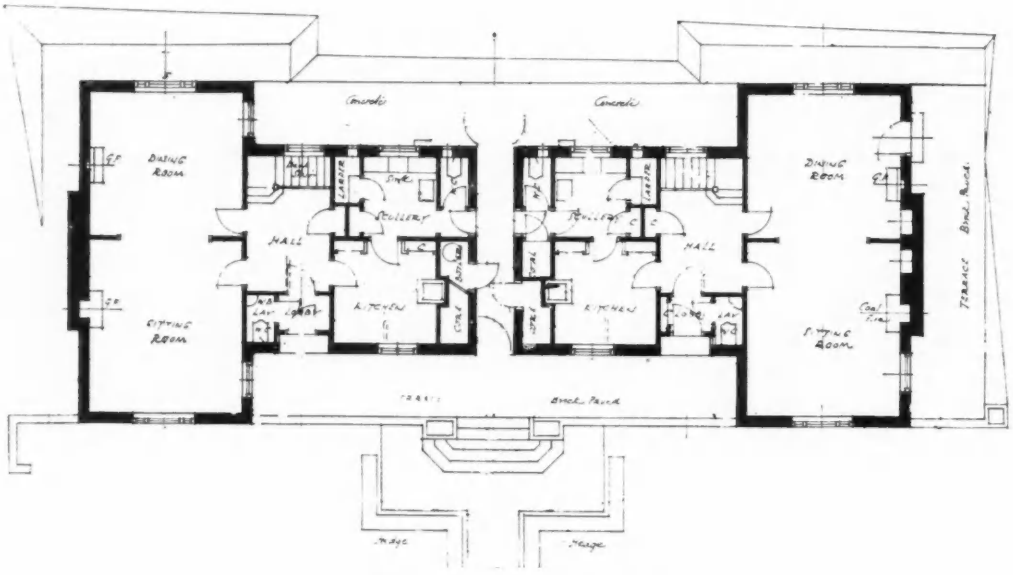
DESIGNED BY

C. COWLES-VOYSEY

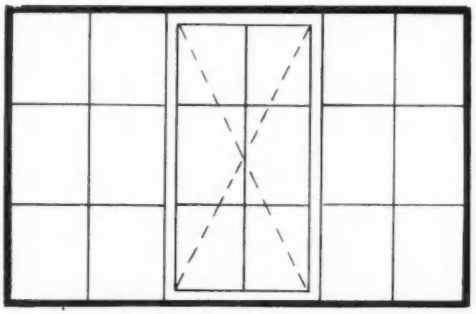
These are a pair of houses built in Bunkers Hill, overlooking Hampstead Heath. They contain two living-rooms, five bedrooms and the usual offices. The walls are of Sussex stock multi-colour bricks and the roofs are covered with sand-faced dark-coloured pantiles. Standard metal casements have been used in wood frames, painted white. The houses have central heating and cooking is by electricity.



FIRST FLOOR PLANS



GROUND FLOOR PLANS



TRADE NOTES

[BY F. R. S. YORKE, A.R.I.B.A.]

Standard Metal Windows

HENRY HOPE and Sons have just issued, in the form of a folder, a new list of standard metal windows showing, diagrammatically, only the more usual types, with serial number, size and price against each diagram. The object of the folder is to provide information for quick reference, and it is well achieved.

Retarded Hemi-hydrate Plaster

A recent Building Research Station report on Battle Axe Plaster is summarized thus :

A sample of Battle Axe plaster submitted by Gypsum Mines, Ltd., was tested and found to be a sound, moderately hard material of the "retarded hemi-hydrate" (retarded Plaster of Paris) type ; it could be applied successfully to various backings, and compared favourably in the matter of workability with others of its type. When tested alone, or with some lime added, the plaster showed under drastic conditions no deleterious effects on a sensitive oil paint.

The tests comprised :—

(1) Chemical analysis (*a*) for content of sulphuric anhydride and of calcium oxide, (*b*) for content of "soluble salts."
(2) Mechanical resistance (impact test).
(3) Initial setting time.
(4) Microscopic examination.
(5) Soundness.
(6) Reaction with oil paint.
(7) Practical plastering trial.

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A chemical analysis is necessary to indicate the true nature of the material, and to ensure that harmful impurities are not present to a dangerous degree. It assists also to identify the particular type of calcium sulphate plaster. For this purpose, it is not enough to determine the proportion of calcium oxide alone, since some plasters may well contain originally (or have added during manufacture) some free lime, or calcium carbonate. It is necessary, then, to determine in addition the sulphuric anhydride and to be satisfied that there is a certain ratio between them, corresponding approximately to that in calcium sulphate.

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A limited proportion of soluble salts is allowed, on account of the almost universal presence of alkalies, and of the quite legitimate addition of a small proportion of soluble salts, such as alum or potassium sulphate, to certain types of plaster to control their set. A markedly larger proportion than that allowed would involve liability to efflorescence, and trouble with decorations, and perhaps suggest some actual adulteration of the plaster.

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The limits suggested are :—

Sulphuric anhydride : not less than 35 per cent.
Calcium oxide : not less than two-thirds of the content of sulphuric anhydride.
Soluble salts : not more than 2 per cent. for the accelerated anhydrous type, or more than ½ per cent. for the retarded hemi-hydrate type.

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The test for soundness is designed to determine whether a plaster will cause trouble by "popping" and "pitting" due to the presence of unsound material. Six pats of neat plaster, each 4 in. in diameter, are subjected to an accelerated steaming test. This treatment will cause any unsound particles present to expand and become visible.

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The test will indicate the presence of any large amount of unsound material, but since the six pats represent only about 1 sq. ft. of the finished plaster (reckoning both sides), it is evident that the presence of a limited number of more widely distributed unsound particles might escape detection. Unsoundness of this kind, however, is not a common fault with calcium sulphate plasters.

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To determine reaction with oil paint the plaster is tested by applying a standardized blue paint, with Prussian blue pigment (which is sensitive to alkalies), to a surface of neat plaster and storing under extreme damp conditions. Plaques are made of the plaster and painted as soon as possible with a priming and a pigmented coat of linseed oil paint, allowing a 24-hour interval between the coats. The plaques are then placed on cotton wool saturated with water, with the face exposed.

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In an additional test, the conditions are made more drastic still by adding 5 per cent. of lime to one specimen, in order to indicate whether it is safe to add lime for the purpose of increasing the workability.

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Under this test a plaster which contains both free lime and some alkali will give a rapid and complete discolouration of the paint and softening of the oil medium. Each test is carried out in duplicate.

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The practical plastering trial takes the form of a series of practical tests, carried out under supervision by a skilled and experienced plasterer, both with neat plaster and with sanded mixes, for finishing coats and sanded undercoats, on a variety of backings. In the case of sanded undercoats, since it is well known that the type of sand used will very materially affect the result, a medium quality of reasonably clean and well-graded sand of known properties is generally employed, and ordinary proportions (if necessary determined by preliminary experiment) which will give easy application are used. These proportions are recorded.

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Notes are made of the ease of mixing and handling, the ease of spreading, the resistance to "suction" of the background, and the adhesion and key formation.

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Calcium sulphate plasters are not tested on metal lathing since many such plasters, when used alone, tend to corrode the metal.

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The results of tests were :—

(1) *Chemical Analysis.*

	Per cent.
Calcium Oxide, CaO ..	.. 39·85
Sulphuric Anhydride, SO_3	.. 43·10
Soluble Salts..	.. 0·10
Carbon Dioxide, CO_2 ..	.. 7·45
Loss on Ignition	.. 13·0

•

The suggested limits are : sulphuric anhydride, not less than 35 per cent., calcium oxide, not less than two-thirds of the content of sulphuric anhydride ; soluble salts (in the case of a hemi-hydrate plaster) not more than ½ per cent. The analytical limits are therefore amply complied with by the specimen. In the present case the loss on ignition, when corrected for the carbon dioxide content, implies a content of combined water corresponding to a hemi-hydrate plaster. The specimen is thus shown to be a hemi-hydrate plaster, containing some calcium carbonate, and low in soluble salts.

(2) *Mechanical Resistance (Impact).*

The specimens were successfully removed from the moulds after 24 hours without damage, so that the "setting conditions" were complied with.

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Four specimens were prepared with the standard half hour gauging and stored as described under Description and Purpose of Tests (2), and tested dry after four days. Sixteen measurements were made of the impressions made by a ½ in. steel ball dropped two yards on to the untrowelled side of the specimens ; the mean of the 16 measurements is recorded.

Mean diameter of impression 3·43 mm.
Coefficient of variation .. 2·36 per cent.
(The "coefficient of variation" is the

square root of the mean square divergence of the individual readings from the mean, expressed as a percentage.)

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The standard suggested for a normal wall plaster is a maximum of 4 mm. The suggested standard is therefore complied with, and the plaster shows a reasonable degree of resistance to accidental damage, without being too "hard."

(3) *Initial Setting Time (Vicat Needle Test).*

Standard half-hour gauging to a stiff plastic consistence: initial set at 3 hours 15 minutes. (No standard time assigned.) This represents a convenient period for a normal wall plaster employed for sanded undercoats and general plastering work.

(4) *Microscopic Examination.*

The mode of setting, as followed under the microscope, was typical of a hemi-hydrate plaster. In conjunction with the observed setting time when gauged to a plastic mass, this indicates that the plaster is of the "retarded hemi-hydrate" type.

(5) *Soundness.*

In the steamed pat test, the material showed no popping or pitting.

(6) *Paint Test.*

There was no observed chemical change during the three weeks of the test on any of the specimens, which were tested in duplicate.

(7) *Practical Plastering Trials.*

(a) *Neat Battle Axe Plaster.* The material worked in a satisfactory manner as a neat finishing coat on a variety of backings; on a gypsum plaster board a good finish was obtained, although the setting time could with advantage be speeded up somewhat for this special use.

(b) *Sanded Battle Axe Plaster.* (1) Used with a reasonably clean and well-graded sand in the proportions of 1 : 1-1½ by volume and applied to overhead wood lathing, good key strength was obtained.

(2) With a similar sand in the proportions of 1 : 2-3 by volume and applied to a solid backing a strong hard finish resulted.

A convenient working time was allowed for using up a normal sized batch of coarse stuff.

Manufacturers' Items

The Blue Circle Players (members of the staff of the Cement Marketing Co.) are to present "Loyalties," a play by John Galsworthy, at the Arts Theatre Club, 6 and 7 Great Newport Street, W.C.2, on December 4 and 5 at 8.30 p.m. Tickets (6s., 3s. 6d., and 2s. 6d.) are obtainable from Mr. A. L. Steels, Portland House, Tothill Street, S.W.1. The whole of the proceeds of the sale of tickets are to be given to the Architects' Benevolent Society.

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In the list of contractors for the R.I.B.A. Building, illustrated in our issue for November 8, we inadvertently omitted to state that the tumbler switches used in the electrical installation were supplied by Messrs. J. W. Tucker & Co., Ltd. The switches supplied were of the firm's C.200 flush type Quick Make and Quick Break pattern with switchplates in satin silver, polished brass (B.M.A.) and white moulded Telacite finishes.

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We understand that owing to the increased demands upon their services in the London area, Banister Walton & Co., Ltd., structural engineers, have had to move to larger premises. The new offices are in the same building at 82, Victoria Street, but the telephone numbers have been changed to Victoria 7846-7-8.

Plans are also in progress to purchase a suitable site for another works in the London area in addition to the yards at Trafford Park. It is hoped that within a short time a site with both road and rail facilities will be acquired.

IN PARLIAMENT

[BY OUR SPECIAL REPRESENTATIVE]

Proposed Housing Legislation

During the debate on the motion for the presentation of an Address in reply to the King's Speech, frequent reference was made to this proposed housing legislation. Labour Members complained that the scheme was not bold enough, and, in the House of Lords, Lord Ponsonby accused the Government of having only "nibbled at the problem."

Lord Hailsham, in reply, said that, in regard to slum clearance, the Government had already demolished during the year ended September, 1934, 15,749 houses; 15,058 houses were actually built and finished in replacement of the houses demolished: and a further 19,311 houses were actually under construction at the end of last September. The general housing policy of the Government had also had a very remarkable result. During the year ending September, 1934, the houses built with State assistance amounted to 51,497, and those without State assistance totalled 258,256. So that, in that year, 309,753 houses were built in this country, which was a national record for numbers in any year in our history. He did not for a moment dispute that we had got to maintain our effort, and that there was still a great deal to be done. But it was no use pretending that the Government were not tackling the problem seriously or that their efforts were negligible, when the figures he had quoted showed that never had any housing programme gone so well or achieved so great a success as that to which the Government were able to point during the last 12 months.

During the further stages of the debate on the Address, Sir Hilton Young, Minister of Health, referring to slum clearance, said that the period they were just completing was one of preparation and organization, and of the conversion of preparation and organization into action. Up to the end of September, 1934, the number of houses provided to rehouse slum-dwellers was 15,000 and there were 19,000 houses actually under construction: the number of houses they had in sight was therefore 50,000. Up to the end of September, the number of houses which had been cleared as slum houses was 50,000, and at the end of that period houses were being cleared at the rate of over 50,000 a year. Thus, in order to clear 280,000 houses in five years, they had already got up practically to the average rate of clearance which would be required. They had achieved a rate of progress which assured them of success in the five-year plan. It had not been expected that by the end of September, 1934, they would have got near the average rate of progress.

At the present time they could say that with the continuance of the present rate—and the likelihood was that it would be increased—they could guarantee the achievement of the five-year programme in the limited time. For the first time they had brought to the dwellers in the slums the reasonable certainty of relief from those intolerable conditions within a limited time. It had never been brought to them before. Hon. Members would be infinitely encouraged to see the concentration of effort in the task of slum clearance which was taking place in the large cities, and in the smaller areas as well. He believed that this movement would gain irresistibly in speed until it reached its maximum some year or 18 months hence.

There was, among Opposition members, a "complex" against a house built without a subsidy. The allegation that such houses were the slum areas of the future needed only for its confutation that those who made it should go and look at them. No one would dream of admitting any comparison in standard of accommodation between those houses and the houses built 50 or 100 years ago. In the half-year to September last this despised private enterprise added to our pool of houses in the country 134,000 houses, and in the course of the past year over 250,000 houses, both those figures being an absolute and increasing record compared to any other time. It would be idle for any reasonable man to contend that they did not make a most important contribution towards the solution of the problem. The number which were under £13 rateable value or £20 in Greater London, which was commonly considered suitable for occupation by wage earners of the lower economic status, built by private enterprise was in the whole year to September 93,000.

If they considered, as they must, the proportion of the houses to let, they found that of the total 19,000 were houses to let—a very useful contribution to the most difficult part of the problem.

Employment in the building trade did depend wholly, or even mainly, on the building of houses. The total volume depended on the general prosperity and confidence of the nation. The Government need not be afraid of accepting that barometer. At the end of July, 1934, the number of people employed in the building trade was 696,000, and in the preceding year it was 626,000, and in the year before 549,000. The barometer thus showed a satisfactory rise. The number of unemployed in the building trade had between the end of July, 1933, and the end of July, 1934, fallen from 152,000 to 125,000. Returning prosperity and returning confidence were bringing renewed employment to the building trade.

The work of slum clearance had reached such a degree of organization and advancement that it was now possible to proceed to the second stage, overcrowding. The one was complementary to the other; the evils of the one were as great as the evils of the other.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

BARKING. *Town Hall.* The Town Hall Committee of the Corporation has considered revised plans and estimates by the Borough Engineer for the new Town Hall, and has instructed him to submit further alternative plans for the provision of an arcade and shops in conjunction with it.

BECONTREE. *Houses.* The L.C.C. is to develop a further section of the estate by the erection of 268 houses at a cost of £175,300.

BERMONDSEY. *Flats.* The B.C. has obtained sanction to borrow £10,963 in connection with the erection of a four-storey block containing 12 flats and nine maisonettes on the Cherry Garden Place clearance area.

CHINGFORD. *Schools.* The Essex Education Committee has purchased sites in Davis Lane and Whitehall Road, for the erection of two schools and has approved plans for the enlargement of Chase Lane School at a cost of £13,489.

CROYDON. *Rehousing.* The Corporation is to proceed with the development of the Leighton Street and Cattle Market rehousing sites.

EALING. *Houses, Flats, Factories, etc.* Plans passed by the Corporation: Four houses, Reading Road, for Hayes Bridge Estates, Ltd.; two houses, Sandall Road, for Messrs. B. Smith and Son (Builders), Ltd.; 53 houses, Wadham Gardens, Rothesay Avenue, Worcester Gardens and Currey Road, for Messrs. R. Fielding and Son; two houses, Whitton Gardens, for Messrs. Richard Costain, Ltd.; four flats, Olive Road, for Whitton Park Estates, Ltd.; 56 houses, Brunswick Road and Gardens, for Mr. J. M. Wilson, on behalf of Bloomfield Building Co., Ltd.; showrooms and 38 flats, Uxbridge Road, for Mr. E. Schaufelberg, on behalf of Messrs. Balbus, Ltd.; two houses, Gunnersbury Drive, for Mr. A. Marlow; eight houses, Church and Harwood Avenues, for Mr. A. J. Bond; 32 flats, Ferrymead Avenue, for Messrs. Comben and Wakeling, Ltd.; six houses, Lynwood Road, for London and Provincial Building Co., Ltd.; 32 flats, Clifton Road and Costons Lane, for Messrs. Marshall and Tweedy, on behalf of Messrs. C. H. Peppiatt and Son; three shops and six flats, Teignmouth Parade, for Messrs. R. Lancaster and Sons; four houses, Baronsmead, for Messrs. J. Atherton & Co.; lay-out for 44 flats, Uxbridge Road, for Messrs. Dashwood and Partners, Ltd.; flats, Mount Park Road, for Messrs. Rees-Reynolds and Hunt; flats, Castlebar Road, for Mr. A. W. J. Ashe; two shops, High Street, for Messrs. Johnson Bros. (Dyers), Ltd.; flats, Castlebar Road for Mr. H. Foster; flats, Teignmouth Gardens, for Mrs. S. Squires; flats, Woodville Gardens, or Mr. C. H. Miller; lay-out for 10 shops and 12 flats, Northfield Avenue and Windmill Road, for Mr. H. Henden Winder, on behalf of Mr. E. G. Mearles; 42 houses, Sandall Road, for Mr. J. M. Wilson, on behalf of Bloomfield Building Co., Ltd.; 70 houses, Twyford Avenue, Bispham Road, and Rossall Crescent, for Messrs. R. Lancaster and Sons. Plans submitted: Lay-out, Belvue Estate, Northolt, for Messrs. Percy Bilton (Construction), Ltd.; two shops, Wood End Lane, for Mr. G. Blackburn; factory, Bideford Avenue for Messrs. Percy Bilton (Properties) Ltd., on behalf of Evesham Engineering Co.; factory, Wadsworth Road, for Messrs. Percy Bilton (Properties), Ltd., on behalf of Britit Glasurit, Ltd.

GRAYS. *School.* The Essex Education Committee is to undertake a further scheme of improvements at Palmer's Endowed School, at a cost of £9,500.

KENSINGTON. *Operating Theatre, etc.* The L.C.C. is to erect a theatre and an X-ray unit at the St. Mary Abbotts Hospital, at a cost of £12,690.

LEWISHAM. *Flats, Houses, Shops, etc.* Plans passed by the B.C.: Houses, Bellingham Road, Catford, for Mr. G. T. Harman; lay-out Hall Park Estate, Bromley Road, Catford, for Messrs. A. J. Glock, Ltd.; shops and flats, Burnt Ash Hill, Lee, for Mr. A. J. Butcher; flats, Queen's Road, Forest Hill, for Messrs Bertram Carter and Sloot; three blocks of flats, Baring Road, for Messrs. Marshall and Tweedy; 13 houses, The Woodlands, for Mr. P. B. Dannatt; 10 houses, Callander Road, for Messrs. James Watt (Catford), Ltd.; two houses, Lowther Hill, for Messrs. C. W. Notley, Ltd.; 12 houses, Exford Road, for Messrs. Wates (Streatham) Ltd.; five houses, Callander Road, for Messrs. James Watt (Catford), Ltd.

SOUTHERN COUNTIES

BEXLEY, ETC. *Schools.* In connection with the proposed provision of a secondary school for girls, the Kent Education Committee is to consider the acquisition of a site for a secondary school for boys as well. The Kent Education Committee is to obtain a site at Tonbridge for the erection of an elementary school. The Kent Education Committee is to make alterations at the central school and erect a temporary school at the Hurst site, Bexley. The Kent Education Committee is to erect a central school at Sevenoaks. The Kent Education Committee is to erect a school of light construction for 250 children at the Crofton site, Orpington. The Kent Education Committee is to acquire a site in Warren Road, Orpington for the erection of a junior and infants school.

BOURNEMOUTH. *Hospital Extensions, Shops, Houses, etc.* Plans passed by the Corporation: Operating theatre and general ward, Royal Victoria and West Hants Hospital, Shelley Road, Boscombe, for hospital governors; two flats, Rosemount Road, for Mrs. Sellar; flats, Hengistbury Road, for Mrs. Smith; factory, Holdenhurst Road, for British, Foreign and Colonial Automatic Light Controlling Co.; flats, Seafield Road, for Mr. W. E. Humby; 13 bungalows, Dawes Avenue, for Mr. J. H. Schofield; flats, Manor Road, for Chine Investments, Ltd.; two houses, Winston Road, for Messrs. T. K. Butt and Son; offices, Christchurch Road, for the General Accident Fire Life Assurance Corporation, Ltd.; two flats, Green Road, for Mr. C. J. Robinson; houses, Castle Lane, for Mrs. Elgie; two houses, Vicarage Road, for Miss O. E. R. Jones; two houses, Vicarage Road, for Miss M. A. Jones; two houses, Barnes Road, for Mr. F. F. Hawkins; shop and flat, Windham Road, for Mr. W. G. Lockyer; store, Southbourne Grove, for Messrs. F. W. Woolworth & Co., Ltd.; two bungalows, Athlestan Road, for Mr. S. Kermode; six flats, Park Lane and Gervis Road, for Mrs. L. Rowley; flats, Horsham Avenue, for Hamtun Estates, Ltd.; six houses, Verona Avenue, for Mr. A. Bedford; two shops, Castle Lane, for Mr. E. J. Keane; two flats, Belle Vue Road, for Mr. C. W. Williamson; two houses, Winston Road, for Mr. F. B. Wright; two houses, Clingan Road, for Mr. E. J. Mayne; three bungalows, Columbia Trees Road, for Mr. W. W. Baker; four flats, Redhill Drive, for Miss De Gastro; two houses, Spring Road, for Mr. A. Aston. Plans submitted: Six houses, Pine Road, for Mr. E. R. P. Richards; 32 flats, Gervis Road, East, for Mr. D. A. Wood; 12 flats, Christchurch Road, for Messrs. Harrocks; four houses, Cranleigh Road, for Messrs. G. B. Ive and Son; hotel, shops and showrooms, Bourne Avenue, for Richmond Chambers, Ltd.

GILLINGHAM. *Library.* The Corporation is preparing plans for the erection of a branch library in connection with the Kent C.C. library scheme.

THANET. *Nurses' Home, etc.* The Kent C.C. has instructed the County Architect to prepare a scheme for the erection of a nurses' home and the provision of accommodation for approximately 60 additional patients at the Thanet Institution.

SOUTH-WESTERN COUNTIES

HEREFORD. *Houses.* The Corporation has appointed Messrs. Nicholson and Clarke as architects for the erection of 118 houses on the Hinton Court estate.

PAIGNTON. *Band Enclosure.* At the U.D.C. Public Grounds Committee the Surveyor submitted plans and estimate for the provision of a new band enclosure on the southern part of Paignton Green. The Committee approved the plans and instructed the Surveyor to report as to the estimated cost of the buildings if supporting columns were not used. At a subsequent meeting of the Committee final plans by the Surveyor were approved, and it was decided to make application to the Minister of Health for sanction to borrow £14,000 for the erection of the new band enclosure, with stage, bandroom, offices, stores, etc.

MIDLAND COUNTIES

ENDERBY. *Cinema.* The Leicestershire C.C. has approved plans for the erection of a new cinema at Townsend Road.

ILKESTON. *Houses.* The Corporation has approved plans by the Borough Engineer for the erection of 102 houses at the Corporation Road estate.

SOUTH WIGSTON. *Schools.* The Leicestershire Education Committee is in negotiation for the acquisition of a site of about 18½ acres at South Wigston for the erection thereon of a modern school for boys, the provision of playing fields, and ultimately a school for girls.

NORTHERN COUNTIES

HULL. *School.* The Education Committee is to submit proposals to the Board of Education for the erection of a senior mixed school for 520 on the Cavendish Road site.

HYDE. *Houses.* Plans passed by the Corporation: 12 houses, Cartwright Street, for Mr. J. Meopham; 30 houses, Garden Street, for Corporation Housing Committee.

PENRITH. *Houses.* Plans passed by the U.D.C.: Lay-out for 26 houses, Salkeld Road, for Penrith Co-operative Society.

SCOTLAND

GLASGOW. *Houses.* The Corporation has approved plans by the City Engineer for the erection of 12 houses at Woodilee, eight at Gartloch, and 12 at Hawkhead, at an estimated cost of £12,000 for the accommodation of attendants at the mental hospitals.

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

The following is a list of the general and some of the sub-contractors for R. E. Sassoon House, Peckham, illustrated on pages 824-827 of this issue.

General contractors, D. G. Somerville & Co., Ltd. Reinforced concrete consulting engineers, L. G. Mouchel and Partners, Ltd. Quantity surveyors, John Leaning and Sons. Sub-contractors: Helical Bar and Engineering Co., Ltd., hollow floor tiles and reinforcements; Armstrong Cork Co., Ltd., internal lining to concrete walls; Tentest Fibre Board Co., Ltd., lining to beams and columns, etc.; Matthew Hall & Co., Ltd., sanitary engineers; City Iron Co., Ltd., "Duros" baths and sanitary fittings; The South Metropolitan Gas Co., Ltd., gas services and fittings, etc.; James Couper & Co., Ltd., metal casements and doors; Evos Doorways, Ltd., standard doors; Comyn Ching & Co., Ltd., ironmongery; Turner's Asbestos Cement Co., flue pipes and R.W. goods; Allen and Greaves, Ltd., balcony railings, etc.; G. A. Harvey & Co., Ltd., refuse hoppers, containers, etc.; McNeill & Co., Ltd., patent roofing; The Cellulin Flooring Co., Ltd., linoleum; Spray Textures, Ltd., Castex stone finish to concrete walls.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A	Aberdeen ..	Scotland	1 6	1 1½
A_1	Abergavenny ..	S. Wales & M.	1 5	1 0½
A	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow	N.W. Counties	1 5½	1 1½
A	Barry	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_2	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham ..	Mid Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
B_1	Blyth	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton	N.W. Counties	1 5½	1 1½
A_2	Boston	Mid. Counties	1 4	1 0
B_2	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A	Brighton ..	S. Counties	1 4	1 0
B	Bristol	S.W. Counties	1 5½	1 1½
A	Brixham ..	S.W. Counties	1 2½	11
B	Bromsgrove ..	Mid. Counties	1 4½	1 0½
A	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
A	Burslem ..	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury	N.W. Counties	1 5½	1 1½
A	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE ..	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A	Chelmsford ..	E. Counties	1 4	1 0
A	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A	Colchester ..	E. Counties	1 4	1 0
A	Colne	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorches ..	S.W. Counties	1 2½	11
A	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A_2	Dumfries ..	Scotland	1 5	1 0½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N E. Coast	1 5½	1 1½
A_2	EASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE	E. Counties	1 4	1 0
A	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S. W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A	Glasgow ..	Scotland	1 6	1 1½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	Gosport ..	S. Counties	1 4½	1 0½
A_2	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln ..	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12–15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_2	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middlesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid Counties	1 5½	1 1½
A	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth	Scotland	*1 5½	1 1½
A_2	Peterborough	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	Slough ..	S. Counties	1 4½	1 0½
A_1	Solihull ..	Mid. Counties	1 5	1 0½
A_2	Southampton	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stirling ..	Scotland	1 6	1 1½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud ..	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist ..	N.E. Counties	1 5½	1 1½
A_2	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay ..	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall ..	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick ..	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby	Yorkshire	1 4½	1 0½
A	Widnes ..	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor ..	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A	Wycombe ..	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil ..	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

		s.	d.
Bricklayer	per hour	1	7
Carpenter	"	1	7
Joiner	"	1	7
Machinist	"	1	8
Mason (Banker)	"	1	7
" (Fixer)	"	1	8
Plumber	"	1	7
Painter	"	1	6
Paperhanger	"	1	6
Glazier	"	1	7
Slater	"	1	7
Scaffolder	"	1	3
Timberman	"	1	3
Navvy	"	1	2½
General Labourer	"	1	2½
Lorryman	"	1	5
Crane Driver	"	1	6
Watchman	per week	2	10

MATERIALS

EXCAVATOR AND CONCRETOR

		£	s.	d.
Grey Stone Lime	per ton	2	2	0
Blue Lias Lime	"	1	16	6
Hydrated Lime	"	3	0	9
Portland Cement, in 4-ton lots (d/d site, including Paper Bags)	"	1	18	0
Rapid Hardening Cement, in 4-ton lots (d/d site, including Paper Bags)	"	2	4	0
White Portland Cement, in 1-ton lots	"	8	15	0
Thames Ballast	per Y.C.		6	3
¾" Crushed Ballast	"		6	9
Building Sand	"		7	3
Washed Sand	"		8	3
2" Broken Brick	"		8	0
¾" " "	"		10	3
Pan Breeze	"		6	6
Coke Breeze	"		8	9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

		4" s.	4" d.	6" s.	6" d.
Straight Pipes	per F.R.	0	9	1	1
Bends	each	1	9	2	6
Taper Bends	"	3	6	5	3
Rest Bends	"	4	3	6	3
Single junctions	"	3	6	5	3
Double	"	4	9	6	6
Straight channels	per F.R.	1	6	2	6
¼" Channel bends	each	2	9	4	0
Channel junctions	"	4	6	6	6
Channel tapers	"	2	9	4	0
Yard gullies	"	6	9	8	9
Interceptors	"	16	0	19	6
IRON DRAINS:					
Iron drain pipe	per F.R.	1	6	2	6
Bends	each	5	0	10	6
Inspection bends	"	9	0	15	0
Single junctions	"	8	9	18	0
Double junctions	"	13	6	30	0
Lead wool	lb.		6		—
Gaskin	"		5		—

BRICKLAYER

		£	s.	d.
Flettons	Per M.	2	18	0
Grooved do.	"	3	0	0
Phorpres bricks	"	2	17	3
" Cellular bricks	"	2	17	3
Stocks, 1st quality	"	4	11	0
" 2nd "	"	4	2	6
Blue Bricks, Pressed	"	8	17	6
" Wirecuts	"	7	17	6
" Brindles	"	7	0	0
" Bullnose	"	9	0	0
Red Sand-faced Facings	"	6	18	6
Red Rubbers for Arches	"	12	0	0
Multicoloured Facings	"	7	10	0
Luton Facings	"	7	10	0
Phorpres White Facings	"	3	17	3
" Rustic Facings	"	3	12	3
Midhurst White Facings	"	5	0	0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:				
Stretchers	"	21	0	0
Headers	"	20	10	0
Bullnose	"	27	10	0
Double Stretchers	"	29	10	0
Double Headers	"	26	10	0
Glazed Second Quality, *Less*	"	1	0	0
" Buffs and Creams, *Add*	"	2	0	0
" Other Colours	"	5	10	0
2" Breeze Partition Blocks	per Y.S.		1	7
2½" " " "	"		1	10
3" " " "	"		2	1
4" " " "	"		2	6

MASON

The following d/d F.O.R. at Nine Elms:		s.	d.
Portland stone, Whitbed	F.C.	4	4½
" " Basebed	"	4	7½
Bath stone	"	2	10
York stone	"	6	6
" " Sawn templates	"	7	6
" " Paving, 2"	F.S.	1	8
" " 3"	"	2	6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

		£	s.	d.
24" × 12" Duchesses	per M.	28	17	6
22" × 12" Marchionesses	"	24	10	0
20" × 10" Countesses	"	19	5	0
18" × 10" Viscountesses	"	15	10	0
18" × 9" Ladies	"	13	17	6
Westmorland green (random sizes)	per ton	8	10	0
Old Delabole slates d/d in full truck loads to Nine Elms Station:				
20" × 10" medium grey per 1,000 (actual)		21	11	6
" " green " "		24	7	4
Best machine roofing tiles	"	4	10	0
Best hand-made do.	"	5	0	0
Hips and valleys	each			9½
" hand-made	"			10
Nails, compo	lb.		1	4
" copper	"		1	6

CARPENTER AND JOINER

		s.	d.
Good carcassing timber	F.C.	2	2
Birch	as 1" F.S.		9
Deal, Joiner's	" "		5
" 2nds	" "		4
Mahogany, Honduras	" "	1	3
" African	" "	1	1
" Cuban	" "	2	6
Oak, plain American	" "	1	0
" Figured "	" "	1	3
" Plain Japanese	" "	1	2
" Figured "	" "	1	5
" Austrian wainscot	" "	1	6
" English	" "	1	11
Pine, Yellow	" "	1	0
" Oregon	" "		4
" British Columbian	" "		4
Teak, Moulmein	" "	1	3
" Burma	" "	1	2
Walnut, American	" "	2	3
" French	" "	2	3
Whitewood, American	" "	1	1

Deal floorings,		Sq.			18	6
"	¾"	"			1	6
"	1"	"			1	2
"	1¼"	"			1	5
"	1½"	"			1	10
Deal matchings	¾"	"			14	0
"	1"	"			15	6
"	1¼"	"			1	4
Rough boarding	¾"	"			16	0
"	1"	"			18	0
"	1¼"	"			1	6

Plywood, per ft. sup.

—Thickness	¼"			⅜"			½"			⅝"		
Qualities	AA.	A.	B.	AA.	A.	B.	AA.	A.	B.	AA.	A.	B.
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
Birch	4	3	2	5	4	3	7½	6	4½	8½	7	6
Alder	3½	3	2	5	4	3	6½	5½	4½	8	7	6
Gaboon Mahogany	4	3	3	6½	5½	4½	9½	7½	–	1/0½	10	–
Figured Oak 1 side	8½	7	–	10	8	–	11½	–	–	1/6	–	–
Plain Oak 1 side	6½	6	–	7½	7	–	9½	–	–	1/–	–	–
Oregon P.ne	5	4	–	5½	5	–	6	–	–	–	–	–

	d.
Scotch glue lb.	8

SMITH AND FOUNDER

Tubes and Fittings:
(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	¼"	½"	1"	1½"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
" 3"-11½" long "	7	9	1/3	1/8	3/–
Long screws, 12"-23½" long "	11	1/3	2/2	2/10	5/3
" " 3"M-½" long "	8	10	1/5	1/11	3/6
Bends	8	11	1/7½	2/7½	5/2
Springs not socketed "	5	7	1/1½	1/11½	3/11
Socket unions "	2/–	3/–	5/6	6/9	10/–
Elbows, square "	10	1/1	1/6	2/2	4/3
Tees "	1/–	1/3	1/10	2/6	5/1
Crosses "	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples "	3	4	6	8	1/3
Diminished sockets "	4	6	9	1/–	2/–
Flanges "	9	1/–	1/4	1/9	2/9
Caps "	3½	5	8	1/–	2/–
Backnuts "	2	3	5	6	1/1
Iron main cocks "	1/6	2/3	4/2	5/4	11/6
" " with brass plugs "	—	4/–	7/6	10/–	21/–

Discounts:

TUBES.

	Per cent.		Per cent.
Gas	65	Galvanized gas	52½
Water	61½	" water	47½
Steam	57½	" steam	42½

FITTINGS.

Gas	57½	Galvanized gas	47½
Water	52½	" water	42½
Steam	47½	" steam	37½

SMITH AND FOUNDER—*continued*

		s.	d.
Rolled steel joists cut to length	cwt.	10	9
Mild steel reinforcing rods, ½"	"	8	6
" " ⅝"	"	8	3
" " ¾"	"	8	0
" " ⅞"	"	7	6
" " 1"	"	7	6
" " 1¼"	"	7	6
" " 1½"	"	7	6
" " 1¾"	"	7	6

Cast-iron rain-water pipes of ordinary thickness metal		3" s.	3" d.	4" s.	4" d.
	F.R.	8			10
Shoes	each	2	0	3	0
Anti-splash shoes	"	4	6	8	0
Boots	"	3	0	4	0
Bends	"	2	7	3	9
" with access door	"	—		6	3
Heads	"	4	0	5	0
Swan-necks up to 9" offsets	"	3	9	6	0
Plinth bends, 4½" to 6"	"	3	9	5	3
Half-round rain-water gutters of ordinary thickness metal	F.R.	5			6
Stop ends	each	6			6
Angles	"	1	7	1	11
Obtuse angles	"	2	0	2	6
Outlets	"	1	9	2	3

PLUMBER

		£	s.	d.
Lead, milled sheets	cwt.	18	6	
" drawn pipes	"	17	0	
" soil pipe	"	18	6	
" scrap	"	10	6	
Solder, plumbers'	lb.			9½
" fine do.	"		1	0
Copper, sheet	"			8½
" tubes	"			11

L.C.C. soil and waste pipes:		3"		4"		6"	
Plain cast	F.R.	1	0	1	2	2	6
Coated	"	1	1	1	3	2	8
Galvanized	"	2	0	2	6	4	6
Holderbats	each	3	10	4	0	4	9
Bends	"	3	9	5	3	10	3
Shoes	"	2	10	4	4	9	6
Heads	"	4	8	8	5	12	9

PLASTERER

		£	s.	d.
Lime, chalk	per ton	2	5	0
Plaster, coarse	"	2	10	0
" fine	"	4	15	9
Hydrated lime	"	3	0	9
Sirapite	"	3	6	0
Keene's cement	"	5	0	0
Gothite Plaster	"	3	6	0
Thistle Plaster	"	3	6	0
Sand, washed	Y.C.		11	6
Hair	lb.			6
Laths, sawn	bundle		2	4
" rent	"		3	9
Lath nails	lb.			3½

GLAZIER

		s.	d.
Sheet glass, 21 oz., squares n/e 2 ft.	s. F.S.		2½
" " 26 oz.	" "		3
Flemish, Arctic, Figured (white)*	"		7
Blazoned glasses	"	2	6
Reeded; Cross Reeded	"		11
Cathedral glass, white, double-rolled, plain, hammered, rimpled, waterwite			6½
Crown sheet glass (n/e 12 in. x 10 in.)	"		2 0
Flashed opals (white and coloured)	" 1 0 and	2	0
⅛" rough cast; rolled plate	"		5½
¼" wired cast; wired rolled	"		9½
¼" Georgian wired cast	"		11
¼" Polished plate, n/e 1 ft.	" † 10 to ‡1		1
" " 2	" †1 2 " ‡1		4
" " 4	" †2 3 " ‡2		6
" " 8	" †2 9 " ‡3		2
" " 20	" †3 7 " ‡4		2
" " 45	" †3 11 " ‡4		7
" " 100	" †5 0 " ‡5		7
Vita glass, sheet, n/e 1 ft.	"		1 0
" " " 2 ft.	"		1 3
" " " over 2 ft.	"		1 9
" " plate, n/e 1 ft.	"		1 6
" " " 2 ft.	"		3 0
" " " 5 ft.	"		4 0
" " " 7 "	"		5 0
" " " 15 "	"		6 0
" " " over 15 "	"		7 6
"Calorex" sheet 21 oz., and 32 oz.	" 2 6 and	3	6
" rough cast ¼" and ½"	" 8½ "	1	0
Putty, linseed oil	lb.		3

* *Colours*, 1d. *F.S. extra.*
†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

		£	s.	d.
White lead in 1 cwt. casks	cwt.	2	6	0
Linseed oil	gall.		2	2½
Boiled oil	"		2	4½
Turpentine	"		4	1½
Patent knotting	"		14	0
Distemper, washable	cwt.	2	6	0
" ordinary	"	2	0	0
Whitening	"		4	0
Size, double	firkin		3	0
Copal varnish	gall.	13	0	
Flat varnish	"	14	0	
Outside varnish	"	16	0	
White enamel	"	1	15	0
Ready mixed paint	"	13	6	
Brunswick black	"	7	6	

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR		£ s. d.
Digging over surface n/e 12" deep and cart away	Y.S.	2 9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.	8 6
" to form basement n/e 5' 0" deep and cart away	"	9 0
" " 10' 0" deep and cart away	"	9 6
" " 15' 0" deep and cart away	"	10 0
If in stiff clay	add "	6
If in underpinning	"	4 0
Planking and strutting to sides of excavation	F.S.	1 0
" " to pier holes	"	5
" " to trenches	"	5
" " extra, only if left in	"	3
Hardcore, filled in and rammed	Y.C.	10 0
Portland cement concrete in foundations (6-1)	"	1 6 0
" " (4-2-1)	"	1 12 6
" " underpinning	"	1 16 0
Finishing surface of concrete, spade face	Y.S.	7

DRAINLAYER		4" s. d.	6" s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
" " junctions	"	3 9	4 6
Gullies and gratings	"	16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER		£ s. d.
Brickwork, Flettons n lime mortar	Per Rod	27 10 0
" " in cement	"	28 15 0
" Stocks in cement	"	35 0 0
" Blues in cement	"	52 0 0
Extra only for circular on plan	"	2 0 0
" backing to masonry	"	1 10 0
" raising on old walls	"	2 0 0
" underpinning	"	5 10 0½
Fair Face and pointing internally	F.S.	1¼
Extra over fletton brickwork for picked stock facings and pointing	"	8
" " " red brick facings and pointing	"	11
" " " blue brick facing and pointing	"	1 4
" " " glazed brick facings and pointing	"	3 6
Tuck pointing	"	7½
Weather pointing in cement	"	3
Slate dampcourse	"	10
Vertical dampcourse	"	1 1

ASPHALTER		s. d.
½" Horizontal dampcourse	Y.S.	4 6
½" Vertical dampcourse	"	6 9
½" paving or flat	"	4 0
1" paving or flat	"	5 6
1" × 6" skirting	F.R.	1 6
Angle fillet	"	2
Rounded angle	"	2
Cesspools	Each	5 0

MASON		s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17 9
Bath stone and do., all as last	"	13 6
Artificial stone and do.	"	13 0
York stone templates, fixed complete	"	10 6
" thresholds	"	13 6
" sills	"	1 0 6

SLATER AND TILER		£ s. d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr.	3 10 0
Do., 18" × 9"	"	3 7 0
Do., 24" × 12"	"	3 17 0
Westmorland slating, laid with diminished courses	"	6 0 0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3 0 0
Do., all as last, but of machine-made tiles	"	2 16 0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	"	4 6 0
" " " " " " (green)	"	4 15 0

CARPENTER AND JOINER		£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2 5 0
Shuttering to sides and soffits of beams	F.S.	8
" to stanchions	"	8
" to staircases	"	1 8
Fir and fixing in wall plates, lintols, etc.	F.C.	3 9
Fir framed in floors	"	4 6
" " roofs	"	6 6
" " trusses	"	7 6
" " partitions	"	8 6
½" deal sawn boarding and fixing to joists	Sqr.	1 14 6
1" " " " " "	"	1 17 6
1½" " " " " "	"	2 3 0
2" × 2" fir battening for Countess slating	"	9 6
Do. for 4" gauge tiling	"	12 0
Stout feather-edged tilting fillet	F.R.	4½
Patent inodorous felt, 1 ply	Y.S.	2 3
" " " 2 "	"	2 9
" " " 3 "	"	3 3
Stout herringbone strutting to 9" joists	F.R.	10½
1" deal gutter boards and bearers	F.S.	1 2
1½" " " " "	"	1 6
2" deal wrought rounded roll	F.R.	8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2 1 6
1¼" do.	"	2 10 0
1½" do.	"	2 17 0
1" deal moulded skirting, fixed on, and including grounds plugge to wall	F.S.	1 6
1¼" do.	"	1 9

CARPENTER AND JOINER—*continued*		s. d.
1½" deal moulded sashes of average size	F.S.	1 9½
2" " " " "	"	1 11½
1½" deal cased frames double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ⅝" parting beads, and with brass faced axle pulleys, etc., fixed complete	"	3 7
2" " " " "	"	3 10
Extra only for moulded horns	Each	6
1½" deal four-panel square, both sides, door	F.S.	2 0
2" " " " "	"	2 8
1½" " but moulded both sides	"	2 4
2" " " " "	"	3 0
4" × 3" deal, rebated and moulded frames	F.R.	1 0
4½" × 3½" " "	"	1 4
1½" deal tongued and moulded window board, on and including deal bearers	F.S.	1 9
1½" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2 6
1½" deal moulded wall strings	"	2 1
1½" " outer strings	"	2 4
Ends of treads and risers housed to string	Each	1 9
3" × 2" deal moulded handrail	F.R.	1 3
1" × 1" deal balusters and housing each end	Each	2 0
1½" × 1½" " "	"	2 9
3" × 3" deal wrought framed newels	F.R.	1 3
Extra only for newel caps	Each	6 0
Do., pendants	"	6 0

SMITH AND FOUNDER		£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.	15 6
Riveted plate or compound girders, and hoisting and fixing in position	"	19 6
Do. stanchions with riveted caps and bases and do.	"	19 0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	"	17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.	11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1 10 0

PLUMBER		£ s. d.
Milled lead and labour in flats	cwt.	1 12 0
Do. in flashings	"	1 15 6
Do. in covering to turrets	"	2 3 0
Do. in soakers	"	1 7 6
Labour to welted edge	F.R.	3½
Open copper nailing	"	3
Close " "	"	4

		½" s. d.	¾" s. d.	1" s. d.	1½" s. d.	2" s. d.	4" s. d.
Lead service pipe and fixing with pipe hooks	F.R.	10	1 0	1 3	2 0	2 10	—
Do. soil pipe and fixing with cast lead tacks	"	—	—	—	—	—	5 6
Extra, only to bends	Each	—	—	—	—	2 0	6 9
Do. to stop ends	"	6½	8	9	11	1 0	—
Boiler screws and unions	"	3 3	3 9	5 0	8 0	—	—
Lead traps	"	—	—	—	6 3	8 9	—
Screw down bib valves	"	6 9	9 6	11 0	—	—	—
Do. stop cocks	"	7 0	9 6	12 6	—	—	—

		s. d.
4" cast-iron ½-rd. gutter and fixing	F.R.	1 0
Extra, only stop ends	Each	1 0
Do. angles	"	1 6
Do. outlets	"	2 9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.	1 2
Extra, only for shoes	Each	1 3
Do. for plain heads	"	5 6

PLASTERER AND TILING		s. d.
Expanded metal lathing, small mesh	Y.S.	2 0
Do. in n/w to beams, stanchions, etc.	"	2 9
Lathing with sawn laths to ceilings	"	1 3
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	"	1 5
Do. vertical	"	1 7
Rough render on walls	"	1 2½
Render, float and set in lime and hair	"	1 9
Render and set in Sirapite	"	1 11
Render, backing in cement and sand, and set in Keene's cement	"	2 9
Extra, only if on lathing	"	4
Keene's cement, angle and arris	F.R.	6
Arris	"	1½
Rounded angle, small	"	3
Plain cornices in plaster, including dubbing out, per 1" girth	"	1½
1" granolithic pavings	Y.S.	3 6
1½" " "	"	4 6
6" x 6" white glazed wall tiling and fixing on prepared screed	"	17 6
9" × 3" " " "	"	1 2 6
Extra, only for small quadrant angle	F.R.	8

GLAZIER		s. d.
21 oz. sheet glass and glazing with putty	F.S.	7½
26 oz. do and do.	"	8½
Flemish, Arctic Figured (white) and glazing with putty	"	1 1
Cathedral glass and do.	"	1 2
Glazing only, British polished plate	"	7
Extra, only if in beads	"	2
Washleather	F.R.	4

PAINTER		s. d.
Clearcolle and whiten ceilings	Y.S.	6
Do. and distemper walls	"	9
Do. with washable distemper	"	1 1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	"	3 3
Do. on woodwork	"	3 6
Do. on steelwork	"	3 0
Do. and brush grain and twice varnish	"	5 6
Stain and twice varnish woodwork	"	1 11
Stain and wax-polish woodwork	"	4 6
French polishing	F.S.	1 2
Stripping off old paper	Piece	2 0
Hanging ordinary paper	from "	2 9

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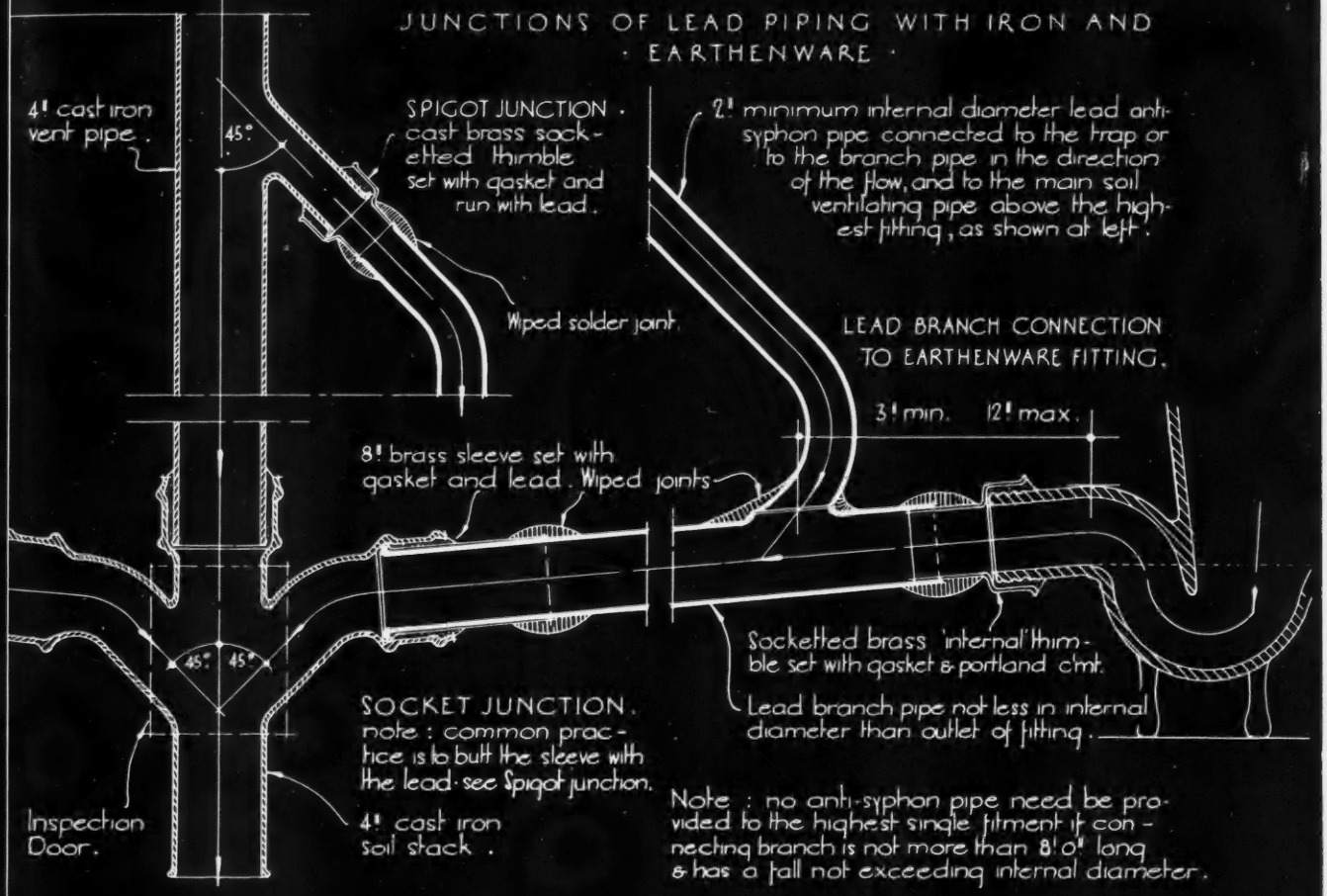
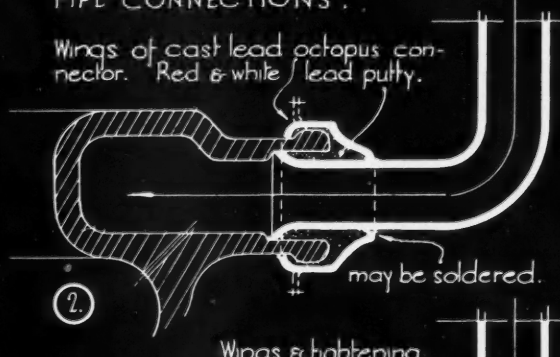
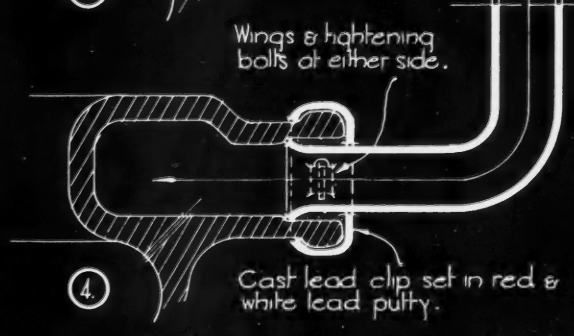
JUNCTIONS OF LEAD PIPING WITH IRON AND EARTHENWARE



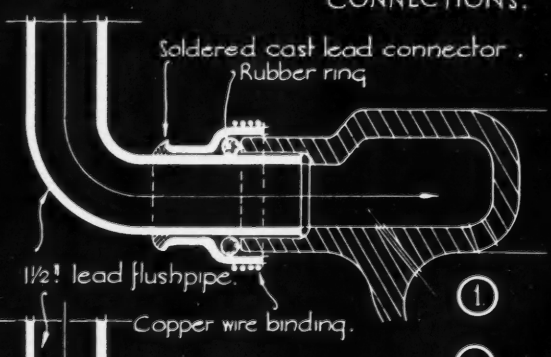
Note: no anti-syphon pipe need be provided to the highest single fitment if connecting branch is not more than 8'0" long & has a fall not exceeding internal diameter.

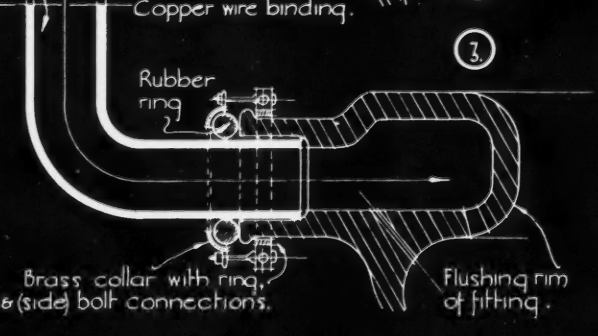
TYPICAL TYPES OF LEAD FLUSH-PIPE CONNECTIONS:





SPECIAL TYPES OF LEAD FLUSHPIPE CONNECTIONS.





Information from the Lead Sheet & Pipe Development Council.

INFORMATION SHEET: THE USE OF LEAD IN BUILDING CONSTRUCTION 5

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INFORMATION SHEET

• 167 •

LEAD IN BUILDING CONSTRUCTION

Type of Product : Lead Piping

This is the fifth of the series of Information Sheets dealing with the use of lead in Building Construction, and illustrates a number of common junctions of lead piping with iron and earthenware. Special joints are required for these purposes, due to the metal being much softer than the other material concerned, and thus preventing a plain socket and spigot joint being used.

Lead to Iron. The standard approved type is the brass sleeve method shown. The end of the lead branch pipe is stiffened by securing a cast brass sleeve to the outgo end. The sleeve has a bead or flange at the lower end and the lead pipe is attached by a wiped joint at its top end. The lower end can then be placed in the branch socket, and jointed up with gasket and molten lead well caulked.

In an alternate application of the brass sleeve, in general use some years ago, the lead pipe is carried right through the sleeve, turned over the bottom flange and united with a wiped solder joint at the upper end. The sleeve is then entered into the socket of the iron pipe or drain and finished with caulked gasket and molten lead. This method has largely fallen into disuse under present day competitive conditions.

A variation of this joint utilising a cast brass socketed thimble is shown at the junction of a lead anti-syphon pipe with the spigot end of a cast iron main vent junction. The diameter, inlet and outlet positions and junctions of the anti-syphon pipe shown in this detail are as given in the London Building Act. The junctions and diameter of the main lead soil branch are also as given.

Lead to Earthenware. If a lead soil or waste pipe be employed in conjunction with an earthenware pipe it is jointed by a brass sleeve which is inserted in the earthenware socket, as shown by the "socket junction" detail for cast iron, but packed with gasket and Portland cement in lieu of being run with lead.

The junction between a lead branch connecting the outgo arm of a w.c. with the main soil stack is shown. Stiffness is acquired by the lead pipe by jointing a socketed brass thimble to the former as shown, the thimble passing within the lead to avoid any obstruction to the discharge. A wiped soldered joint is employed at this junction. The brass thimble then receives the spigot end of the w.c. outgo and the joint is completed by gasket and Portland cement.

Special methods are also shown of jointing a lead pipe to the earthenware flushing arm at the back of w.c. fitting.

In example No. 1 the flush pipe is bent into a horizontal direction and a cast lead "octopus" connection slipped along it, followed by a rubber ring. The position of the latter limits the entry of the pipe into the socket and the joint is made by setting the connection in the correct position, soldering it to the lead pipe on the beaded edge, then drawing the pipe and connection close to bear against the rubber ring and binding the octopus rim in position with soft copper wire as shown.

Example No. 2 shows a variation of Example No. 1, in which the rubber ring is dispensed with and the joint is made in red and white lead putty.

Example No. 3 shows another method in which a brass ring in two segments is clasped around the porcelain arm and attached with bolts. Between the wings of this ring two horizontal draw bolts are placed, and held by the eyelet ends. A brass collar and rubber ring are slipped on the flush pipe, the latter fitted into the socket, and a watertight joint obtained by pulling the collar close against the ring of rubber as illustrated in the section.

Example No. 4 shows a neat and reliable connection much used now.

These joints allow free movement of the pipe under changes of temperature without damage to the connection, and become defective only when the rubber ring perishes. To renew such parts is a simple matter.

Previous Sheets of this series dealt with sheet Lead as employed for constructing parapet gutters and flat roofs, and the jointing and supporting of lead piping.

Source of Information : Lead Sheet and Pipe Development Council

Address : Golden Cross House, Charing Cross, W.C.2

Telephone : Whitehall 7264

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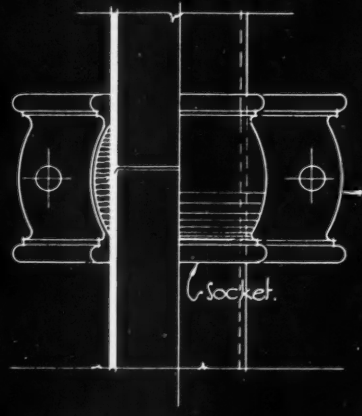
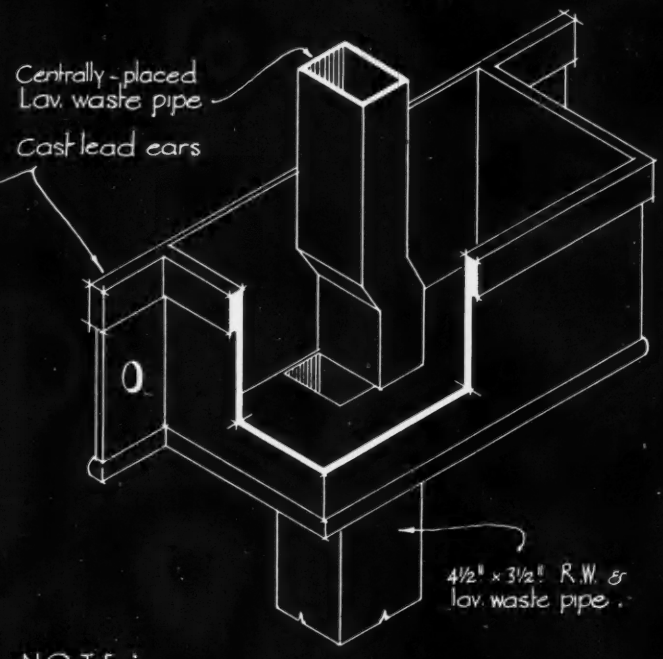
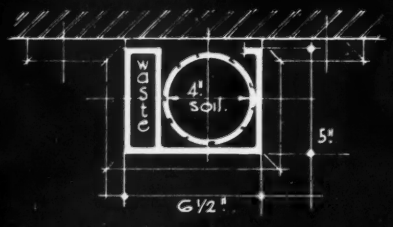
Sectional elevation of special socket to cover wiped joint.



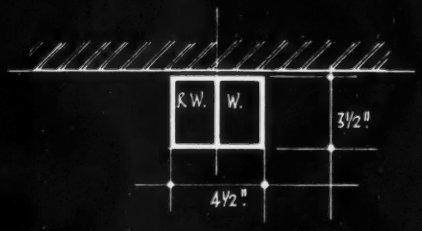
Isometric sketch of typical head for R.W. & Lav. waste pipe.



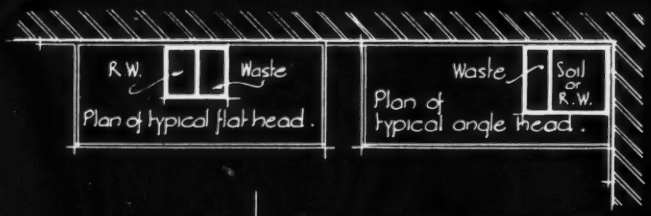


Plan of cast lead cover & socket for Lav. waste & soil pipe.

NOTE:
Various designs in bas-relief may be applied to any combined pipe, cover, rainwater head, socket, etc.



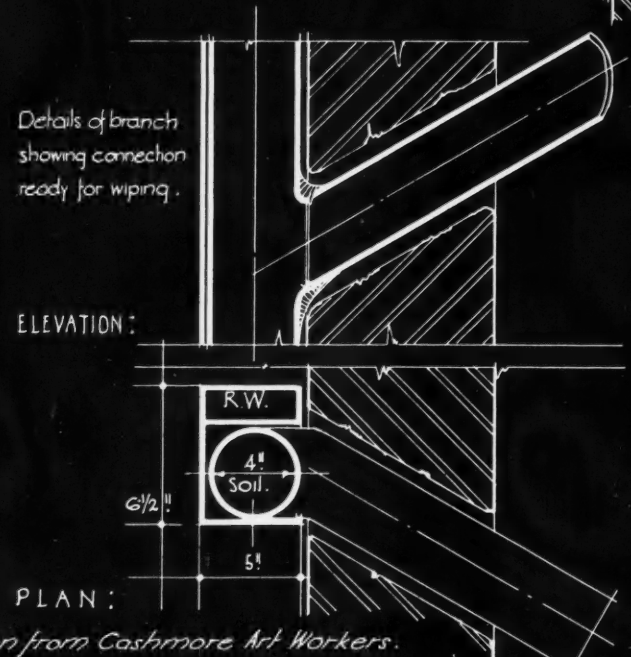
Plan of combined rainwater & Lav. wastepipe in cast lead.



Detail at foot to back inlet gullies

4½" x 3½" R.W. & Lav wastepipe.

Details of branch showing connection ready for wiping.



Information from Cashmore Art Workers.

INFORMATION SHEET: METHOD OF COMBINING R.W., WASTE, & SOIL STACKS.

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INFORMATION SHEET

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PLUMBING

Type of Product : Cast lead combination pipes and fittings

The fittings shown on this Sheet are covered by Provisional Patent 27823-34.

Description :

The drawings overleaf illustrate a method of simplifying plumbing stacks by combining under one external surface two separate pipes of varying size and purpose. This is achieved by the use of rectangular cast lead pipe lengths jointed by wiping or burning to the requirements of the bye-laws. The actual jointing may be hidden by special cast lead sockets with ears as shown, the fronts of all pipe-lengths and fittings may be decorated in relief to any desired design. At the foot of these combined stacks the individual services are separated as shown and provided with screwed cleaning eyes.

Unions between soil pipe lengths are made to correct shape and fit for individual requirements, at the works, and the joints are burnt or wiped on the site in the usual manner.

Special R. W. heads are manufactured for the accommodation of different combinations of services, and typical flat and angle heads are shown.

In the case of branches to covered soil stacks, the branches are wiped or burnt on to the stack in the required positions, at the works. When the stack is in position the branches are inserted in holes in the wall, the ends of the branches then projecting into the building ready for the plumber to make the necessary connection, completely eliminating exterior plumbing. The wiped joints between lengths of soil pipe are covered by the continuous cast lead cover piece folded round the pipe, and the wiped joints of the lengths of the cover piece are hidden by the eared sockets previously described.

Manufacturers: Cashmore Art Workers
Address : 18 Balham Hill, London, S.W.12
Telephone : Battersea 0415 and 3330

TWO NEW EXHIBITIONS

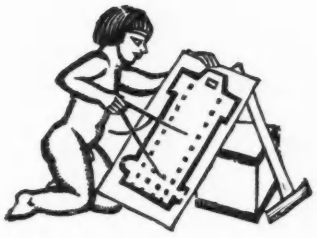
OPENED LAST WEEK AND THIS

ABOVE: The Princess Royal and the Earl of Harewood at the R.I.B.A. Exhibition of International Architecture, which was opened by the former on November 30. On the left of the photograph is a model of the Underground building at Westminster. A review of the Exhibition is given on page 843 of this issue.

Below: "Dover Street Piccadilly," from the exhibition of water-colour drawings by William Walcot which opened at the Beaux Arts Gallery, Bruton Place, W., on December 3.

N A S H

The centenary of John Nash's death will be celebrated next year. Last Monday Mr. John Summerson read a paper on the architect, his work and his position in the European architectural field of the early nineteenth century before the R.I.B.A.—incidentally (though by the significance of its subject, appropriately) the first sessional paper to be given in the new building. The above picture illustrates one of the greatest of Nash's many contributions to post-Napoleonic civic development : Carlton House Terrace, London, completed in 1828. Extracts from Mr. Summerson's paper are given on pages 841-842 of this issue.



IT CAN BE DONE

IT is all very well, anyone might say, to go on harping on the chaotic condition of the building industry. Discontent with the present state of affairs of any kind in all too many cases is merely an admission of inability to find a remedy. It is even all very well to declare that we know the remedy and that the remedy is to plan. Knowledge of the importance of planning is far removed from ability to apply it, and, indeed, the word has been lately so much used to represent nothing more than benevolent ambition, expression of which is an easy substitute for action, that planning has almost become, as we observed recently, the password of defeatism. The necessity—in the case of the building trade the urgency—of planning is clear to everyone. What our recent discussion on the state of the building industry has been leading up to is this : not only is planning essential, but planning in its most useful form can immediately be put into effect.

We suggested a fortnight ago that the aid to proper organization most beneficial to the industry would be a forecast of some sort, indicating the probable demand for the services of the industry in the future. This, as we have suggested in previous articles, would help to eliminate all those unforeseen fluctuations in demand for materials and labour that are responsible for the confusion and general feeling of instability from which we are now suffering. Booms and depressions (one as harmful in its effects as the other) follow each other in the most disorganizing fashion. The industry, anticipating neither, is in a perpetual state either of uneconomically intensive production to cope with a sudden boom or of panic-stricken retrenchment because of the subsequent slump. Absence of planning makes this continual lack of equilibrium inevitable. Foreknowledge of building activity would make such chaos impossible.

This may sound, so vaguely stated, a Utopian dream ; but our contention is that such a forecast *is* practicable. The statistical information necessary for the forecast to be made is already in existence, or can, with a certain amount of research, be obtained. The factors, political, economic, social and technical, that condition boom periods and (together with the actual existence of a boom period) produce the subsequent slumps, are well known. Changes in population —sizes of families and their distribution—housing programmes, the plans sanctioned by local authorities, industrial developments resulting from political policy, income distribution and national (and international) finance, the progress of technical research and of ways of making use of it, new tendencies of all kinds : these, together with their repercussions on each other, are the material that would have to be investigated. In an article in this issue the ground that will have to be covered is further indicated, and the feasibility—as well as the intimidating size—of the task is emphasized. It would, indeed, be a large task ; but one whose benefit to the industry and to society in general would be so correspondingly large that it is worth any amount of pains in the undertaking of it. When once a forecast for the immediate future had been made it would also constitute a permanent basis for subsequent forecasts. A formula would be in existence, the variable factors in which could be changed according to changing conditions and new forecasts and (because of the possibility of eliminating error by checking with actual results) progressively more accurate ones, made with the minimum of new research.

The making of this forecast is a business that, in the ideal civilized state, would, of course, be officially undertaken. Under present conditions such necessary services are delegated to the enterprise of private individuals and public spirited bodies. The architectural profession and the building industry have now an opportunity of demonstrating their public spirit by insisting that this form of planning is of the most urgent necessity. The provision of it is a duty the industry owes to the public it serves and to the large section of the population that is depended for its livelihood, directly or indirectly, on the industry's prosperity.

The Architects' Journal
Westminster, S.W.1
Telephones: Victoria 9212-7
Telegrams: Buildable Parl London

NOTES & TOPICS

SUMMERSON ON NASH

I GREATLY enjoyed Mr. John Summerson's paper on John Nash, which he read before the Institute on Monday. Its contents obviously sprang from real authority ; in refreshing contrast to those *réchauffé* compilations of stale information and unsupported opinion that so often take the place of genuine scholarship.

*

It was, in fact, what every paper should be : a real contribution to knowledge and understanding.

*

There was one point about it I particularly admired : the accuracy with which Nash's intrinsic quality was assessed. So often the author of a paper that is biographical in character feels compelled to indulge in quite unwarranted eulogies of his subject—from a subconscious desire, I suppose, to justify the subject's rôle as hero of the evening. Mr. Summerson placed *his* hero on no such pedestal, with the result that undertsanding was not clouded by hero-worship.

*

Not that Nash on Monday was damned with faint praise ; rather were his merits clarified by judicious criticism. Mr. Summerson rightly emphasized the importance of the contemporary European influences and background, leaving Nash's figure revealed as the successful contriver, whose real achievement was the welding of autumnal classic with the romanticism of English landscape design.

*

The discussion that followed the paper was far livelier than is often the case. Mr. Stocks, Permanent Commissioner of Crown Lands, gave us further biographical details and expressed his confidence that the public really longed to be surrounded by beautiful buildings and his gratitude for Hampstead Garden Suburb, but we rather missed the reassurance that he might have given us that Nash's work was to be respectfully treated in the future. This reassurance, however, we got later, from Mr. Ormsby-Gore, His Majesty's Commissioner of Works, who, in an address of confident Parliamentary character, displayed considerable architectural knowledge.

*

Professor Richardson made one of his bland, human and altogether delightful speeches ; and Mr. John Murray charmingly apologized for having had to pull down rather a lot of John Nash's work some years ago.

HOUSING AND TOWN PLANNING

At the National Housing and Town Planning Conference at Southport the subject matter was predominantly urban : Sir Hilton Young, Mr. L. H. Keay, Mr. Hugh Quigley, all spoke about housing the urban population.

*

Mr. Quigley's paper was stimulating and constructive. In essence, it was an appeal to local authorities to take themselves seriously : to transform their regional plans into plans of action. To do this, as he pointed out, it would be necessary to give them a firm economic basis. He then made a reference to the town-planning architect as the sort of chap to avoid.

*

Wrong, Mr. Quigley, because this fellow is the man who has worked for a long time to bring economics into the picture (*vide* Sheffield Regional and other reports). He would, however, be the first to admit his infallibility, and Mr. Quigley probably knows this too !

*

The other side of Mr. Quigley's paper, its insistence on the importance of design as a social and an economic factor, comes at the right moment. He instanced Holland as a country that, by " its inspired domestic and industrial architecture . . . . has attracted innumerable customers from overseas." Good for you, Mr. Quigley.

INTERNATIONAL ARCHITECTURE, 1924-1934

The exhibition which the Princess Royal opened at the R.I.B.A. on Friday, is certainly no less interesting and successful than I had forecast. It is on a far more ambitious scale than has ever been attempted by the Institute before, and certainly puts across its message. It is gratifying to hear that the general public is crowding to Portland Place to see it.

*

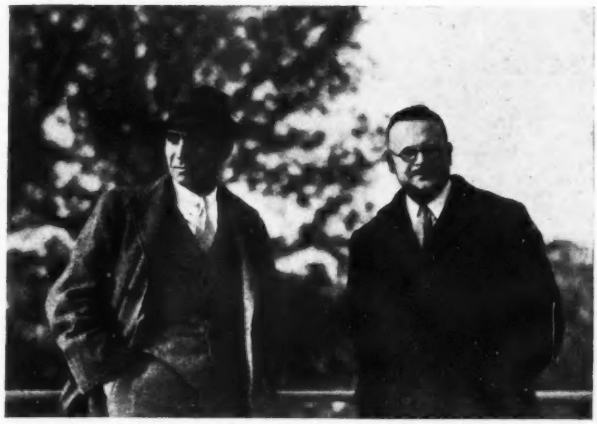
During the exhibition's month of run, I hope the R.I.B.A. will be making arrangements for it to tour the country. There are many art galleries throughout the country where I am confident that it would be eagerly accepted.

*

The catalogue is as ambitious as the exhibition of which it forms a part. It is much more than a list of exhibits ; it contains about a dozen excellently written articles, some referring to parts of the exhibition, and others to the activities of the profession at large. It is to be hoped that the public (for whom it is intended) will buy this surprising shillingsworth ; and architects could do worse than get copies to send to their friends ; its interest does not entirely depend upon the exhibits.

*

Incidentally, those firms in the building trade which advertise in the architectural papers, ought *certainly* to get



A. Lawrence Kocher, Managing Editor of "The Architectural Record," and John Gloag, at North Port, Long Island, during Mr. Gloag's recent visit to the United States.

copies, and study the advertisement pages ; these will give them some sort of insight into the types of advertisement which architects would wish to see, because every one has had to go through an ordeal by fire at the hands of what must (from the result) have been a not too tolerant committee. There is not a single unsightly page.

BERESFORD PITE

What a kind and genial figure Beresford Pite was, and how students loved him. I remember that before he relinquished the professorship of Architecture at the Royal College of Art he had acquired a reputation for unconventional criticism.

*

It was in 1922, I think, that I attended the "revels" of the R.C.A. students ; which usually took the form of some burlesque, lightly barbed with critical sallies against those who were entrusted with instruction. But on this occasion, the *whole* evening was devoted to portraying the pecularities of the staff.

*

Sir William Rothenstein was brilliantly caricatured ; but the star scene of the evening was Professor Pite criticizing an exhibition of students' drawings. His impersonator went from exhibit to exhibit, chuckling, and saying : "A good joke—a really amusing idea. Now this design shows a real sense of humour," etc. I was sitting near the professor, and I remember how he enjoyed that piece of organized leg-pulling at his expense.

*

He could slay opponents with the most urbane emphasis ; and I recall an evening with the D.I.A. and the "modern movement" at the London School of Economics, when Beresford Pite cut through the courteous hesitancies of other speakers, and in ten minutes created a real debate. At the end he summed up, by saying : "The modern movement, according to the gentlemen who have spoken, has for its inspiration, its aim, and its end, common sense. I am delighted to learn that this is a modern invention."

THE CUCKFIELD CASE

On Tuesday occurred the Ministerial inquiry into the "Cuckfield case." This case, as readers will remember, arises from the objection by a local authority (on æsthetic grounds) to the design of some houses by Messrs. Tecton. Appeal was made to the Ministry of Health under the Town and Country Planning Act, and this inquiry was held by an inspector appointed by the Minister.

*

I went along and listened to the inquiry (such inquiries are open to the public), and very interesting it was, too. Of course, I cannot discuss yet the rights and wrongs of the case. It is all *sub judice* until the inspector's award has been made : but it was revealing, apart from the particularities of design, to witness an encounter between local government (represented by the Council) and central government (represented by the Ministry)—observing the different attitude of each.

*

The Cuckfield case is, of course, of far more than local importance. It is a test case—a second Ruislip, with the issue far more clear cut : the points of dispute were solely ones of æsthetic opinion (or perhaps, more accurately, æsthetic knowledge), and the Council's objection was persisted in against the recommendation of the local Advisory Panel.

*

Another very revealing experience was to have a chance of seeing (for the inquiry was held in the neighbourhood of the site) the sort of domestic work the local Council passes apparently without any hesitation. To anyone who knows the usual standard of "dormitory" development there is no need to describe it.

P.E.P. REPORT ON HOUSING

This week's P. E. P. Broadsheet is largely filled with a précis of P. E. P.'s report on building and housing, which is to be published tomorrow. So far as I can make out this report does *not* end up with the usual hopeless bleat for anything from five to fifty millions from the Treasury, but suggests that the building industry itself must be properly organized for large scale work.

*

The speech by the Prince of Wales at the Guildhall was a general plea for the possibilities of mass production as applied to the building trade : if P. E. P. has some sound concrete suggestions to make the report ought to be a pretty good five shillingsworth.

AN AMERICAN ARCHITECT-EDITOR

I have been talking to John Gloag, who is still a little overflowing about America from which he has just returned, and he told me about a week-end house on Long Island, built by Mr. A. Lawrence Kocher, who is the Managing Editor of *The Architectural Record* of New York.

*

This house is of steel, canvas, glass and insulating board. It is perched on steel columns high above the ground level, and it overlooks the woodland in which it is situated. You reach its front door by a steel spiral staircase.

*

Mr. Kocher is an ardent innovator with new materials and constructional methods, and he was instrumental in introducing Mr. Gloag to many architects who were making all kinds of exciting experiments. The nature of those experiments and the character of those architects may be gathered from Mr. Gloag's letters on "Design in America" which are appearing in the JOURNAL.

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

Large-scale replanning has always been at a disadvantage in England because of an obstructive reverence for the rights of the individual and a corresponding regard for public economy 842

Her (Russia's) architecture has suffered greatly from the importation of second-rate foreigners 842

"Why should not all the firms engaged on the building issue a joint invitation in the technical press asking architects to visit the building on a certain day 850

For the hospital of the future there must be more flexibility than in the past and an altogether more unconventional type of planning must be evolved 865

THE NEW HOUSING BILL

By the time this note appears in print, it is probable that the text of the Government's new housing Bill will be public property. This measure, which has been long promised, is one of the major social reforms of the new Session, and will be welcomed by all parties.

After its second reading, which will probably be obtained before Christmas, it will be sent upstairs to a Standing Committee, there to be examined, line by line, and, if necessary, amended and improved. It is known from the many speeches which the Minister of Health has made on the subject that the main purpose of the Bill will be to prevent overcrowding. The measure is expected to define legal standards of accommodation, and any overcrowding in excess of these will be made illegal. Provision will be made for building skywards, and flats will be provided in the inner zones, because of the high price of land. It may be found that subsidies are necessary to ensure reasonable rents. One of the matters in which there will be a long and bitter fight will be that of compensation for landlords.

The Bill will materially assist the present slum clearance legislation and, it is said, will be ambitious and complicated.

PRESERVATION OF ST. PAUL'S CATHEDRAL

A series of Parliamentary Notices, published in *The Times* for December 1, included a notice that application has been made by the Corporation of the City of London to bring in a new bill called the City of London (St. Paul's Cathedral Preservation) Bill, the purposes of which are set out in a summary.

The Bill provides for the prohibition or restriction, except with the approval of the Dean and Chapter of St. Paul's, of any work which might involve disturbance of the subsoil within a prescribed area in the vicinity of the Cathedral. Power is sought to enable the Dean and Chapter to require any deep level work to be stopped notwithstanding approval of plans, and provision is made for appeal to a tribunal by persons aggrieved by failure to obtain the approval of the Dean and Chapter to any plans.

THE ARCHITECTS' DIARY

Thursday, December 6

R.I.B.A. *At 66 Portland Place, W.1. Exhibition of International Architecture, 1924-34. Open until January 3.*

L.C.C. GEFFRYE MUSEUM. *At Kingsland Road, Shoreditch, E.2. "Mass Production of Furniture: its Good and Bad Qualities." By Percy A. Wells.* 7.30 *p.m.*

INSTITUTION OF ELECTRICAL ENGINEERS. *At the Institution, Savoy Place, W.C.2. "A Critical Examination of the present practice relating to the Electrical Warming and Air Conditioning of, and the Supply of Hot Water to, the Larger Buildings." By R. Grierson and D. Betts.* 5.30 *p.m.*

INSTITUTION OF STRUCTURAL ENGINEERS. *At 10 Upper Belgrave Street, S.W.1. "The actual factor of safety in foundations." By Professor Dr. Ing. K. von Terzaghi.* 6.30 *p.m. (South-Western Counties Branch.) At Exeter. "Retaining Walls." By J. Vaughan Stewart.* 7.30 *p.m. (Yorkshire Branch.) At Leeds. "Rigid frame bridges in reinforced concrete." By A. P. Mason.* 7 *p.m.*

Friday, December 7

INSTITUTION OF STRUCTURAL ENGINEERS. *(Western Counties Branch.) At Bristol. "The Code of Practice for the use of Reinforced Concrete in Buildings." By Gover P. R. Pimm.* 7.15 *p.m.*

Saturday, December 8

ARCHITECTURAL ASSOCIATION. *At 36 Bedford Square, W.C.1. Exhibition of Photographs taken on the Annual Excursion. Last day.*

BUILDING CENTRE. *158 New Bond Street, W.1. The Novelty Exhibition. Open until December 15.*

Tuesday, December 11

THE ROYAL SANITARY INSTITUTE. *At 90 Buckingham Palace Road, S.W.1. The Moune Report on Housing. Discussion to be opened by H. C. Clinch.* 6 *p.m.*

Wednesday, December 12

ROYAL SOCIETY OF ARTS. *At John Street, Adelphi, W.C.2. "Furnishing Fabrics." By Allan Walton.* 8 *p.m.*

INSTITUTION OF STRUCTURAL ENGINEERS. *(Lancashire and Cheshire Branch.) At Manchester. "Welding as applied to Structural Steelwork." By A. Ramsay Moon.* 7 *p.m.*

L.C.C. *Central School of Arts and Crafts, Southampton Row, W.C.1. "French Renaissance—3. The Louvre and the Tuileries, Paris." By Sir Banister Fletcher, M.Arch., F.S.A., PP.R.I.B.A.* 6 *p.m.*

TOWN PLANNING INSTITUTE

Mr. H. H. Humphries, in his presidential address to the Town Planning Institute last week, said: "Many pressing problems of immense interest to members of the Institute are waiting solution. One of these, which is of extreme urgency, is devising means to minimize the dreadful toll of the roads. In this connection there may, of course, be some things rather outside the purview of town planners as such, but, when it is remembered that they are responsible for the designs of new roads and for altering old ones, for making connections to both of them, etc., it is evident that the town planner can, and ought to, play a large part in designing means to ensure as far as possible, the safety of traffic of all kinds. These matters are of such vital importance. I am well aware that in times past, the Institute has given a great deal of attention to such questions and has devised schemes, particularly in connection with the design of road junctions which undoubtedly have proved of value. Despite this past work, it appears to be an opportune time now for the whole matter to be surveyed and re-surveyed."

NEW BRIGHTON PROMENADE EXTENSION

The Wallasey Corporation received official intimation last week that the Ministry of Health has agreed to sanction its proposal to borrow a further sum of £147,376 for the completion of the second half of the New Brighton promenade extension and development.

PROJECTED FLATS BY E. MAXWELL FRY AND PROF. GROPIUS

An international collaboration in architectural design has been planned between Mr. E. Maxwell Fry, of Messrs. Adams, Thompson and Fry, and Professor Walter Gropius in connection with projected Isokon flats. Mr. Fry and Professor Gropius will jointly produce the design.

THE LATE A. BERESFORD PITE

Mr. Arthur Beresford Pite, F.R.I.B.A., whose death took place last week at the age of 73, was, for 23 years—1900-1923—Professor of Architecture at the Royal College of Art, South Kensington.

Born in 1861, the son of Mr. W. A. Pite, architect, he was educated at King's College School and University College, London, where, in 1879, he was awarded the Donaldson medal for architecture, and was also a recipient of the Soane Medallion of the R.I.B.A. in 1882. Mr. Pite was articled to his father, who was practising in collaboration with Mr. B. Y. Habershon. Mr. Pite was for a long time associated with the late Mr. John Belcher, R.A., F.R.I.B.A. Mr. P. M. Johnson, F.R.I.B.A., in a recent issue of *The Times*, said: "As a young man of 20 he entered Belcher's office in Adelaide Place, London Bridge, in 1881, and continued with a brief interval, during which he acted as sub-editor of *The Builder* to influence Belcher's work profoundly by his brilliant collaboration, notably in a building of outstanding architectural merit that may be said to mark an epoch in design—the Institute of Chartered Accountants in Moorgate. Pite's association with Belcher continued till the late nineties when he embarked upon the separate career by which he will be chiefly remembered.

The buildings designed by Mr. Pite included the following: Insurance Buildings, Euston Square; St. Marylebone General Dispensary, Welbeck Street, W.; Pagani's Restaurant, Great Portland Street; 82 Mortimer Street, W.; Anglican Cathedral, Kampala, Uganda; Hospital, Jerusalem; English Church, Bucharest, Christ Church, North Brixton; Schools, Foley Street, W.; Y.W.C.A. Offices, Great Tich-

field Street, and the remodelling of the entrance to the Burlington Arcade.

Mr. Pite, in addition to holding the position of Professor of Architecture at the Royal College of Art, was also Architectural Director of the L.C.C. School of Building from 1905 to 1928, and a member of the Board of Architectural Education and the Board of Architectural Studies at Cambridge. For his services to Cambridge he received the honorary degree of M.A.

His literary work included a book on building construction, and also several papers on architecture and town planning.

Competitions Open

Dec. 7.—Proposed municipal offices, public library, free library and fire station, for the Wembley U.D.C. (Open to architects of British nationality resident in the British Isles.) Assessor: Stanley Hamp, F.R.I.B.A. Premiums: £300, £250, £150 and £100, for designs placed first, second, third and fourth, respectively. Conditions etc., are obtainable from E. R. Royle, O.B.E., Clerk to the Council, Council Offices, Wembley, Middlesex, on or before December 7. (Deposit £1 1s.) Latest date for submission of designs: March 1, 1935.

Dec. 22.—Proposed Public Offices, Bridge Road, Welwyn Garden City, for the Welwyn Garden City U.D.C. (open to architects of British nationality). Assessor: C. H. James, F.R.I.B.A. Premiums: £75, £35 and £25, for designs placed first, second and third, respectively. Conditions, etc., obtainable from B. H. Deamer, Clerk to the Council, Council Offices, Bridge Road, Welwyn Garden City (deposit £1 1s.).

Dec. 31.—Proposed Council Offices, Wirral, for the Wirral U.D.C. Open to architects in practice in Birkenhead, Chester, Liverpool and Wirral. Assessor: Gilbert Fraser, F.R.I.B.A. Premiums: £40, £30 and £20, for the designs placed first, second and third respectively. Conditions are obtainable from Mr. W. F. Roberts, Clerk to the Council, Council Offices, Wirral. (Deposit £1 1s.)

January 19.—Designs for five-storey blocks of working-men's flats suitable for construction in reinforced concrete for the Cement Marketing Company. Assessors: Joseph Emberton, F.R.I.B.A., Burnard Geen, M.INST.C.E., and L. H. Keay, O.B.E., F.R.I.B.A. Premiums: £300, £200 and £100 for designs placed first, second and third, respectively. Copies of the conditions will be forwarded on application to the Publicity Department, the Cement Marketing Co., Portland House, Tothill Street, S.W.1. Latest date for submission of designs: January 19.

April 30.—The Croydon Corporation invite the submission of designs for laying out an area in Central Croydon which is to provide an extension of the Civic Centre of the Borough and to improve central means of communication. Assessor: Dr. Thomas Adams, F.R.I.B.A., F.S.I., M.T.I. Premiums: £500 for the design placed first; £350 to be divided (in proportions to be determined by the Assessor) for not more than three designs placed next in order of merit. A copy of the conditions is obtainable on application to the Town Clerk, Town Hall, Croydon (deposit of one guinea). Designs are to be submitted not later than April 30.

R. I. B. A.

JOHN NASH

Following are some extracts from a paper on "John Nash," read by Mr. John N. Summerson, B.A. (Arch.), London, A.R.I.B.A., at a meeting of the R.I.B.A., held on Monday last.

All but a hundred years have passed since John Nash died, but his memory has been held in honour for less than a third of that time. We praise him now as a great planner and an able architect, but it is only yesterday that his name was a target for every shaft of contempt and malice which can be levelled at a public man.

It is customary to divide artists into two general categories: those whose achievements are level with the cultural plane of their age and those who strike out from it towards a wider universality; those whose works are of significance only in relation to their times, and those whose art crystallizes out of the flood of history and assumes what we feel to be a timeless identity. Roughly speaking, the first is the versatile, successful, extroverted type, the second is complex, introspective. It is to the first, the shallower type, that Nash belongs. Among his contemporaries, one must place him with Lawrence and Southey rather than with Blake and Coleridge. In his own profession his opposite is John Soane. None of his buildings witnesses any real depth of thought or intensity of imagination. They are all derivative, and their greatest quality is charm, a charm which is personal, lively and often irresistible.

John Nash was born in 1752, probably in or near London. The story of his early life is obscure, but I have established the following facts. His father, an engineer and millwright, came of a family of Kentish yeomen, and died when John was 8. His mother was Welsh. Probably through a rich merchant uncle he entered Sir Robert Taylor's office. His uncle died and left him a small legacy. Soon after this he left Taylor and started business as a carpenter, or what we should call a general builder. He moved from Lambeth to a house at the corner of Great Russell Street and Bloomsbury Square, which he faced with stucco as early as 1783; the house still exists. He speculated and became bankrupt. As soon as he was discharged he retired to Wales and made a new start, working in partnership as a builder and subsequently alone as an architect. In five or six years he had a big local reputation. He was a social success also: the bankruptcy was forgotten: by 1796 he found it expedient to move back to London.

When Nash returned to London he was already 44, and he was 60 before Regent Street or the Park was begun. It is important to remember this. For it was not as a town architect that he came to London (though he had been concerned with town improvements at Abergavenny), but as a well-reputed country-house architect, with three county gaols and the west front of a cathedral to his credit. And between 1796 and the beginning of the improvements in 1811 it was still houses which occupied all his attention.

Nash's phenomenal success as a country-house architect dates from his partnership with Humphry Repton during the years 1797-1802, and I believe that we should ascribe to Repton's influence at this period much of the character of Nash's own work in later years. Repton was the greatest landscape gardener of his time, which meant that he was at the very heart of the romantic movement. Burke's æsthetic, woven round the concepts of the Sublime and the Beautiful, made landscape its starting point; so did Uvedale Price's corollary proposition, the "picturesque." Repton interpreted these ideas in terms of actual "improvement," pruning and ruffling the English scene till it possessed the right variety, the right texture, and the right allurements of contrived disorder, for the eye of taste.

It was such work as this, and such work only, which engaged Nash right up to the time when, at the age of 59, Regent's Park and the New Street were begun. So we have every right to look for traces of a thoroughly romanticized landscape mind in these works; I do not think such traces are difficult to find.

But before starting on the London period there is an important background to be explored. We will leave Nash for the moment and pass to architectural events in France between the year of the revolution and that of the Peace of Paris, 1814.

Paris, during the period 1800-1814, was the virtual capital of Europe, and Napoleon strove to give the city a colossal architectural precedence. He spent 102,000,000 francs on building schemes, and inaugurated the era of Metropolitan Improvements throughout Europe. His chief architects, Percier and Fontaine, belonged neither to the traditionalist nor the modernist school; they were their own school, uniting a new decorative subtlety with the massive regimentation which Napoleon required and which found artistic sanction in the works and writings of Ledoux and Durand.

The Rues de Rivoli, de Castiglione and de la Paix came into being. In 1806 were built the Colonne Vendôme and the new Madeleine; in 1807 the portico of the Chamber of Deputies; in 1808 Chalgrin's arch and Brongniart's Bourse. And Napoleon intended still greater things. "When we have peace," he said to Percier, "that will be the time. Finish the war, then *l'on verra*." But peace only came with Napoleon's ruin. After the Russian failure of 1812 work slowed down and the great design for a palace for the Emperor was reduced to a mere "*sans souci* for a convalescent." Then came Leipzig, and in March, 1814, the allies entered Paris.

This marked the end of the period of Paris improvements, and it was not until Haussmann's time that great schemes were again pursued. But Napoleon's defeat meant victorious peace for the allies, for England, Austria, Russia and Prussia, and as the spirit of metropolitan improvement dwindled in Paris, it came to life in London, Berlin and St. Petersburg.

It is at this point that we must take up the story again in England, and we could not choose a better moment than the month of August, 1814, when the King of Prussia and the Emperor of Russia paid a state visit to the Prince Regent of England to celebrate the Peace.

The allied sovereigns can hardly have been impressed with the beauty of their host's capital, though I imagine that the Prince Regent was not slow to explain the improvements which were then just on the way. The guests were fêted in rooms specially designed by Nash, and after they had gone a belated climax to the festivities took place in St. James's Park, Nash providing a peculiar wooden bridge with a huge pagoda on the top of it.

The design for Regent's Park and Regent Street was by this time some three years old. Park Crescent was already built, trees were being planted, and St. James's Market, opposite Carlton House, was under demolition.

I cannot tell you the reason, but it is quite obvious that from the beginning of his career, Nash had a strong leaning towards everything French. He deliberately chose one, if not two, French assistants: his library contained as much French as English literature; he was often in Paris: and his work, particularly his later work, shows an intimate knowledge of

Parisian architecture. His famous gallery in Regent Street recalls Percier, the plan of Buckingham Palace obviously derives from that of the Palais Royal, and the Marble Arch is, of course, another Arc du Carrousel.

Nash's principal assistant at the time these drawings were made was Augustus Charles Pugin, a French émigré who had joined him in Wales in the early 1790's. That Pugin made the drawings is exceedingly likely, especially as a note in French occurs on one of them. And I suspect that Pugin sketched some, at any rate, of these villas out of his own imagination and not from designs provided by Nash. Although France and England were at war for most of the period 1800-1814, it is obvious that the two countries were not cut off from each other as, for instance, were England and Russia after 1917.

Actually, the Park in execution shows little enough French influence and the terrace façades are undoubtedly Nash's personal work. The Prince's *guinguette* (a French name, you will observe) and the formal strip of water in front of it, so reminiscent of the plans in Durand's book, were, of course, never built.

Now, as to Regent Street. Large-scale replanning has always been at a disadvantage in England because of an obstructive reverence for the rights of the individual and a corresponding regard for public economy. A Louis or a Napoleon could drive a street, straight as an arrow, in any direction they chose. But England, resentful of dictatorship, has had to forgo the splendours of classical planning, and has even deprived herself over and over again of the ordinary amenities of convenience. It was Nash's greatest achievement that he completed a magnificent street without any dictatorial powers behind him. The whole thing was carried through by the encouragement of private enterprise under Act of Parliament; compensation was effected by the fairest possible means; and the outcome of the project was an impressive (if slightly delayed) addition to the public revenue.

For reasons arising from economic and sociological causes peculiar to England of the period, Regent Street winds and bends through London. But its crookedness is sanctioned by another equally English characteristic: I mean the romanticism which is manifested so conspicuously in contemporary landscape gardening and in literature and the arts generally. I suppose that a foreigner, favourably disposed to England of the Regency, might call liberty and the picturesque the two unique English contributions to Europe of the period, and I have no doubt that the two could easily be shown to be related to the same underlying causes and the same psychological weft. Both are clearly reflected in Regent Street.

It is remarkable to compare the remodelling of St. Petersburg under Alexander I with that of London under George IV. In the history of European art England and Russia are both provincial. Russia, of course, is provincial in a much greater degree, and her architecture has suffered greatly from the importation of second-rate foreigners. Post-Napoleonic St. Petersburg is a vast, shoddy realization of what Paris would have become had Napoleon's star stayed in the ascendant.

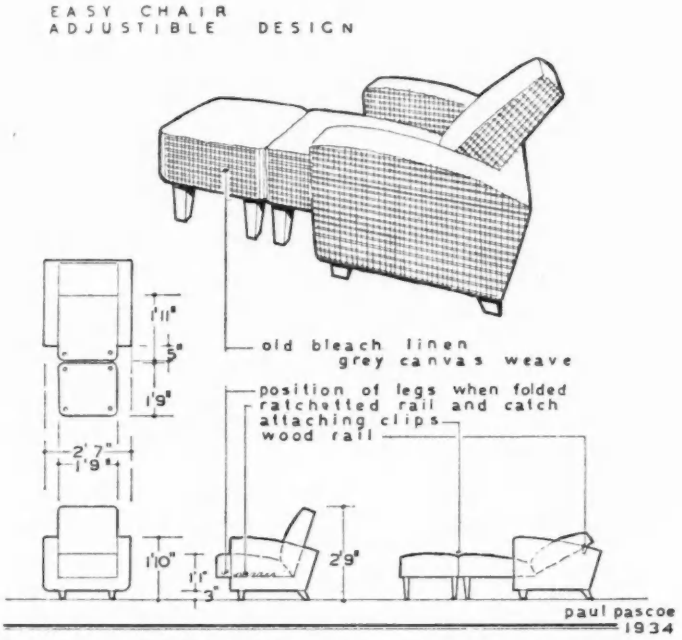
The Russian architect whose work I am chiefly anxious to put before you is Rossi, John Nash's exact counterpart in St. Petersburg. Between 1816 and 1830 he remodelled large areas of St. Petersburg, and his most familiar work is the great semi-circular range of buildings opposite the Winter Palace. As Professor Richardson pointed out in an article written in 1914, this makes a curious parallel to Nash's quadrant, which was building just about the same time. But here, of course, is no painstaking compromise sanctioned by a well-bred romanticism; here is sheer planning for effect with a brutal prosaic directness.

Another remarkable link between London and St. Petersburg in the early nineteenth century is the use of stucco. But whereas Nash jointed and frescoed his stucco in close imitation of Bath stone, the Russians took (and still take) the greatest delight in subtle combinations of paintwork. This frank and sensible acceptance of the limitations of their material is, I think, where the Russians come out best; it is, perhaps, their only contribution to the architectural tradition from which they borrowed so much.

Finally, we pass to a very different scene. In the year after Waterloo, while Nash was watching the first new houses go up opposite Carlton House, and while Rossi was maturing his plans for the new St. Petersburg, a much greater man than either was working feverishly in Berlin. Carl Friedrich Schinkel was thirty-five when the Prussian capital, a city emerging from poverty and apathy to a new national consciousness, came under his hands. Although in 1816 he was already court architect, he had built almost nothing; there had been nothing to build. His time had been spent in making ideal designs and in painting huge romantic landscapes. Here, in his landscape training, is his point of contact with Nash, for as a metropolitan improver Schinkel emerges from German romanticism just as Nash does from English. Like Nash, he toyed with Gothic, which, in the manner of Herder and Goethe, he believed to be the "old German style." And he followed Goethe in his subsequent devotion to Winckelmann's classic ideal.

If Nash had been 20 years younger, I have no doubt that we should have seen traces of Schinkel in his work. But in fact, it was James Pennethorne, Nash's relative pupil and successor, who came under the sway of the great Prussian, and Pennethorne's rooms at Buckingham Palace are as plainly German in inspiration as Nash's plan is French.

We are now in a position to define Nash's status among the metropolitan architects of early nineteenth-century Europe. I suggest that there are two aspects to be considered. The first is Nash's provincialism; his slick derivations from Paris, his capitulation to stucco and cast iron as substitute materials, and his somewhat pretentious superficiality. That is the unfavourable aspect. Against this we can set a solid and unique achievement—namely, the welding of English landscape romanticism into the hard facts of town-planning in nineteenth-century England. Only a very great man could have achieved this—a man who was a supremely great contriver as well as an artist of no mean rank. Such men are rare.



From the recent Exhibition of Contemporary Industrial Design Exhibition in the Home, at Dorland Hall. Easy Chair in Living Room of all-Electric House. Designer: Walter Goodesmith.

The vote of thanks to Mr. Summerson was proposed by Mr. C. L. Stocks, Permanent Commissioner of Crown Lands, and seconded by Professor A. E. Richardson, F.S.A., F.R.I.B.A.

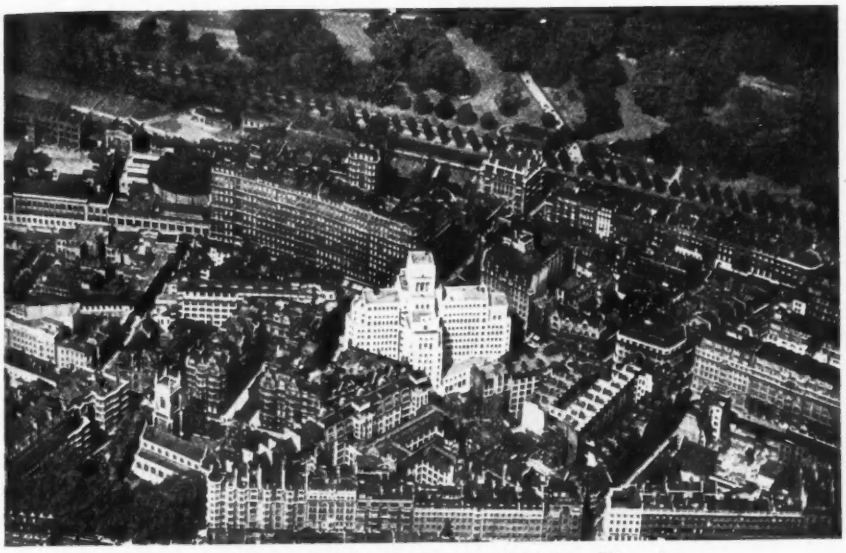
LECTURES FOR CHILDREN

The eighth series of Christmas Holiday lectures on Architecture will be given at the R.I.B.A. by the Hon. Humphrey Pakington, F.R.I.B.A., on Monday, December 31; Wednesday, January 2; and Friday, January 4. The talks, which will be illustrated by lantern slides, will be held at 3.30 p.m. on each day. Mr. Pakington has selected as his subject: "The Face of England: The Past, Present and Future."

Tiles

Following is an extract from a recent issue of the *Trocadero Magazine*:

Just recently we read of a builder who is going to roof each house with different coloured tiles instead of the ubiquitous red. If the houses in Central London were re-tiled on this plan what a difference it would make in the view from the Southern main line from Waterloo to the outskirts of the Metropolis. The idea, too, is capable of extension. Why stop at the tiles? Why not put some colour into the bricks? Think how much variety could be obtained if every house in the Old Kent Road had a different colour-scheme to its neighbours.



An aerial photograph of the Underground Building, Westminster

R.I.B.A. EXHIBITION OF

INTERNATIONAL ARCHITECTURE

1924 : 1934

[*By G. A. JELLICOE*]

Following upon Mr. Fleetwood-Hesketh's notes, which appeared in this JOURNAL *last week, Mr. Jellicoe observes the Exhibition from the layman's point of view. The Exhibition is to remain open until January 3, from 10 a.m. to 8 p.m.*

TO architects, the wedding of the Duke of Kent and Princess Marina has been as it were the interior of a Royal sandwich, one layer of which was the opening of the new building by the King on the 8th of last month, the other the opening of the International Exhibition by the Princess Royal last Friday. If the public bites as assiduously as it did on the 29th, the enterprise will have been a success indeed. For the purpose of the Exhibition is to show the man-in-the-street the panorama of architecture, to stimulate interest, and finally to explain to him the problems with which it is the lot of the architect to grapple and overcome.

The first consideration therefore must be to capture this man's imagination, and afterwards discreetly to point the way. In a building such as 66 Portland Place the former was already accomplished before the exhibition stands were erected, for few can resist the charm of approach and setting. Possibly our robust friend, following Royalty from Westminster to Portland Place past the gorgeous stands in Parliament Square, might feel a little less at home in these delicately coloured stands; but his eye would roam hopefully to the light colours and subject of the climax, "The Idea of Planning."

The exhibits in the Henry Florence Hall are beautifully and spaciously arranged, and by contrast the other sections appear crowded. The most interesting feature is undoubtedly that illustrating "The Idea of Planning," exemplified by the Underground Building, and, by reason of its importance, the only section that betrays a full-blooded exhibition sense. Here can be seen, in a single building, the progress of architecture from start to finish. Next in public interest come the models, many specially made and delightfully placed in the scheme of decoration; the stage model with varying systems of coloured cyclorama lighting, arranged by Harold Ridge, is irresistible. Third in interest are the architects' working drawings, a display that will surprise and stun the layman, who little realizes how much has to be done for 6 per cent. Lastly, like disturbed waters flowing meditatively round, come the photographs.

At this point, if not before, our visitor will flounder without his catalogue. Of this it may be truthfully said that it is one of the most likeable and efficient catalogues ever produced. When you have enjoyed the distinguished cover and the high quality of the advertisements (for like most of us you will probably have begun at the wrong end) you will find yourself absorbed. The chart of the "Administration of Building" (with the worst house in England) starts you on well-considered articles, and carries you across the dangerous zone (graph in red) of architects' fees, and lands you after further adventures at the chart of "The Disposition of the Sections."

It is the purpose of this article to describe the exhibition and not the work it illustrates. We will therefore merely observe our layman doing his circuit according to plan, following him to note his state of mind.

It must be odd for him, an Englishman of solid worth, to stand before a house of solid brick, with windows peeping through substantial walls, and thereupon to be faced immediately with a house with glass corners and a light curtain wall here and there; but after browsing on this awhile, it must be odder to return to the house with peeping windows; and oddest of all to think first of one and then of the other, the qualities of both so frankly opposite. How safe are the churches and what a sense of well-being is given by the banks! How jarring by contrast are the factories and housing schemes! Or is it the factories and housing schemes that are invigorating in contrast to the smug banks and churches?

So we must leave our worried layman. But let us offer him balm; let us assure him that in this great Exhibition are the germs of a great age of architecture. His tentative doubts will probably have been entirely squashed by a broadcast talk given on the evening of the opening ceremony, an address marked by admirable clarity of thought, endorsing the vigour of international youth.

R. I. B. A. EXHIBITION: INTERNATIONAL

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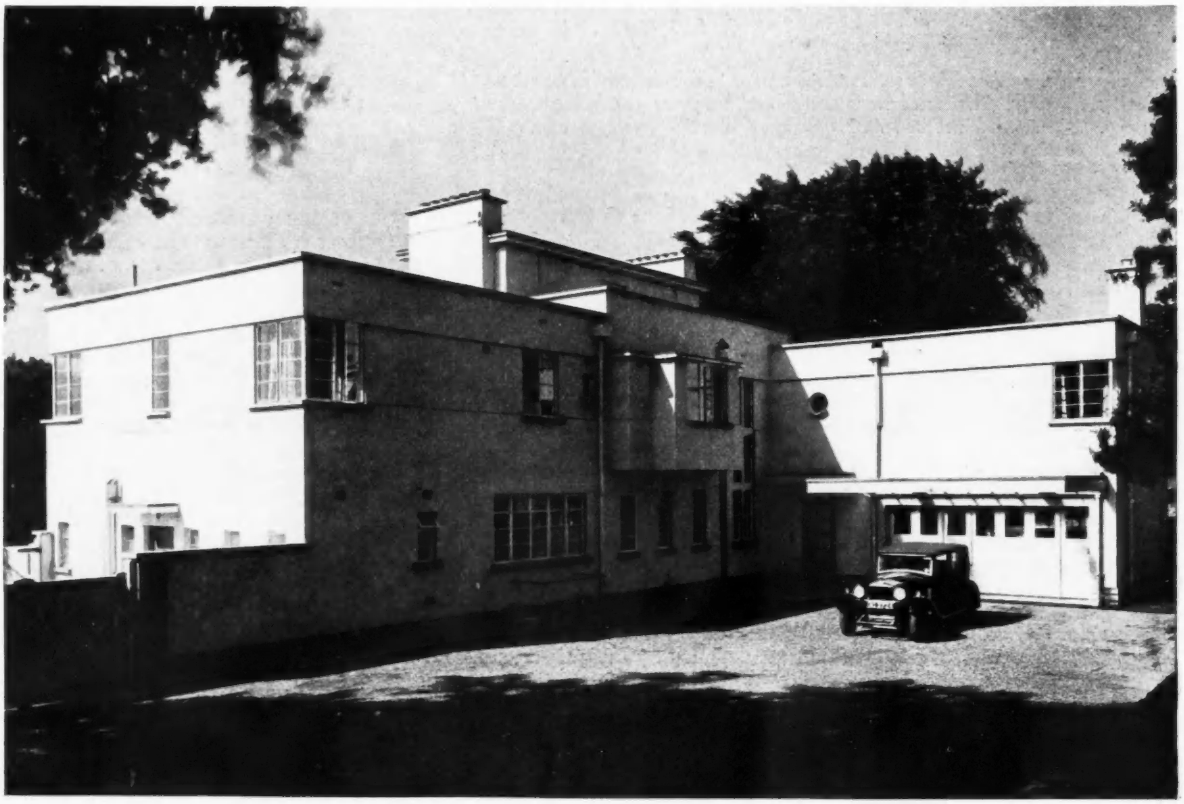

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ARCHITECTURE: 1924–1934

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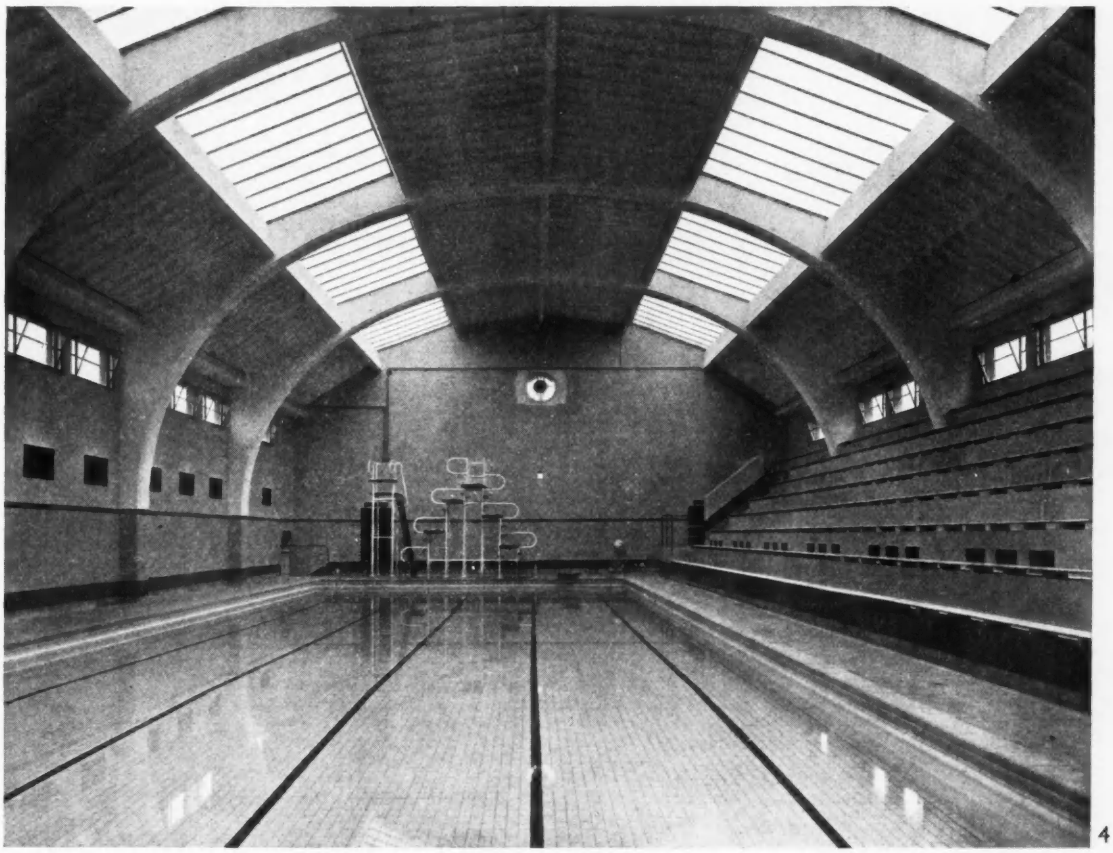

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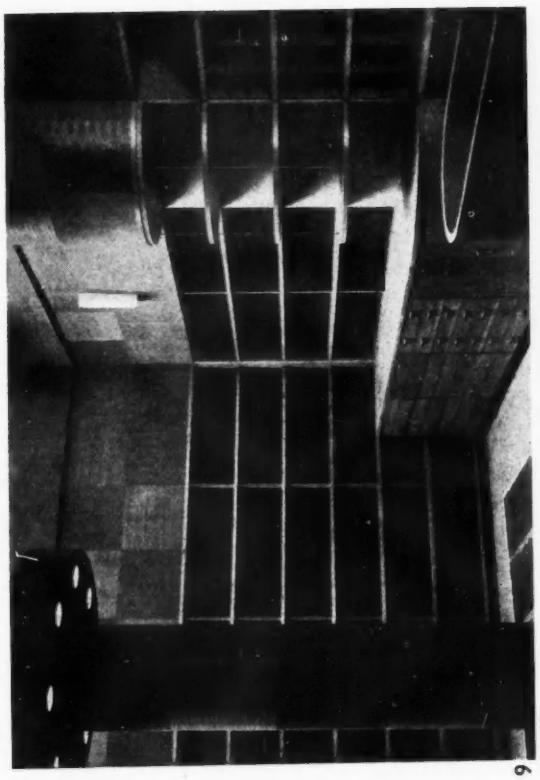
1: *Housing Scheme at Stourbridge, by Folkes and Folkes (No. 40);* 2: *Kirkby House, Yorkshire, by John C. Procter (No. 10);* 3: *Reinickendorf Siedlung, Lichtenberg, Berlin, by Erwin Gutkind (No. 157a);* 4: *Sherwood Swimming Bath, by A. J. Saise (No. 1021).*

6

7

5: *Moon's Garage, Kensington, by Robert Sharp (No. 249);* **6**: *Universal House, E.C., by Joseph Emberton (No. 339);* **7**: *Cocktail Bar and Saloon, "Flying Scotsman" Express, by Cameron Kirby (No. 235).*



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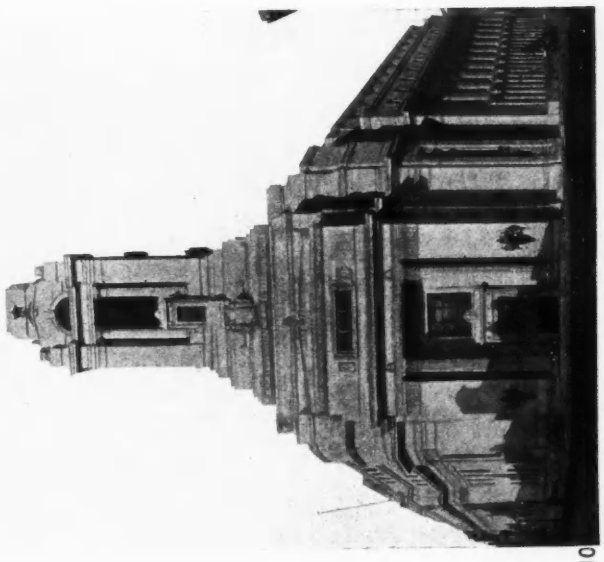

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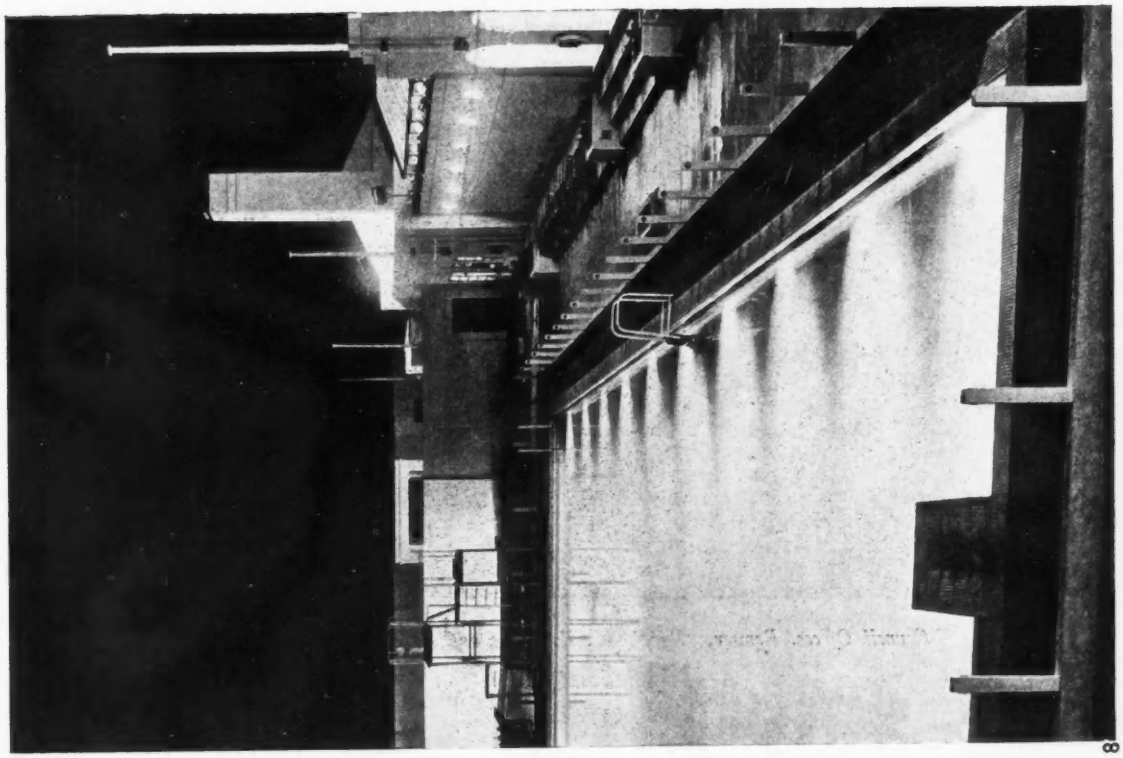
8: *Roehampton Swimming Bath, by G. W. Smith (No. 1016)*; **9**: *Dryad Handicraft Showrooms, Bloomsbury Street, E.C., by L. H. Bucknell and Ruth Ellis (No. 306)*; **10**: *Masonic Peace Memorial, Gt. Queen Street, W.C., by Ashley and Newman (No. 635).*



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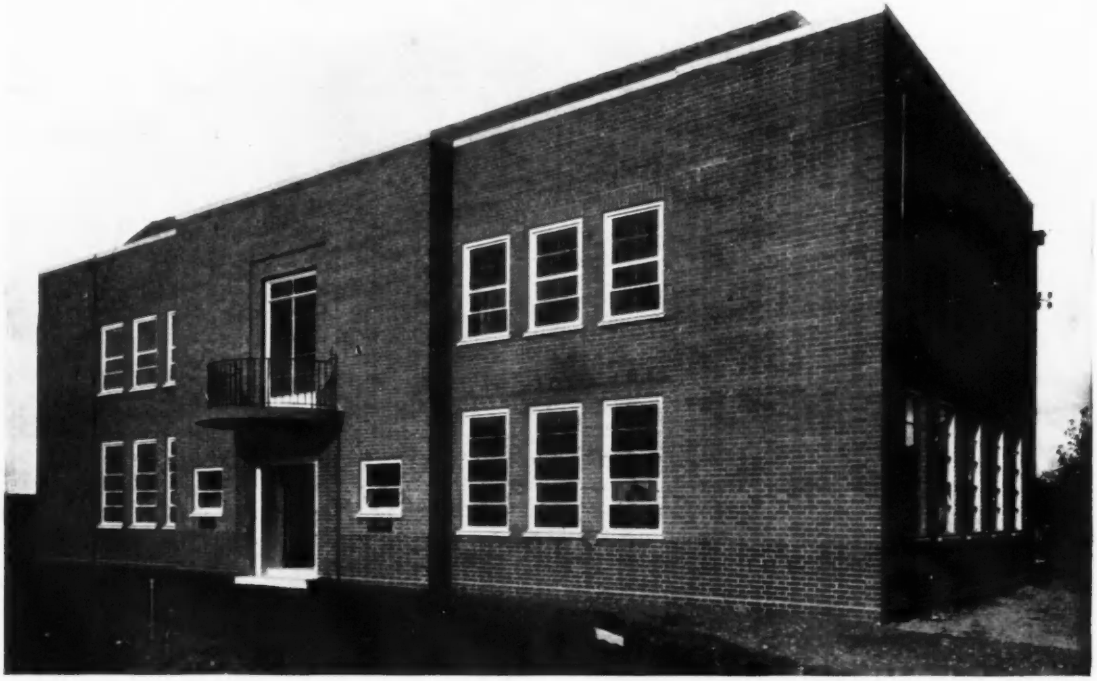
R.I.B.A. EXHIBITION: INTERNATIONAL ARCHITECTURE 1924-1934

11: *Parliament Buildings, Stormont, N. Ireland. By Sir Arnold Thornely (No. 602).*



12: *Council Offices, Romsey. By F. W. B. Yorke and F. R. S. Yorke (No. 607.)*

PLAN THE
BUILDING INDUSTRY

[*BY CYRIL SWEETT, F.S.I.*]

Further amplification of the suggestion for a forecast of building activity that was discussed last week in an article by the same author. The question of such a forecast is also discussed this week in our leading article.—ED., *A.J.*

PRELIMINARY investigation and consideration of the problem of planning the building industry for the future reveals the enormous amount of research which will be necessary before any sort of forecast can be made. Precisely what selection or combination of lines of investigation would be most suitable for the purpose it is difficult to say. The research would fall into two categories—field investigation and the statistical analysis of past conditions with their effects on the industry. It calls for the assistance of every member of every branch of the industry to supply accurate data of his activities over a given number of years, and of the effects, actual or probable, of external influences on that activity. It will be necessary for individual activity to be related to general activity in the industry and to determine the relationship which has existed between changes in the general influence of business activity and changes in the volume of building activity. The effects of economic, social and political changes and crises on the industry must be studied and related one to the other in order that a basis for working and forecast may be established. This work calls for the closest co-operation of the whole industry, and for the establishment of an organization with ample funds to deal with the problem.

Much work can be done immediately, while the basic analysis and statistical investigation is proceeding. There are many immediate urgent social problems on which much valuable work has already been done, and on which the industry could, with advantage, attempt some organized planning in order that the result may be carried into effect in a rational manner. It is known to what extent rehousing must be carried out, and it is known how much under existing conditions this great work will cost. It should not be difficult to apportion with a very small degree of error that cost among the many branches of the industry, and to calculate the quantities of each material that will be required to fulfil the programme. Collaboration between housing authorities and the industry would reveal also where these materials would be required and during what periods. This collaboration would probably result, furthermore, in a greater degree of standardization, and efficiently handled the desired result should be achieved with advantages and economies in constructional cost.

The present requirements of the population in regard to social services is known. It is generally admitted that hospital, clinic, school and other necessary social services are inadequate, and in many cases unsatisfactory. These deficiencies should be made good and suggest a field of investigation which could be carried on parallel with the solution of the problem of housing. The census report reveals a steady increase in population in England and Wales from 38 millions in 1922 to 40 millions in 1931. The annual reports of the Registrar General reveal a steady increase in marriages from 300,000 in 1922, to 315,000 in 1930, falling in 1931 to 312,000. These facts, together with the changing composition of families and the tendencies to a re-distribution of population, and of industry between different regions and different counties within those regions, can be studied in considerable detail from official publications. Allowances must be made for further increase in population, and for possible reduced requirements for medical and other services. The rapid advance of medical science and the falling death rate indicate that the necessity for hospital accommodation will tend to decrease. Tendencies today suggest on the other hand that demands for school accommodation will increase.

Study of past suburban development and the creation of new residential districts with the attendant shop and recreative development, should enable a reasonably accurate forecast to be made. The growth of multiple stores and improved facilities for rapid transport over comparatively long distances, are factors which must be taken into account as possibly having in the future some influence on this development.

More difficult of analysis are industrial development and speculative building which fluctuate according to the economic prosperity of the country and its trade policy. Field investigation would reveal the possibilities of industrial development in certain areas, and local knowledge in large cities would give some indication as to probable rebuilding on the sites of existing buildings. The nature of the rebuilding could also with some degree of accuracy be anticipated.

It is not out of place here to consider, briefly, fluctuations which have taken place in past years as revealed by available statistical information. The average amount due to depositors in the Post Office Savings Bank has, with the average deposit in Trustee Banks, steadily increased from 1922 to 1931. Nominal capital of companies registered in each year has, during the same period, fluctuated considerably from 593 millions in 1920, 132 millions in 1922, and 65 millions in 1931. Actual Income Schedule A from ownership of land, houses, etc., shows a steady increase from 182 millions in 1921, to 263 millions in 1931. Actual Income Schedule B from the occupation of lands shows a steady decrease from 66 millions in 1921 to 27 millions in 1931. Actual Income Schedule D from business concerns, professions, etc., shows a steady decrease from 1,765 millions in 1921, to 1,032 millions in 1931. The number of new buildings assessed for income tax shows a rapid increase from 1922 to 1926, and remained more or less stationary until 1929. The percentage of unemployed in building trades increased from 15·4 per cent. in 1923, to 30·4 per cent. in 1931.

The figures which have been quoted reflect the degree of prosperity of various sections of the community. With further analysis, they would show the degree of prosperity of every section of the community, and from this analysis it should be possible to demonstrate the effect of one upon the other.

It has only been possible in this article to indicate lines of investigation which might be followed. Some of these may be useless. There are many others which would yield valuable results. A great deal of work has been done, and valuable work is being done, by individuals and committees in all parts of the country who are investigating and reporting on many aspects of building construction, sociology, planning and other factors which will affect the building industry. Should not the industry make some endeavour to ascertain what will be required of it in the future, and organize for its execution?

LETTERS FROM READERS

A PROVINCIAL MEMBER FROM ANOTHER AREA

LESLIE C. TOMLINS

AUBREY KOFFMAN

The Institute: Defects and Remedies

SIR,—May I give some opinions on "Iconoclast's" R.I.B.A. articles? If the federal arrangement is going to involve collecting subscriptions locally, I am not in favour of it. As Hon. Secretary of an Allied Society, I am quite content with the present arrangement.

Some members may grumble that the R.I.B.A. does nothing for them, but I think this is usually their own fault.

In my opinion nothing should be done which would tend to weaken the central authority at 66 Portland Place.

Personally I have found the R.I.B.A. ever ready to be helpful in a great variety of matters and, above all, I appreciate the annual cheque.

The Allied Societies Conference is a great joy to provincial members, and increases their affection for the Central Body.

I hope you are not trying to insinuate that the South Eastern Society is not well represented.

A PROVINCIAL MEMBER
FROM ANOTHER AREA

Manufacturers and their Products

SIR,—Mr. H. W. N. Soley raises a matter of supreme importance to manufacturers of goods specified by architects, and I venture to suggest to architects themselves. When one reviews the new products introduced to the building trade during the fertile years of the twentieth century in general, and of those succeeding the war in particular, it is apparent that progress lies as much in the dissemination of ideas as in their creation.

I think every manufacturer would benefit from a study of Mr. William Regan's book, *How to Approach the Architect*, published by the Architectural Press. This book gives many useful methods of propaganda in connection with advertisements, travellers, catalogues, circulars, etc. There is a good deal to be said for the attitude adopted by many architects of building a wall round themselves, for never before have they had so wide a choice of media for construction, decoration, furnishing, etc., and manufacturers should sympathize with them and realize that with so many new and in some cases untried products an architect cannot afford to risk his reputation by pioneering, but must take thought of his duty to his clients. There is no doubt that many instances of failure occur, sometimes because the manufacturer puts an article on the market before it has been tested adequately, and invariably the client blames his architect for the failure; but we cannot stand still in building design and detail or in any other direction, and, because an architect has been let down once or twice, I suggest the lesson to be learnt is that he should take greater care to ensure that he does not get let down again rather than to condemn untried all new products. Much can be achieved by placing reliance on reputable manufacturers, and I am glad to think that more than ever before architects are passing on news of successful products to their fellow-practitioners.

LESLIE G. TOMLINS
(Wheatly and Co.)
Newcastle

SIR,—If Mr. Soley's analogy between architects and commercial "buyers" existed in fact instead of in mere hypothesis half the problems of building trades' sales-executives would vanish. When he suggests the allocation of one or two hours a week by the architect for interviewing trades representatives he completely forfeits the right to make his comparison with a "buyer" whose title suggests and in most cases definitely means one whose sole function it is to buy. But for architects to delegate to selected members of their staffs this one task is in most cases impracticable.

A solution offers itself, however, whereby specialists in the building and allied trades are able to demonstrate their products and methods to the profession under the most favourable conditions and with a minimum of outlay and useless effort.

Hardly a week passes without some important building approaching a state of completion. Why should not all the firms engaged on the building issue a joint invitation in the technical press asking architects to visit the building on a certain day. They should be allowed to roam around at their leisure unmolested, representatives of all firms being present and available to answer questions and give information. Methods of construction, services and products are seen in their true scale and value instead of being vaguely described over an office desk. The architect wants information and is, therefore, in his most receptive condition for receiving it; the specialist becomes a collaborator instead of being a nuisance. Two days could be put aside for this purpose in each building, the first for structural work and services, the second for finishings and decorations. These "Building Views" could be held all over the country, providing provincial architects with the same expert attention available to London architects.

I have said this is an obvious solution. The question is whether there is the right atmosphere in the Building Trade for it to materialize.

AUBREY KOFFMAN
London

Owing to a typographical error in a letter we published on November 22 from "Midnight Oil" on the subject of "Iconoclast's" articles the sentence occurred: "This elasticity (of the Licentiate class) which may not be proportional like a popular formula, 'Young's,' i.e., strain divided by stress, might even take a permanent set." It should, of course, have read "stress divided by strain."—ED., *A. J.*

Royal Incorporation of Architects in Scotland

The monthly meeting of the Council of The Royal Incorporation of Architects in Scotland was held recently at Edinburgh, when the silver medal gained by Mr. Martin Gardner, of the Edinburgh College of Art in the Rowand Anderson competition was presented along with other prizes gained by competitors in the various competitions.

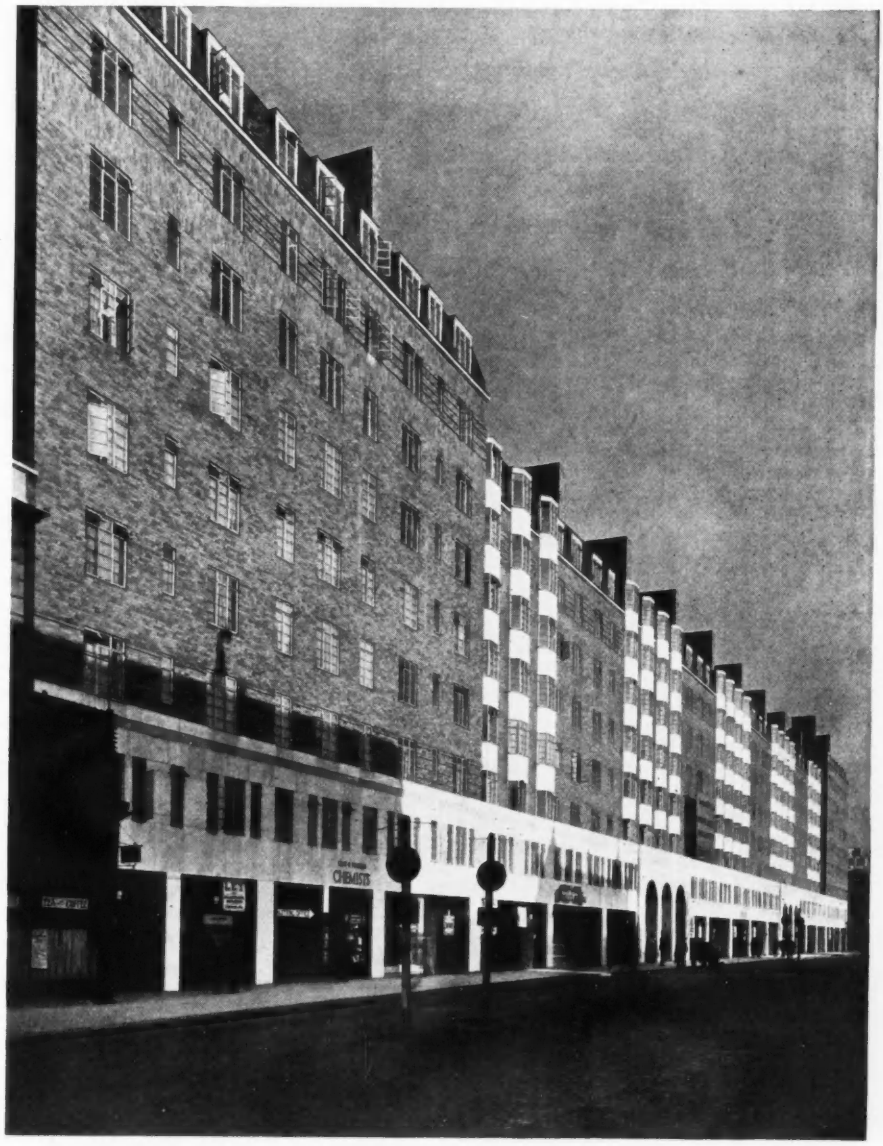
It was resolved by the Council to institute a class of "Retired Fellows."

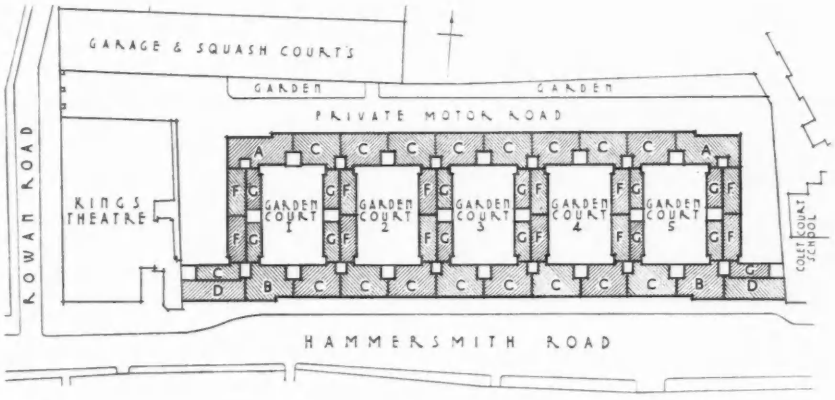
The following new members were elected: Messrs. J. S. Lawson, Dyce; N. C. Levie, Dundee; William S. Young, Perth; Duncan M'Culloch, jun.; A. C. Sutherland, and N. R. J. Johnston, Glasgow, and G. K. Lambie, Newton-Mearns, as associates; and Messrs. Alexander Green, G. B. Biggar, and G. I. Hunter, Glasgow; C. M. Davidson, Bearsden; and Alexander M'Neil, Denny, as students.

LATYMER COURT, HAMMERSMITH

This new block, claimed to be the largest in Europe, contains 360 flats planned round five garden courts, with a private motor road running through them, parallel to the Hammersmith Road, and round the outside of the building. Main lifts serve two flats on each floor, each service lift four flats. To the north of the site are garages for tenants' cars, and two squash courts; and the management undertakes the care of the gardens for a fixed sum per annum, levied on each flat. The ground floor of the Hammersmith Road frontage contains shops, the intention being that the whole block should be a self-contained community.

The flats vary from the bed-sitting room type at £90 per annum to the six-room type (four bed, two reception) at £260. No additional maid's rooms are provided but tenants may rent additional box-room space. Large pram stores are available on the ground floor.

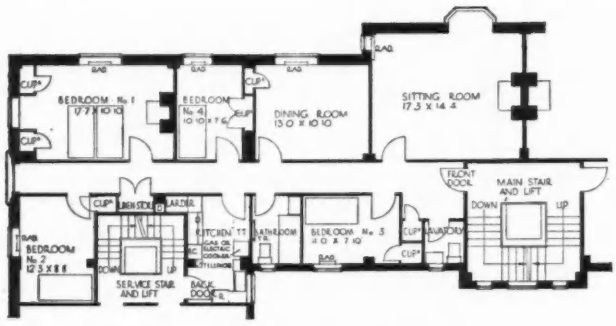




BLOCK PLAN

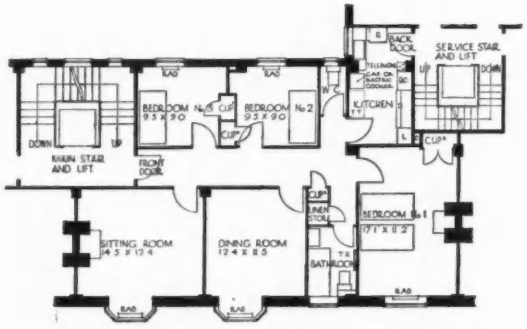
DESIGNED BY GORDON JEEVES

LATYMER COURT, HAMMERSMITH:

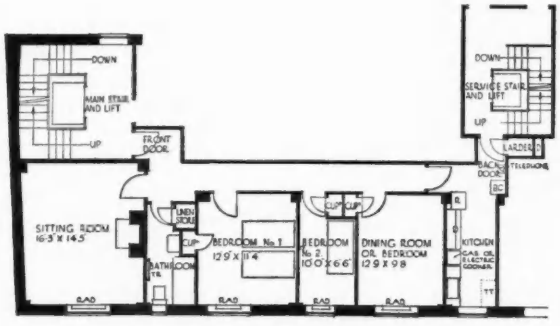


TYPE A. RENT £240—260

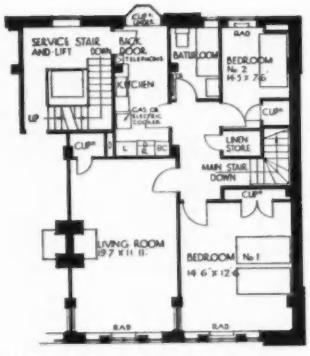
TYPE B. RENT £225—235



TYPE C. RENT £210—230



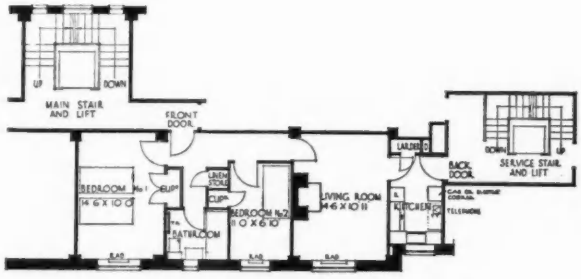
TYPE D. RENT £170—200



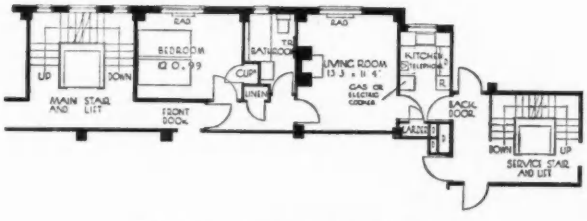
TYPE E. RENT £175

KEY TO FITMENTS

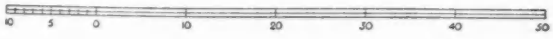
R : Refrigerator
D : Dresser
T.R. : Hot Towel Rail
B.C. : Broom Cupboard
T.T. : Collapsible Table
L : Larder



TYPE F. RENT £120—150



TYPE G. RENT £100—125

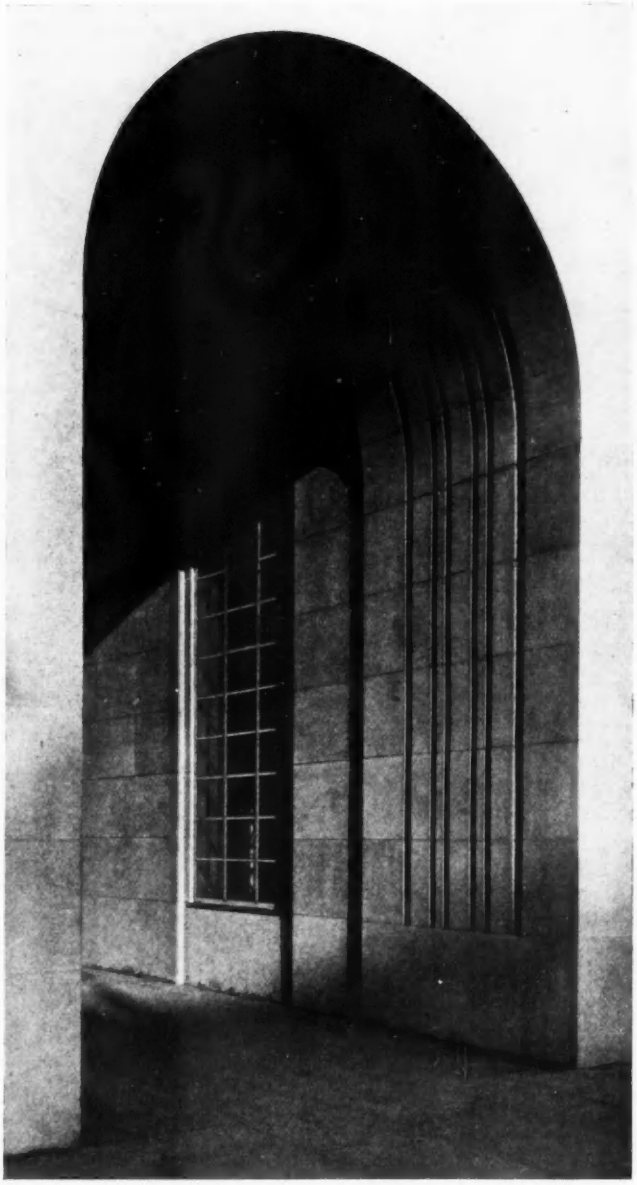


Standard equipment and finishings to all flats include hardwood floors of Canadian birch, built-in cupboards in the bedrooms, automatic house telephones from each flat to the porter, G.P.O. telephone wiring and refrigerators. Rents include central heating and hot water, porterage and other services, with an additional charge of £2 2s. per annum for garden upkeep.

The photograph reproduced on the facing page shows part of the main elevation.

DESIGNED BY GORDON JEEVES

LATYMER COURT, HAMMERSMITH



The photographs show: above, a detail of one of the entrance gateways from Hammersmith Road; left (top), a view showing the bay windows, the fronts of which are painted white; left (bottom), looking into one of the courtyards. Structurally, the building has a steel frame with variegated red facing bricks, the ground and first floors being stone faced.

DESIGNED BY GORDON JEEVES

L I T E R A T U R E

A GREAT HOUSING RECORD

City of Liverpool Housing, 1934. Liverpool: Corporation Housing Department. L. H. Keay, O.B.E., F.R.I.B.A., Director.

LIVERPOOL'S record in municipal housing since 1869 is surveyed in a booklet just issued under the authority of the Housing Committee. The city has been recognized for long, but more particularly under Mr. Keay, as a pioneer in municipal housing, and her record up to the end of September this year is of 32,390 dwellings completed or contracted for. It is worth recalling that Liverpool had, in Dr. H. W. Duncan, her first medical officer of health, and the first medical officer, indeed, in the country, a pioneer who did as much as anyone to stimulate the authorities to deal with housing. He was appointed in 1846.

In only three years since 1920 has that number of houses completed fallen below 1,000. In 1922 it was 2,109, in 1926, 3,102, in 1927, 5,728, and in 1928, 2,440, and up to the publication of the booklet a further 1,923 dwellings had been completed this year, making a total of 27,103 in connection with the post-war housing and rehousing schemes; and 1,898 are in hand.

But in spite of all this achievement, the list of unsatisfied applicants for Corporation houses stands at 26,841, of whom 11,398 live in rooms—figures that may usefully be read with the estimates of the "Social Survey of Merseyside" in mind that the percentage of overcrowding for all families in Liverpool was 11·4, and that of all applicants for Corporation houses, 20·5.

The work in two instances has involved the creation of large new satellite towns—another is being made even now. The greatest of them, Norris Green, has a larger population than the city of Chester. Work was started there, in 1926, under the Housing (Financial Provisions) Act, 1924, and 28¼ miles of roads and sewers have been laid down and 7,689 houses built.

Dovecot Estate, with 3,017 houses, is a more recent, and even more interesting, piece of work, and here most of the errors of the earlier work have been avoided. The estate's development was begun in 1930. In all, 19,673 houses were erected under the 1924 Act. Under the 1923 Act, 1,449 dwellings were included in rehousing schemes.

Under the Housing Act, 1930, a large scheme of clearance is being undertaken touching an area of 8½ acres, which includes 398 houses, and has a population of nearly 3,500. A horizontal style of architecture has been used for these centre-of-town flats, and balconies, much liked by the tenants, have been added to a number of the living rooms. In all, the city engaged, under the Minister's Circular No. 1331, to build in eight years 5,000 houses on the outskirts of the city and 10,692 flats in the centre, at a cost estimated at £7,730,890.

The booklet is admirably printed and illustrated with excellent photographs, as well as with typical plans which show considerable flexibility of lay-out.

E. H. W. A.

A YEAR'S BUILDING RESEARCH

Report of the Building Research Board for the Year 1933. London: His Majesty's Stationery Office. Price 2s. 6d.

THIS annual record of the work of the Building Research Station reminds us once again of the steady way in which the old traditional knowledge of the behaviour of building materials is being replaced by scientific knowledge. The chief advantage of this change is that, while from tradition we knew what happened, we often had no knowledge of the real reason behind the happening, and therefore we were frequently at fault when alterations to existing technique and tempo were required.

For example, the report, discussing the question of painting on Keene's cement, says: "According to the tradition, it is held as imperative that the priming coat should be 'sharp' . . . and that it should be applied 'following the trowel'—that is, immediately after the plaster surface has been finally trowelled to a smooth finish. It is generally stated that the object of doing this is lightly to 'break' the trowelled surface before it hardens, and so to provide a better key for subsequent coats of paint, and, further, that unless Keene's cement is treated in this way the paint is very likely to peel or flake off.

"There is little doubt that originally this procedure was intended to refer only to the priming coat, and that there was no question of proceeding to apply any further coat of paint until the plaster had been allowed to dry for several weeks. . . . During recent years, however, the tradition appears to have become misinterpreted, for numerous cases have come to light in which the decoration of a surface finished in Keene's cement has been completed within a few days. The moisture and soluble salts thus enclosed in the plaster and backing have eventually caused widespread peeling and flaking. The publication of the reinforced concrete "Code of Practice" is referred to and tests are reported to determine whether the test strengths of concrete demanded in the code were excessive, as some critics of the code have claimed.

The concrete was taken from jobs where "the amount of supervision was such as would be anticipated on jobs where good-class work was in progress" and the 6 in. cubes were prepared on the site in accordance with the requirements of the code.

In two cases the tests were carried out during the winter months and, while the slump was not controlled and varied within wide limits, the works tests requirements of the code were easily satisfied.

Another interesting research which is reported is that undertaken to investigate Sir Leonard Hill's hypothesis that the feeling of stuffiness produced by certain sources of heat, due to congestion of the nose, is caused by infra-red rays and that "bright incandescent sources of heat, such as lamps, coal fires and modern gas fires, are 'nose-openers' and that all the dark sources are 'nose-shutters.'"

The report says that, "in well controlled experiments with eighty-five subjects, no evidence was found of any difference in the inspiratory pressure due to a change in the quality of radiation. Sufficient evidence was adduced to refute the suggestion that a bright incandescent source of heat is potent as a 'nose-opener,' and therefore to be preferred to a dark source. It was concluded that 'nose-closing' is . . . probably caused by rapid warming of the skin."

In many cases the report must necessarily be an interim one, but in some cases research has proceeded sufficiently far for recommendations to be made. In the case of asphalt roofs a warning is issued that while "white surface treatments are effective in keeping an asphalted roof cool in summer, considerable caution is necessary" in their use since "no adherent coating has been found which is not in some degree deleterious to asphalt."

Interesting photographs are given of a "brick cemetery." From the evidence of these many of our speculative houses will not trouble us for more than a few years.

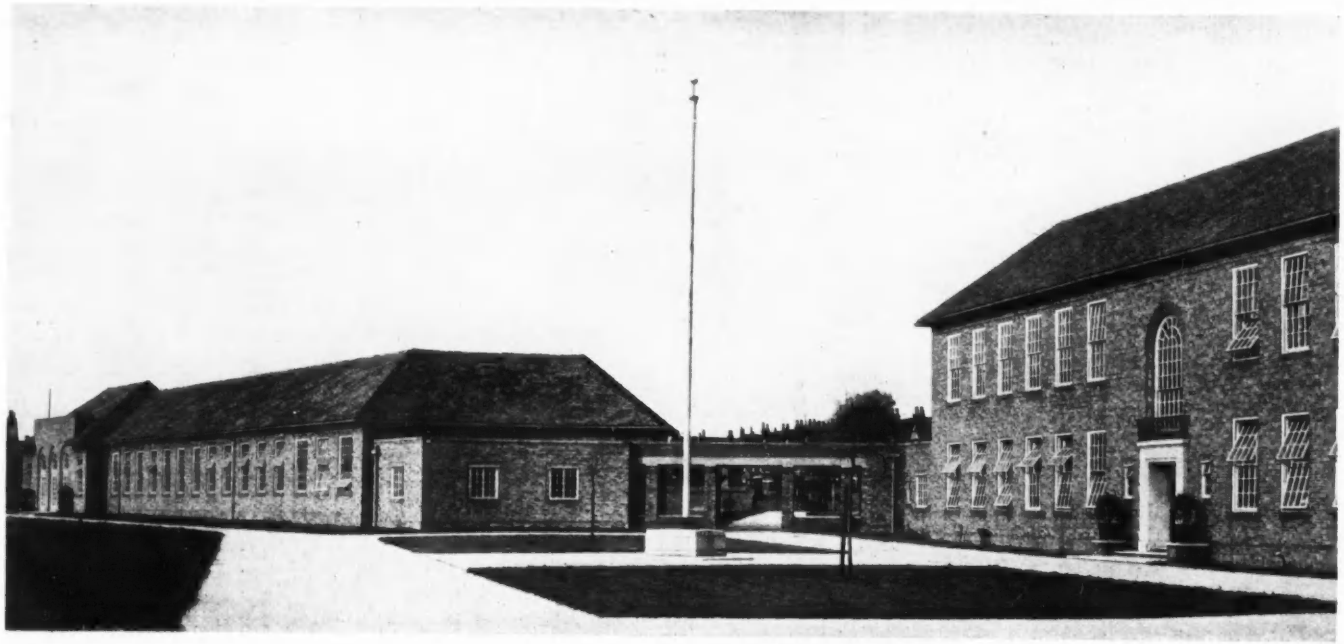
W. E. J. B.

Revised Catalogue of Books

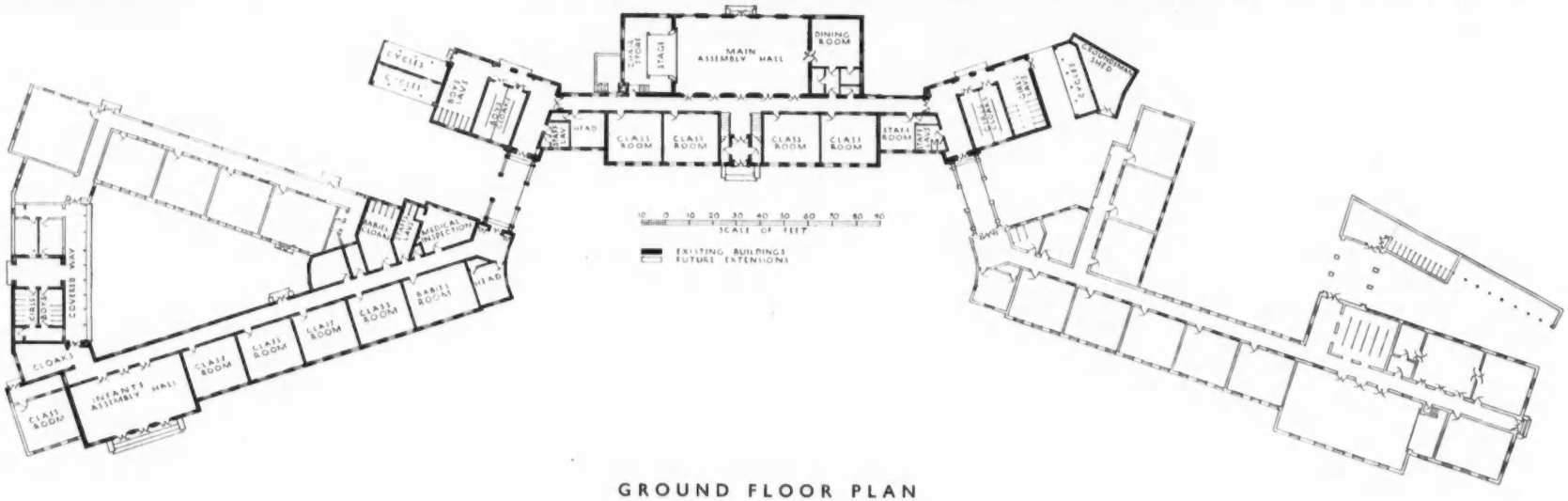
A catalogue of books on architecture, decoration, furniture, and technical books and periodicals on the science of building construction has just been reissued with additions by The Architectural Press, 9 Queen Anne's Gate, Westminster, S.W.1. A copy will be sent post free on application to the Manager.

ELEMENTARY SCHOOL, FARNBOROUGH ROAD, BIRKDALE

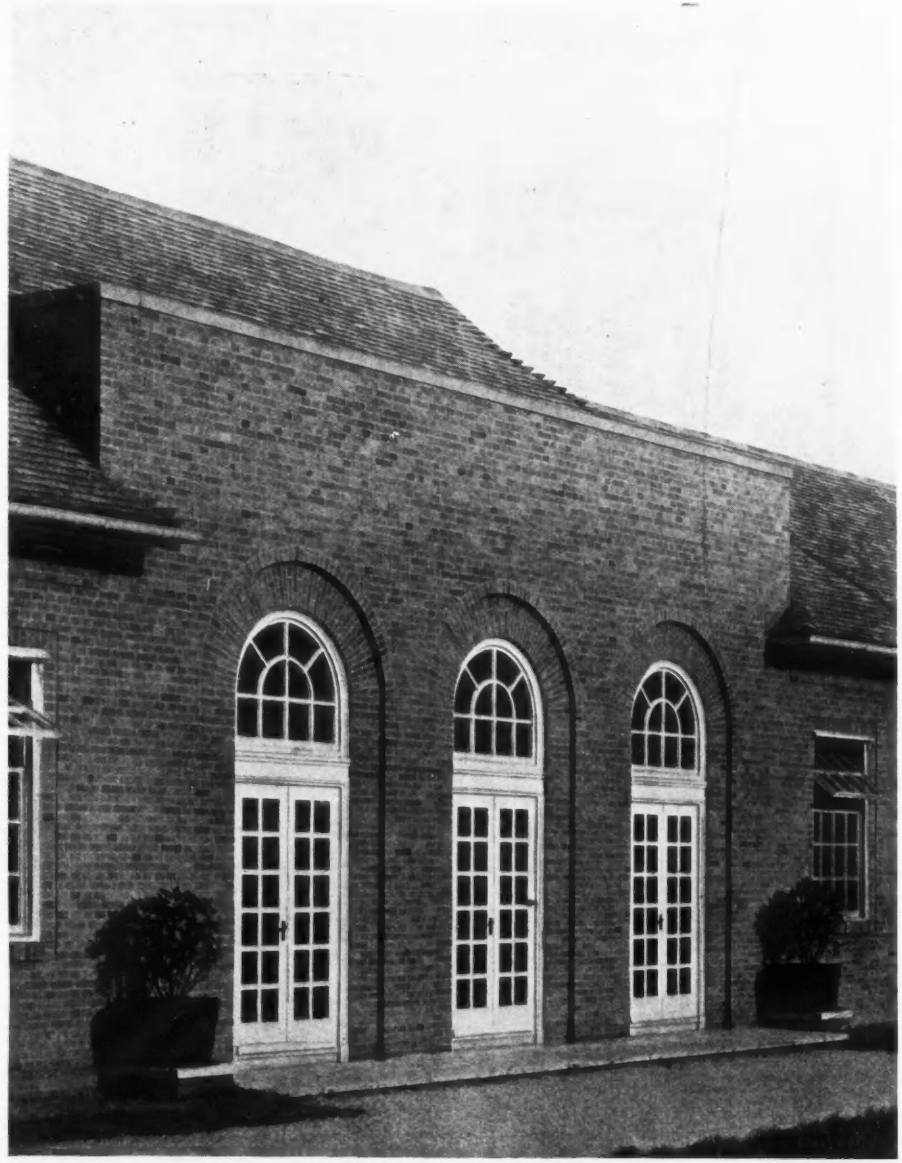
DESIGNED BY LEONARD BARNISH



A general view from the south-east. The walls are constructed of brown-pink Ravenhead bricks, and the roofs are covered with Blockley tiles, which harmonize in colour and texture with the bricks.



GROUND FLOOR PLAN



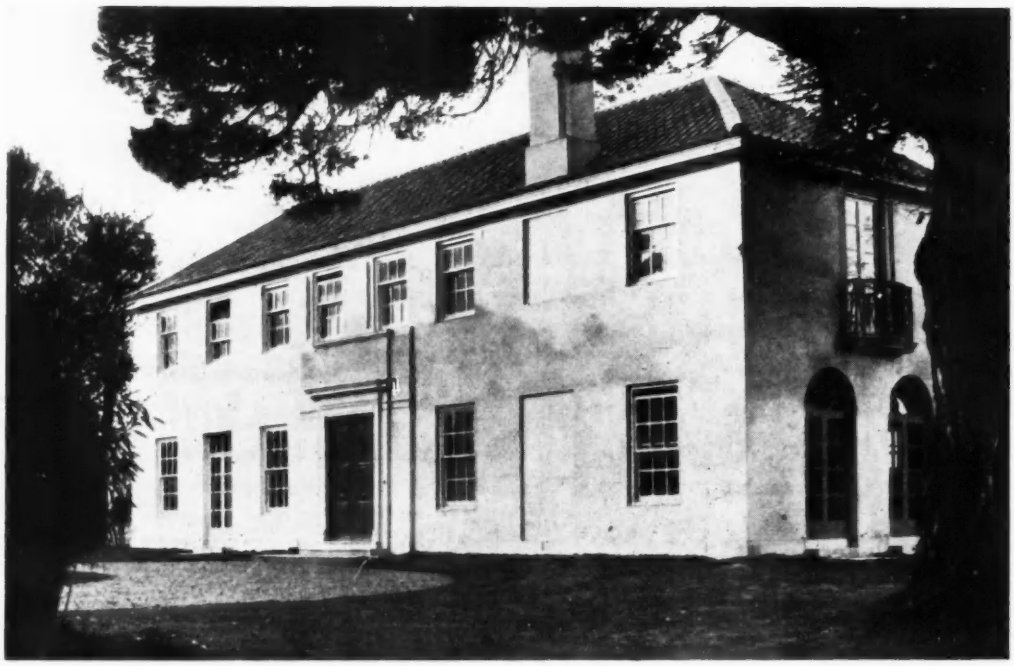
The buildings now erected form only part of a larger scheme, and provide immediate accommodation for 400 pupils in the junior mixed department and 250 pupils in the infants' department.

The junior school will be conducted in the first place as a dual school under a headmaster. Provision is made for the erection of another wing—to correspond with the infants' wing—which will provide accommodation for 400 girls, and the existing junior mixed school will then be used exclusively for boys. The infants' school is also so designed that further classrooms and cloakrooms may be added for 250 additional pupils. The total accommodation will then be 800 juniors and 500 infants.

Architecturally, the group of buildings, when complete, will form a sun trap, the centre block being a two-storey building, and the wings single-storey. The latter stand forward and are connected to the main block by colonnades. A recessed "place" is thus formed, containing a central paved space furnished with a flag pole, which is flanked by two grass plots. The wings come forward at an angle and are terminated by the assembly halls, the higher roofs of which form a stop to the long line of ridge, and the circular headed windows add a rich note to the simple rhythmical fenestration of the classrooms. Every classroom in the building (and when complete the school will contain 26) will get the sun for the greater part of the day.

The photographs show : Above : a general view of the main assembly hall, looking towards the stage. Right : the entrance to the infants' assembly hall.

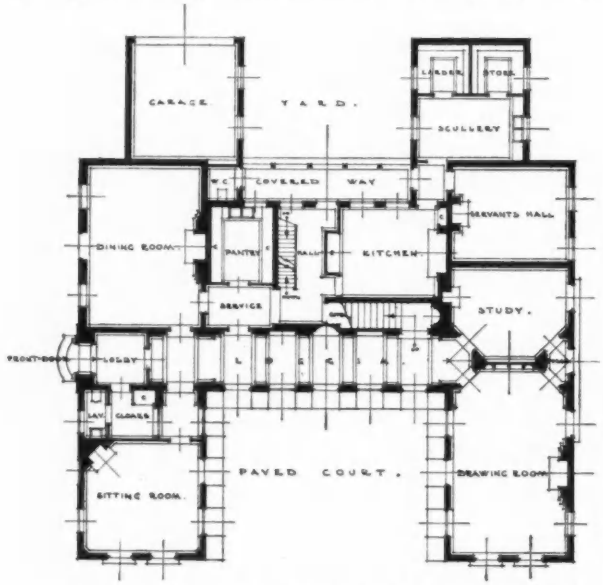
HOUSE AT BEMBRIDGE, ISLE OF WIGHT



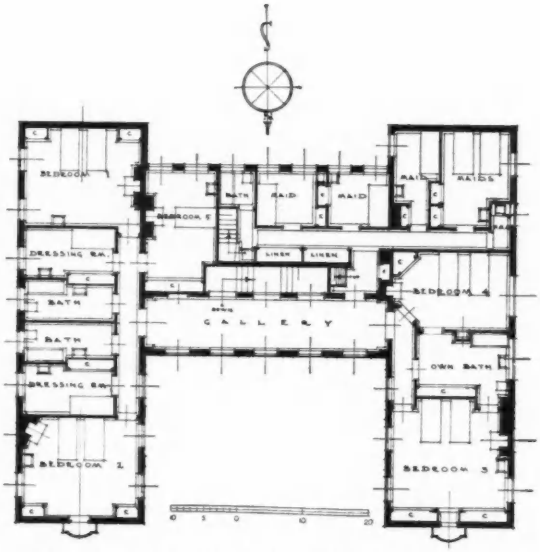
This house is on the site of a late Georgian one which was destroyed by fire in April, 1932. It forms part of the Earl Fitzwilliam Estate, and is set among shrubs and old trees in a position overlooking the Solent. The architects were, however, faced with the difficulty that the existing lay-out compelled entrance on the east side, with a north aspect to the principal rooms. The kitchens, therefore, had to face south and west. Advantage was taken of the mild climate to form a paved court on the north side overlooking the sea; this not only makes the most of the fine views over the water, but permits the maximum amount of early and late sunlight to enter the living rooms, which were necessarily cut off from the south.

The exterior is in keeping with the original Regency character, the cavity walls being faced with cream-white stucco, felt finished, and the windows being of wood, painted cream and light blue. The roof is covered with apple-green glazed pantiles. The door surrounds and other dressings are in artificial Portland stone.

The enclosed loggia connecting the east and west wings is vaulted in plaster on suspended metal lathing, the pilaster projections being formed with 2 in. patent blocks. The floor is paved with artificial Hopton Wood and black marble. The floors in the principal living rooms, and the staircase are in oak. The west bathroom is lined to door height with artificial Hopton Wood, and the floor is paved with squares of the same material laid direct on 3 in. joists and trimmers. The other bathrooms (also the kitchen and scullery) have tiled dadoes. Heating is by low pressure hot water from an oil-fired boiler, which also supplies the domestic hot water.



GROUND FLOOR PLAN



FIRST FLOOR PLAN

DESIGNED BY ARMSTRONG AND GARDNER

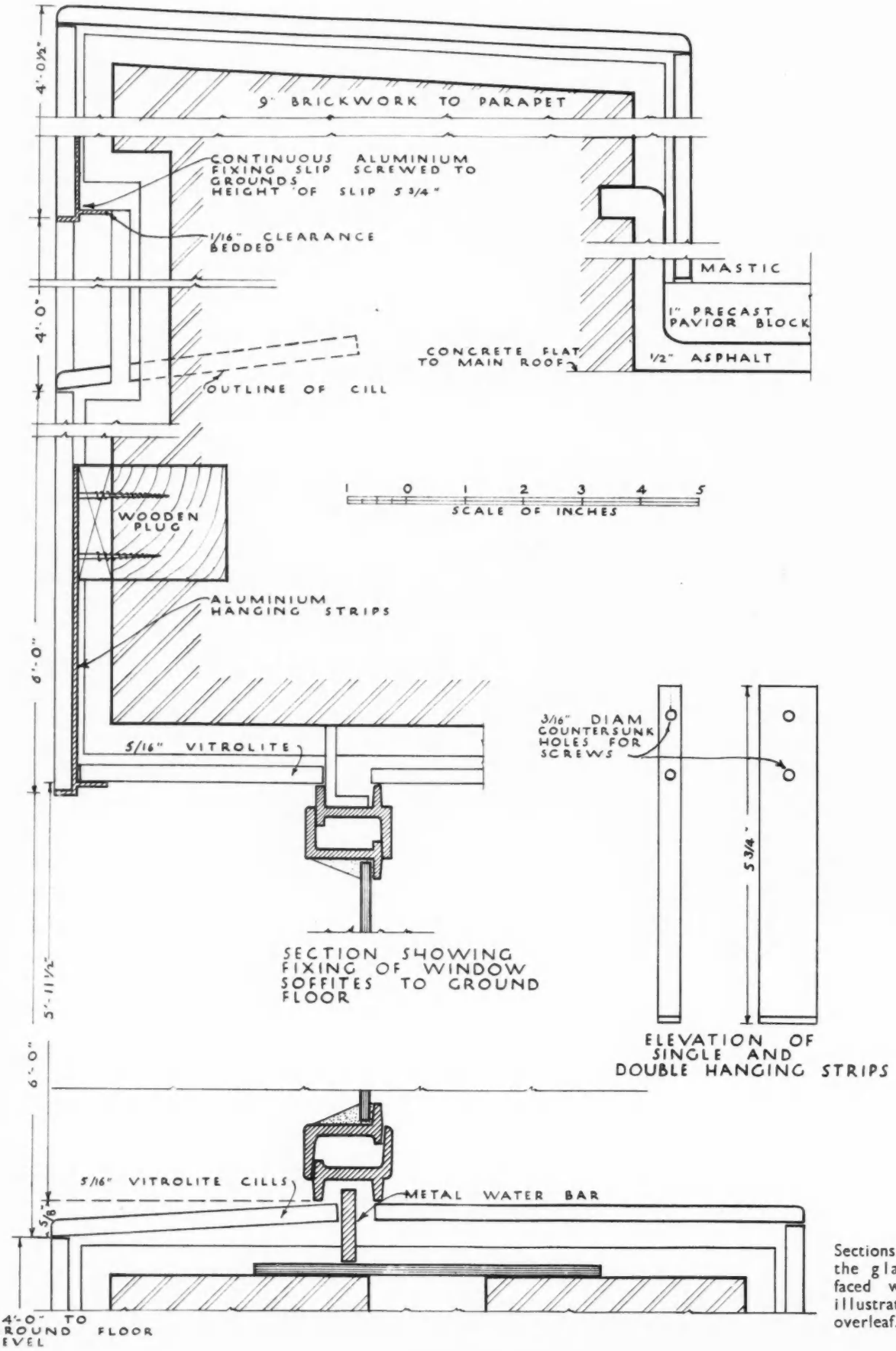
WORKING DETAILS : 169

GLASS WALL FACING • KIRK SANDALL HOTEL, DONCASTER • T. H. JOHNSON & SON

The above illustration shows an external wall faced with 3 ft. square glass sheets 5/16 in. thick, and bedded in mastic. Above the base, which is black, the wall-facing is shell pink, with narrow pearl bands connecting the upper windows. The sections overleaf show the aluminium fixing strips and the method of treating the parapet wall and flat roof finish.

WORKING DETAILS : 170

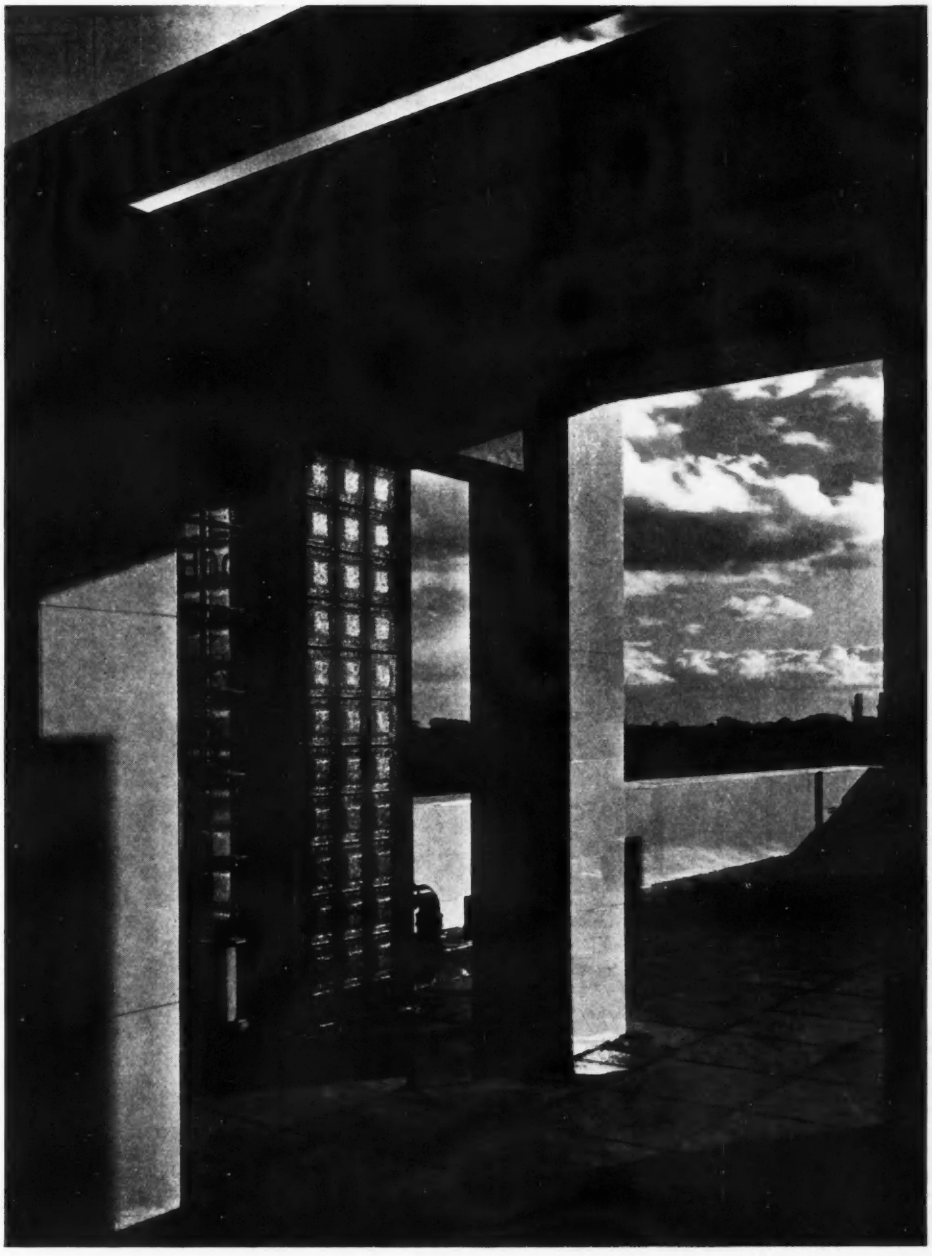
GLASS WALL FACING • KIRK SANDALL HOTEL, DONCASTER • T. H. JOHNSON & SON



Sections of the glass faced wall illustrated overleaf.

WORKING DETAILS : 171

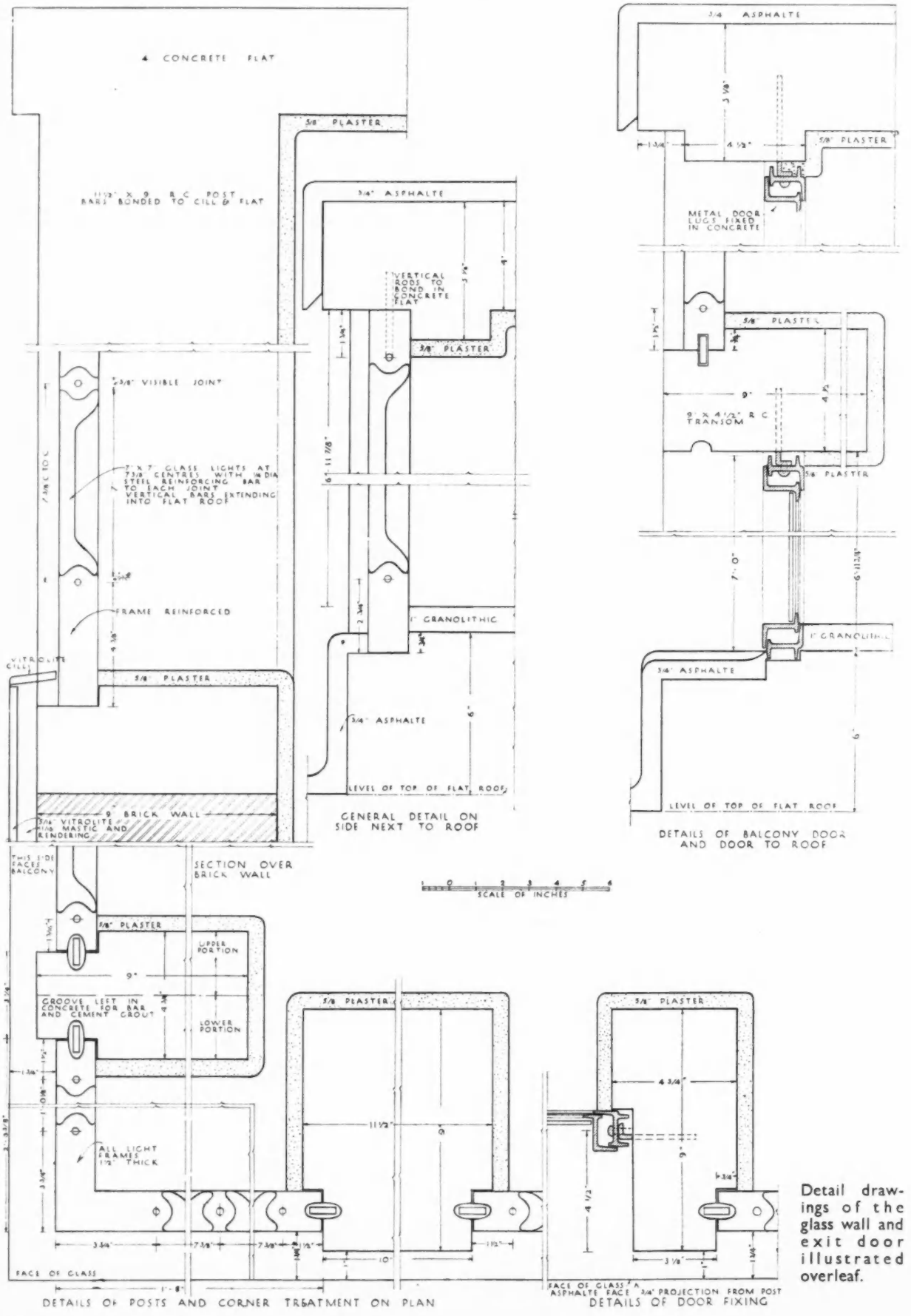
GLASS WALL AND DOOR TREATMENT • KIRK SANDALL HOTEL, DONCASTER • T. H. JOHNSON & SON



This roof approach is built up from 8 in. square clear pressed glass tiles with a hammered finish. The tiles were cast in concrete panels on the site, and placed in their reinforced concrete frame, fixing being carried out by metal lugs and grouting. The drawings overleaf show the methods of fixing the pre-fabricated units, the corner treatment of the glass wall, and the door fixing.

WORKING DETAILS : 172

GLASS WALL AND DOOR TREATMENT ● KIRK SANDALL HOTEL, DONCASTER ● T. H. JOHNSON & SON



Detail drawings of the glass wall and exit door illustrated overleaf.

DESIGN IN AMERICA

[BY JOHN GLOAG]

III. YOUNG ARCHITECTS AND THE DEPRESSION

"ARCHITECTURALLY we're much farther ahead as a result of the depression," said the young architect. He was earnest, enthusiastic, humble about his own work, and exceedingly irritated with the old men of his profession. He proceeded to explain. "You see, this period of having nothing to do has enabled architects to look around and solve all sorts of small house problems—things they'd just never bothered about before. And did they find out there were some things they didn't know? Why, yes—they did. Yes, *sir!* In kitchens and bathrooms alone, when they got to studying they found that half the time they thought they were being functional that they were just being fashionable. They've been able to get right down to *re*search. And then most of them specialized."

When he lost his job as the depression began to get its grip on the States, he looked around for some field of commercial or industrial activity that could derive value from the brains of an architect. He decided to study transportation, and to become a specialist in it. He saw that road transport was developing with unplanned profusion all over America; he saw that it was encouraged by increasing patronage, because it was cheaper than the railroads; and he saw, too, that there was something about long coach journeys by road that appealed to a very high percentage of the citizens of his country.

All sorts of odd, ill-organized concerns had cropped up by the roadsides to cater for travellers; hot-dog and oil joints, rest-houses that were mere clusters of flimsy shanties, with just a few well-run places for coach stops, but nothing consciously planned. Everywhere tourist camps were being built, generally by a local carpenter, and they stood up, and that was about all; but they were always crowded with people, squalid and ramshackle though they might be; and to this young unemployed architect came the idea that an architect who designed efficient and compact accommodation (1) for 'bus travellers and (2) for tourists with their own cars, might change the whole character of road transport in time.

He began with the first part of the problem. He became designer, engineer and promoter. He saw transport companies, and secured their benevolent interest (it stayed at interest, though—benevolence didn't get much beyond theory once the depression was under way); he saw catering companies, fuel supply organizations; he looked about for land, and made sure of services for power, light and water. And he got sufficient backing to get the scheme started; and he found that he had turned into something considerably more than a designer when it was finished. He found, also, that even in the height of the depression a transport company was so interested in his courageous experiment and in his ideas for providing miniature settlements for temporary occupation, so that travellers could be certain of securing decent standards of accommodation, that they offered to retain him to plan development along their coach routes and to design proper 'bus and coach terminals for them. They did not want to employ him only as a designer; they wanted him to take charge of the whole business management of that side of their organization; but he said, "No. The business side of it will take up too much of the time. But the business end will, of course, be easier if the initial planning of rest centres and terminals is right."

I asked him whether he was going to do other work when the depression finally lifted, or whether the planning of motor camps and the study of transport was going to be his life work. He seemed surprised at the question.

"It's so much more interesting than individual housing," he said. He believed that the old profession of architecture—what he called "the tail-coat school"—was changing into something that was concerned with engineering and real estate; but primarily with planning: planning the work of the specialist engineer, and guiding the activities of the real estate man so that by good lay-out he gave more to the consumer and got more for his property. "I don't believe in individual reputations," he said, "in working for individual clients; little house jobs here and there for some woman whose gotten her culture from magazine advertising, and wants what she thinks famous hostesses would like to live with. The architect has got to be ahead of the engineer; he must know about land values, rents, costs. He won't know those things by trying to make an individual reputation for house design; his only chance to save his profession from being a gang of temperamental fashion artists is to get out and study problems, in industry, in commerce; to become a specialist." Suddenly he got angry: "Why," he said, "before I lost my job I worked in an office where we would plan a building, arrange all the accommodation, send off the plan to an engineer who'd spot in the steel, and then send our plans and the engineer's skeleton off to another architect who'd do his stuff with the elevation. Like as not he'd ring us up in tears and ask where in hell we thought he could put his windows. Well, that wasn't our job—he was fixing the outside." He glowered at me. "And that's American architecture as practised today," he said.

The splendours of New York's celestial uprush made me venture upon a protest. The only thing I could see wrong with New York was that it manifestly lacked a Frank Pick to bring its subway, elevated, 'buses and trams up to date in design and to give orders for having them repainted occasionally. I put in a word for those gloriously exciting towers.

He looked at me coldly.

"New York's a city of old-fashioned buildings," he said.

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IN PARLIAMENT

[BY OUR SPECIAL REPRESENTATIVE]

IN the House of Lords last week, in reply to a question by Lord Snell, Lord Feversham, Lord-in-Waiting, said that the Government had approved a general scheme of rehousing the Metropolitan Police as an essential part of the reorganization which had been in progress during the time Lord Byng and Lord Trenchard had held the post of Commissioner of Police. The rehousing proposals were in effect the third stage in this reconstruction. The first was a general redistribution of the force and a readjustment of its local boundaries, and the second was the new method of recruitment to the higher posts and the establishment of a Police College at Hendon.

The rehousing scheme had an important bearing on the efficiency of the police and the convenience of the public. They could not expect to have an A1 force in C3 buildings. The Metropolitan Police buildings, and police buildings in general, were out of date in two senses. In the passage of time the accommodation they provided had become inadequate; and both in external aspects and interior arrangements they reflected a totally different set of ideas from those now held with regard to the status of the police.

The standard of amenity aimed at in the section houses in the past seemed to have been deplorably low. There were over 100 section houses situated in various parts of the police district. Most of them were very small because they dated from Victorian times, when the principle of "living over the shop" prevailed. When the police force was expanded, a number of large section houses was built, but they were all bleak and institution-like, and, judging by the standard of today, singularly little attention appeared to have been paid to the question of comfort. Above all, there was a great lack of privacy and quiet and a

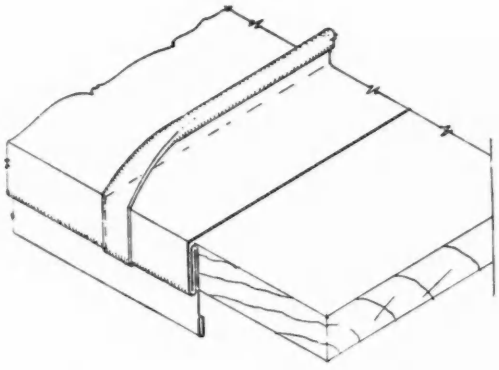
complete lack of catering and common-room arrangements.

In the new section houses which were to be built, and of which, as announced in the House of Commons, four were already in hand, all these defects would be remedied. Some of the existing section houses could be modernized, but with others such a course was impossible, and it would be necessary to build between 20 and 30 new section houses. All the small section houses would be closed, and in the larger new ones it would be possible to give the men reasonable amenities in the way of restaurant meals, canteen and common rooms, and to arrange the general management of the section houses on more satisfactory and economical lines than hitherto.

The number of section houses would be reduced to about half, a change that would produce very considerable economies as regards the maintenance of the buildings as well as management. At the same time, the new section houses would be better placed. Owing to the recent redistribution of the force and to other post-war changes, many of the existing section houses were so situated that it was no longer possible to utilize them to their full extent, or to secure an even distribution of single men among the various local divisions of the force. That was an important matter, because it was essential that each division should have its quota of recruits.

The majority of the 180 police stations in the Metropolitan Police district, like the section houses, dated from Victorian days, and were quite out of date. Under the scheme which had been approved, about two-thirds of the total number of police stations would be reconstructed or otherwise adapted to meet modern conditions, and rather more than one-third would have to be replaced by entirely new stations, because they were too antiquated and inadequate to make reconstruction possible.

It was desirable that the married men should be provided with suitable quarters. Blocks of such houses had been built since the war, but, owing to financial difficulties, progress had been slow, and only about one-half of the number desired had been built. The provision of more married quarters was therefore to be accelerated. The main reason why more had not been put in hand was financial. Owing to the state of the money market, the present was an exceptionally favourable time for borrowing. For those reasons the Government had decided to introduce a Bill as soon as possible to enlarge the borrowing powers of the Receiver for the Metropolitan Police district, who was charged with the financial administration of the Metropolitan Police Force.



TRADE NOTES

[BY F. R. S. YORKE, A.R.I.B.A.]

Copper

THERE is a danger that "Development Associations," organized by industrial interests, may confine their activities too closely to "publicity" for the product that concerns them, whilst neglecting to take steps to ensure that it is used in a proper manner—and consequently in increasing quantities. By collecting, co-ordinating, and issuing in simple form the information concerning uses and methods of application of materials, etc., such associations can do more valuable work from every point of view than can ever be done by "boosting."

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The Copper Development Association appear to take this view, and to realize that in order to get copper used as it should be used, and so more widely appreciated, the first step is to give the potential user full and foolproof information.

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This month the Association issues the first practical handbook that has yet appeared concerning sheet copper work in building, and though the book is probably intended primarily for plumbers, it will, without doubt, prove invaluable to architects who are preparing working drawings or specifications for work in which copper is used. It gives gauges necessary for all kinds of work, recommendations concerning methods of fixing, jointing, etc., and contains a number of clearly drawn diagrams and construction details for general roofing work, incidental roofing details, rain-water goods, and strip copper work, such as cills and drips, copings, etc., light gauge copper roofing, corrugated copper, and copper tiles.

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The book will be sent free to architects who apply to the C.D.A., Thames House, Millbank, S.W.1.

Paint on Steelwork

It has been a normal practice to protect steelwork by covering it with five or six coats of paint; but it is said to be possible, by selecting correct materials, to achieve as effective a result with three coats over a works coat of boiled linseed oil. In any case, all coats will leave the steel if there is mill-scale present when painting is carried out. Messrs. Dampneys recommend a three-coat treatment, with first coat to seal and preserve the steelwork, second coat to keep the priming coat intact by isolating it from the atmosphere with its attendant moisture and chemical fumes; and third coat, quite differently constituted, because, since the first and second coats are linseed oil paints, they are likely in time to be affected by super-oxidation and hydrolysis. This third coat is an elastic enamel-like paint of heavy body, is waterproof, and provides a decorative finishing coat in any colour.

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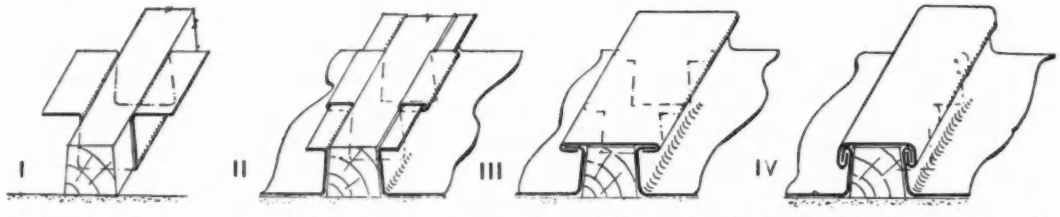
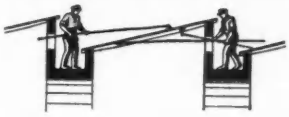
The first coat is a special Miraculum red lead preservative filler, that is well brushed into the pores of the steelwork, where it sets like cement. The real function of the other



American roll or batten seam for plain roofing work: A type commonly used in Scotland and U.S.A. is the tapered section which allows the copper to expand by pushing up the sides and raising the capping. In this type a copper strap 2 in. wide is placed under the wood roll at about 3 ft. intervals, and the roll screwed down on top (copper or brass screws should be used). The ends of the strap are turned up against the sides of the roll as shown in Stage I, the "bay pieces" or roofing sheets are turned up correspondingly, and the strap-ends turned over the ½ in. outstand as shown in Stage II. The capping is then turned over at the edges and slid along the outstand as shown in Stage III, and the edges welted down as shown in the final Stage IV. In Scotland this method is known as "clinked."



Above, a view of the new station roof at Rheims. The span is 96 ft. and the glazing is arranged for easy cleaning (see section on left). Reproduced from a recent issue of LA TECHNIQUE DES TRAVAUX.

two coats is to keep the preservative filler permanently intact. The second coat is a special fine graphite paint, brushed on to provide a continuous inert film, that is unaffected by chemicals in the atmosphere, and therefore isolates the primer.

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The third coat is weatherproof and dries with a gloss-like surface, so that dirt cannot easily adhere to it. The principle of this treatment is first to protect the steel, and then to isolate the protective covering from the atmosphere, and finally to give the painted surfaces a finish of pleasant colour.

SOCIETIES AND INSTITUTIONS

LIVERPOOL ARCHITECTURAL SOCIETY

Mr. L. G. Pearson, F.R.I.B.A., lectured last week on "The Hospital of the Future" to the Liverpool Architectural Society

The usual ward, he said, had become more or less standardized as to size. One point was definitely established. The number of beds in one ward should not exceed 16 and might be considerably less.

The question as to whether the main axis of the ward should or should not be North and South was interesting, but it had been held that the best position for the axis was North-east/South-west so that every part of the building was at some part of the day bathed in sunshine. This led us to the question of cross-ventilation. Since the day of Lister fresh-air was no longer the only disinfectant but most medical authorities agreed that except in the case of patients recovering from the effects of an operation a supply of fresh air to the patient's lungs was essential. This need not be accompanied by annoying draughts.

On the Continent, and to some extent in this country, a type of ward with windows on one side only was much in vogue, but the dark central corridor which sometimes accompanied this type of ward was to be condemned. The cross-ventilated ward would probably survive in a modified form although other types would be continued with it so that there was more variety and flexibility.

Would a more vertical type of building prove more economical and efficient? In the past English hospitals had been too scattered and they had grown up in a haphazard way, which had hampered their efficiency. But it was doubtful whether buildings of more than six or seven storeys in height, such as the Birmingham Medical Centre, would ever become popular.

The greater the height, the greater the space between was the rule for all buildings, so that to some extent the advantage of going up was not so great as it appeared. Space round a hospital for future expansion was of the greatest importance and this had a bearing on the choice of site.

Among hospital authorities today there was a strong feeling that as medical requirements changed so rapidly the plan of the hospital must be such that the building could be readily adapted to these changes. To plan hospitals as "temporary" or "semi-permanent" was for various reasons not to be recommended, so that we were forced to contrive some form of plan and construction that was flexible.

The "unit" system of planning would be useful for this purpose. Arranging the building as far as possible in bays of 8-feet to 10-feet or thereabouts might meet the case, as these were the standard bed centres. The internal division walls could be of light but sound-proof material which could be easily moved in case of alteration in size or use of room. This method of planning would necessitate, of course, a "framed" method of construction. The solid brick walls of varying thicknesses according to the storey would no longer be suitable and the framed building, whether of reinforced concrete or steel frame type could have the further advantage of allowing greater openings for light and air.

For the hospital of the future there must be more flexibility than in the past and an altogether more unconventional type of planning must be evolved. The exterior would probably be of simple outline, perhaps what the public would call the "box of bricks" variety, but the opportunities for sun balconies, lift towers, wide window spaces and so on should provide many opportunities for the designer.

BOROUGH POLYTECHNIC

An exhibition of students' work is to be held at the Borough Polytechnic, Borough Road, S.E., on December 14 (6 to 9 p.m.) and December 15 (2.30 to 9 p.m.).

ARCHITECTURAL ASSOCIATION

The fifth of a series of public lectures on "Building England" was delivered by Mr. F. R. Yerbury at the Architectural Association on December 1. The lecturer, who dealt with "The Seaside," said:

"Anyone privileged to build a completely new seaside resort on a properly planned basis would probably produce something quite different from those created a hundred years ago. He would probably plan his front to the sea for restaurants and hotels, with the road in front of them completely given up to pedestrian traffic, and with wide lawns and flower gardens leading to the parade and beach itself. The new railway station would be brought as near to the sea front as possible, but it would bring the traveller out into a well-designed and tree-planted forecourt which would give him a glimpse of the sea immediately upon his arrival. Coaching stations would be provided in the proximity and parking places for private cars. There would, of course, be an aerodrome.

"The ideal seaside resort can only be developed by real planning and a plan which not only makes provision for the present but for all sorts of future developments. With the magnificent coast which Great Britain possesses we should easily be able to retain a supremacy in seaside resorts on account of natural beauties, fine bathing beaches and health-giving air, if we make provision for the protection of these amenities by properly conceived co-ordinated plans."

HOUSING

The Council for Research on Housing Construction at a meeting last week, at the offices of the Chartered Surveyors' Institution which was presided over by Lord Dudley, agreed upon the publication of a report on *Housing Standards and Statistics* prepared by a Panel of the Council, under the chairmanship of Dr. Coates.

In its first report the Council had devoted attention to this matter, in the wide economic survey on the slum clearance problem, and stated in its final conclusions:

"The determination of housing policy is seriously hindered, and the accurate estimation of national and local housing needs is made impossible by the lack of adequate statistical information on housing conditions. More serious still is the lack of clearly defined and nationally accepted minimum standards for housing, without which mere statistics are not of much practical use. The determination of standards and the improvement of statistics are matters of urgent and vital importance."

The report of the Housing Standards and Statistics Panel deals in the main with the objective and mechanism of a national housing survey.

Lord Dudley drew attention to the fact that the Council had, in its first report, dealt mainly with the construction and planning of flats and tenements for congested central areas but had foreshadowed another report dealing with suburban and satellite developments. It was decided that in its future programme of work the Council would examine the application of modern building technique and standards to the construction of cottages and two-storey flats and concurrently the cognate problems of town planning in relation to industry, agriculture and transport.

LAW REPORT

BUNGALOW UNFIT FOR HABITATION—COMPENSATION

Smith v. *Paul.—Chancery Division. Before Mr. Justice Farwell.*

THIS matter came before the Court on a counter-claim by the defendant, Mr. Wm. M. Paul, of the Orchard, Park Avenue, Birchington, in an action brought by Mr. Henry Smith, of Dane Crescent, Ramsgate, against Mr. Paul with regard to the sale of two bungalows and land at Birchington.

It appeared that in September, 1933, defendant agreed to purchase from the plaintiff two bungalows with orchard and gardens situate in Park Avenue, Birchington, for the sum of £1,000, a deposit of £100 being paid. The property consisted of a brick-built bungalow and a timber-built bungalow, and plaintiff's case was that defendant had accepted the title and was in possession.

The matter now before the court was for counter-claim of the defendant for compensation or recession of the contract and return of his deposit on the ground that the timber bungalow was represented as fit for habitation, when as a matter of fact it was not fit for human habitation, not having been passed by the local authority.

Mr. Potts appeared for the plaintiff and Mr. Grey for the defendant.

Defendant gave evidence that as soon as he got into possession of the timber bungalow, the surveyor came along and told him that the bungalow did not conform with the Council's bye-laws and was not habitable.

Mr. Butterworth, surveyor of Birchington, said he prohibited the use of the timber bungalow because it did not comply with the bye-laws. He had told Smith that the wooden bungalow was not to be used as a habitable place. He gave the plaintiff notice to that effect and he agreed not to use it as a dwelling house.

Mr. Eric Edward Wellesley Cole, of Cole and Hardie, estate agents, surveyors, etc., of Margate, said he had considered the value of the timber bungalow and had inspected the property. He formed the opinion that the property as a whole if both bungalows could be used as dwelling houses was worth £1,000. He valued the timber bungalow at £240 if it could be used as a dwelling house. If it could not be so used he put its value at about £175.

Mr. Potts did not call his client and said he could not deny that the representations were made, or the evidence of the district surveyor. His client would like a decree of specific performance and his lordship to assess the amount of compensation the defendant was to have with regard to the wooden bungalow.

His lordship, in giving judgment, said originally the plaintiff was asking for specific performance of an agreement of September, 1933, by which he agreed to sell and the defendant to buy the two bungalows and land for £1,000. The contract was in writing and the title was accepted and the conveyance was engrossed, but there were difficulties because it was found that one of the two bungalows was unfit as a dwelling house because it was said to have been condemned by the surveyor. Defendant put in a defence by which he claimed a right to a recession of the contract and counter-claimed for recession or alternating for specific performance and compensation. The action was dismissed for want of prosecution in October last and it now came on on the defendant's counter-claim. Mr. Potts had taken certain points in regard to the right of the defendant to specific performance with compensation. Mr. Potts had agreed, however, to that, and the only question now was the amount of compensation to which the defendant was entitled. His lordship thought that one thing was clear and that was that the wooden bungalow was not a building to be used as a private dwelling house at all, and it was quite plain that there was a representation, if not in the contract itself, that it could be so used. He had been given some evidence by a surveyor as to the value of the timber bungalow, but His lordship was not sure that he had not put the value too high. The question was what was its value at the date of the contract. Considering all the circumstances he thought the amount of compensation should be fixed at £175. He made an order for specific performance for the sale of the property at £1,000 less the deposit and £175. Plaintiff must pay the defendant's costs of the counter-claim. Plaintiff would have interest at 5 per cent. from October 10 till the date of payment.

Manufacturers' Items

A four-page leaflet illustrating and describing Drytone doors has recently been issued by Messrs. Drytone, Ltd., of Drytone House, 65 High Street, Camden Town, N.W.1. An illustration of one of these doors—No. 024—is reproduced on this page. Copies of the leaflet are obtainable on application to the firm at the address given above.

A Drytone door. See note on this page.

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Mr. B. A. Swan has been appointed manager of the publicity and sales promotion department of The United Steel Companies, Ltd., Sheffield, in succession to Mr. F. Rowlinson, who has joined the firm of Rowlinson Broughton, advertising agents, Manchester.

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Much interest is being shown in an exhibit by the Ioco Rubber & Waterproofing Co., Ltd., of Glasgow, at Vickers House Showrooms, Broadway, Westminster. The Artoco panels, which are being exhibited, are claimed to be suitable for interior use and consist of bakelite veneers in over 30 designs, grains and colours, mounted on plywood. They are also claimed to be unbreakable, noise and heat insulating, and permanent, and can be used for wall and ceiling panels, commercial, domestic and institutional. Those who cannot visit the showrooms should apply to the company, at Netherton Works, Anniesland, Glasgow, W.3, for samples and particulars of the panels.

THE BUILDINGS ILLUSTRATED

Following are the names of the general contractors and some of the sub-contractors for the buildings illustrated in this issue :—

Latymer Court, Hammersmith (pages 851-854). General contractors, E. D. Winn & Co., Ltd. Specialists: John Dewar, M.I.STRUCT.E., and S. W. Budd, M.INST.C.E., constructional steelwork; W. W. Nobbs, M.I.MECH.E., M.I.H.V.E., M.AMER.SOC.H.V.E., heating and hot water installations; W. C. C. Hawtayne, M.I.E.E., electric passenger & service lift installation; H. Booker, electric light power & telephone installation. Sub-contractors: Caxton Floors, Ltd. floors; Chase & Co., Ltd., heating and ventilation; T. Clarke & Co., Ltd., electrical work; Dorman, Long & Co., Ltd., steelwork; Joseph F. Ebner, flooring; Potter Rax Gate Co., Ltd., lift enclosures; Electrolux, Ltd., refrigerators; Etchells, Congdon and Muir, Ltd., lifts; W. N. Froy and Sons, Ltd., fireplaces and sanitary fittings; Girling's Ferro Concrete Co., Ltd., granolithic; A. Goldstein & Co., glass; W. James & Co., Ltd., metal windows; Ragusa Asphalte Paving Co., Ltd., asphalte; Websters Brick Works, bricks; Haywards, Ltd., lantern lights; Allied Guilds, Ltd., stonework; Constable Hart & Co., Ltd., roads and paths; Roofing Specialists, Ltd., roof tiling; The General Electric Co., Ltd., electrical fittings.

Farnborough Road School, Birkdale (pages 856-857). General contractors, E. Taylor & Co., Ltd. Sub-contractors: F. Brown and Son, Ltd., tile roofing; Trussed Concrete Steel Co., Ltd., concrete floors; Heyes Bros., Ltd., plumbing; J. Brooks and Co., heating; Mitchell Bros., wood block floors; F. W. Smith & Co., electric lighting; Jas. Gibbons, Ltd., cloakroom fittings; W. and R. Leggett, Ltd., locks and door furniture; Williams and Watson, Ltd., patent glazing; The Ravenhead Sanitary Pipe and Brick Co., Ltd., bricks; Blockleys, Ltd., tiles; Christie Patent Stone Co., pre-cast stonework; Haworth and Son (Southport), Ltd., carpets; J. D. Rushton, curtains; J. Richardson and Son, tables, cupboards and benches; Broadbents, Ltd., furniture and towels; R. W. Aldridge, pianos and gramophone; Royse, Dennison and Smith, chairs; Wake and Dean, Ltd., locker desks; Educational Supply Association, infants' dual tables; The North of England School Furnishing Co., infants' single desks; Smith & Co., chairs (infants); Kingfisher, Ltd., chairs (juniors); Mattozene, blackboards.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

BARKING. *School.*—The Education Committee has obtained sanction to borrow £20,800 for the purchase of a site at the Manor Farm estate for the erection of a school.

BERMONDSEY. *Tenements and Shops.* The B.C. is to provide tenements and shops on the Cherry Garden Street area at a cost of £34,000.

COULSDON. *Library.* The U.D.C. is to consider the question of the provision of a Public Library at Purley, the cost being estimated at £20,000.

CROYDON. *Houses.* Plans passed by the Corporation: Four houses, Dunheved Road South, for Mr. P. Richardson; two houses, St. Peter's Road, for Messrs. Hooker and Rogers; two houses, Oak Avenue, for Messrs. Chart, Son and Reading; four houses, Mulberry Lane, for Mr. P. Richardson; three shops, Old Town, for Messrs. F. W. Rees and Partners; two houses, Lake Road, for Messrs. Burcote, Ltd.; factory, Progress Way, for Croydon Factory Estate, Ltd. Plans submitted: two houses, Kimberley Road, for Mr. J. G. Cooper.

CROYDON. *Swimming Pool.* The Corporation has obtained sanction to borrow £11,707 for the bath and surrounds and £860 for equipment at the open-air swimming pool.

EALING. *Station, Shops, etc.* Messrs. Haymills, Ltd., are to develop the junction of Corringway and Western Avenue, by the rebuilding of Park Royal Station, the erection of a number of shops, laying out greens between Corringway and Heathcroft, and the construction of a service road.

EDMONTON. *Schools.* The U.D.C. is in negotiation with Enfield U.D.C. for the purchase of approximately 10 acres of land at Cuckoo Hall Lane, for school purposes.

ENFIELD. *Houses.* Plans passed by the U.D.C.: 10 shops, High Street, Ponders End, for Mr. M. Holmes; 20 houses, Connaught Avenue, for Messrs. W. Goodchild & Co.; 32 houses, Lincoln Way, for Mr. F. R. St. John; new street and 13 houses, off Cedar Road, for Mr. E. J. Barnes.

FINCHLEY. *Flats.* Plans passed by the Corporation: 12 flats, Lyttleton Road, for Mr. G. Payne; three houses, Abbots Gardens, for Messrs. Comben and Wakeling, Ltd.; two houses, Kingsley Way, for Mr. L. C. Gibson; 27 flats, Deanway, Hampstead Garden Suburb, for Mrs. McGregor; 18 flats, Regents Park Road, for Mr. H. M. R. Pothecary. Preliminary approval has been given to schemes for the erection of flats on the site of Elm House and Maple House, Ballards Lane, for Mr. H. C. Hollis, at the junction of Bow Lane and Great North Road, for Messrs. Weir, Burrows and Weir, at the junction of Granville Road and Great North Road for Messrs. Clutton, and at the junction of Bishops Avenue and Aylmer Road for Mr. S. Stern.

FULHAM. *Dwellings.* The B.C. Housing Committee has approved the final plans of the Borough Engineer for the erection of a block of 27 dwellings at Breer Street, and recommends that tenders be obtained for the work, which is estimated to cost £17,919.

GREENWICH. *Rehousing.* The L.C.C. is to clear the Eastney Street area, and provide rehousing accommodation. at a cost of £60,000.

HAREFIELD. *Sanatorium.* The Middlesex C.C. is seeking sanction to borrow £199,573 for rebuilding the county sanatorium. Thirteen tenders were obtained for the work, and the C.C. recommends the tender £199,000, of Messrs. E. D. Winn & Co., Ltd.

HAYES. *School.* The Middlesex Education Committee has purchased a site on the Home Farm estate, Mellow Lane, for the erection of an elementary school.

LEWISHAM. *Flats, Houses and Garages.* The B.C. has passed the following plans: Flats, Queen's Road, Forest Hill, for Messrs. Bertram Carter and Sloot; land lay-out and houses, Bellingham Road and Whitefoot Lane, for Messrs. Wates (Streatham), Ltd.; maisonettes, Sydenham Park, for Mr. C. Harvey; block of garages, Torrington Court, Sydenham, for Messrs. Waring and Nicholson, Ltd.

MILL HILL. *Shops.* Messrs. Ernest Owers, Ltd., propose to develop land on the south side of Barnet by-pass, east of Selvage Lane, by the erection of shops and the construction of a service road.

PADDINGTON. *Slum Clearance.* The B.C. is to proceed with the clearance of part of the Artesian Road, North Wharf Road, Portsdown Place and Andover Place areas.

RICHMOND. *Bridge.* The Joint Committee as to Thames Bridges of the Middlesex and Surrey County Councils recommends a scheme by Sir Harley H. Dalrymple-Hay for the widening and improvement of Richmond Bridge at an estimated cost of £73,000.

ST. PANCRAS. *Rehousing.* The L.C.C. has purchased a site in Highgate Road for a rehousing scheme.

SHENLEY. *Hospital Accommodation.* The Middlesex C.C. is to provide additional accommodation for nurses at the metal colony, at an estimated cost of £16,000.

SOUTHGATE. *Houses, Shops and Cinema.* Plans passed by the Corporation: 12 houses, Avenue Road and Nursery Road, for Messrs. Harwood Nash & Co.; 28 houses, Chase Road, for Mr. G. W. Newman; 76 houses, The Larches, for Mr. G. W. Newman; two houses, Morton Way, for Mr. H. Cohen; two houses, Vicars Moor Lane, for Mr. G. W. S. Ingram; 34 houses, Sheringham Avenue, Oak Lodge estate, for Mr. G. W. Newman. Plans submitted: 45 houses, Pasteur Gardens estate, for Mr. E. Pollex; two shops, Station Parade, Bramley Road, for Messrs. C. W. B. Simmonds, Ltd.; 24 flats (lay-out plans), High Street, for Mr. G. P. Bath; new cinema, The Bourne, for Mr. Bertie Crewe.

SOUTH TOTTENHAM. *Hospital.* The L.C.C. is to modernise the North-Eastern Hospital, at an estimated cost of £209,443.

SOUTHWARK. *Reconstruction.* The L.C.C. is to reconstruct the Ketworth Street area at a cost of £23,000.

WEALDSTONE. *School.* Middlesex Education Committee is to erect an elementary school for 1,000 near Locket Road.

SOUTHERN COUNTIES

BEXHILL. *Houses.* The Corporation has asked the Borough Engineer to prepare plans for the erection of 30 houses in London Road.

GRAVESEND. *Houses.* At the Housing Committee of the Coporation the architect reported that as instructed he had reduced the amount in respect of which the Corporation are seeking a loan sanction, in respect of the erection of 201 houses at the West Court Farm estate; the amount now required is £71,631, as against the original estimate of £80,430. The recommended tender for the work is £68,985.

OXFORD. *Houses and Shops.* Plans passed by the Corporation: Two shops, Oxford Road, Cowley, for Miss J. A. Knott; six houses, Quarry Fields estate, Headington, for Messrs. Walker and Baker; four houses, Five Mile Drive, for Messrs. Hinkins and Frewin, Ltd.; six houses, Cricket Road, for Mr. A. G. H. Simmons; 16 houses, Quarry Fields estate, Headington, for Messrs. Pye Bros.; three shops, Oxford Road Cowley, for Home and Colonial Stores, Ltd.; 12 houses, Rose Hill, for Messrs. Pye Bros.; two houses, Pitts Road, for Mr. G. Jones; 12 houses, Quarry Fields estate, Headington, for Mr. J. J. W. Aston; two shop fronts, Church Cowley Road, for Messrs. N. Moss and Sons, Ltd.; 22 houses, Quarry Fields estate (Road, No. 2), Headington, for Mr. A. E. Harris.

SOUTH-WESTERN COUNTIES

PAIGNTON. *Houses.* Plans passed by the U.D.C.: Eight houses, Shorton Valley Road, for Messrs. W. H. Wills and Son; 19 houses, Oldway Road, for Mr. J. Maunder; six houses, Oldway Road, for Messrs. Lewis and Wills; two houses, Knapp Park Road, for Mr. F. G. Stockman; six houses, Kinghurst estate, Oldway Road, for Mr. H. T. Drew; 10 houses, Orient Road, for Mr. R. G. Rees; house, Blatchcombe Road, and seven houses, Edenvale Road, for Messrs. Diggines Bros. Mr. F. Binmore is to erect five shops and flats in Manor Road.

MIDLAND COUNTIES

GLOSSOP. *Slum Clearance.* The Corporation is to proceed with the clearance of the Woolley Bridge, Jackson's Court, Waterside, Linney's Court, Bowden's Yard and Gladstone Street clearance areas.

LEICESTER. *Museum and Art Gallery.* The Corporation is to acquire property at the Newarke for the erection of a museum and/or art gallery, etc.

MANSFIELD. *Houses.* Plans passed by the Corporation: Six houses, Chesterfield Road, for Messrs. Thos. Smith and Son, Ltd.; two houses, Clifton Grove, for Messrs. Mountford & Co.; 18 houses, Carisbroke Avenue, for Messrs. Rose, Curtis & Co.; six houses, Abbott Road, for Mr. J. Godber; two houses, Nottingham Road, for Messrs. H. Baggaley, Ltd.; 22 houses, Forest Avenue, for Mr. Thos. Fletcher; 10 houses, Little Barn Lane, for Mr. C. H. Hill; three houses, Clipstone Avenue, for Mr. J. W. Houfton. The Corporation is to obtain tenders for the erection of 52 houses on cleared areas and the Borough Engineer is to submit an estimate for the work.

STOKE-ON-TRENT. *Houses.* Plans passed by the Corporation: Two houses, Wilson Road, Hanford, for Mr. J. Barber; two houses, Stone Road, Trentham, for Mr. J. E. Robinson; four houses, Highfield Avenue, Oakhill, for Messrs. W. Ball and Sons; four houses, Ronson Avenue, Trent Vale, for Messrs. P. Bailey & Co.; 11 cottages, Stanfield Road, Stanfield, for Messrs. J. W. Thornley and Sons; eight houses, Kingston Avenue, Sneyd Green, for Mr. B. S. Phillips; two houses, Greasley Road, Bucknall, for Mr. W. Withington; 16 houses, off Leek New Road, Sneyd Green, for Messrs. Leake & Co.; four houses, Blurton Road, Blurton, for Messrs. Prestwood Bros.; 11 houses, Chaplin Road, Longton, for Messrs. J. E. Simister & Co.; 10 houses, Heron Cross, Fenton, for Messrs. P. Bailey & Co.; 28 houses, Colclough Lane and High Street, Goldenhill, for Mr. G. H. Wignall. Plans submitted: Eight houses and shops, Stanfield Road, Stanfield, for Messrs. J. W. Thornley and Sons.

NORTHERN COUNTIES

ECCLES. *Houses.* The Corporation is to obtain tenders for the erection of 80 houses on the Haddon Road estate.

JARROW. *Housing.* The Corporation has obtained sanction to borrow £47,190 for housing.

SHIPLEY. *School.* The U.D.C. and the County Education Committee are in negotiation with the Grammar School governors regarding the site for the new grammar school premises.

WALLASEY. *Houses.* At the Housing and Estates Committee of the Corporation the Town Clerk reported that the Minister of Health had approved the provision of 72 houses on the Mersey Street area for rehousing accommodation.

WALLASEY. *Houses, Roads and Sewers.* The Housing Committee of the Corporation has obtained sanction to borrow £24,500 for the erection of houses on the Mersey Street area, and sums of £429 and £2,751 for roads and sewers in the area.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A	Aberdeen ..	Scotland	1 6	1 1½
A_1	Abergavenny ..	S. Wales & M.	1 5	1 0½
A	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_2	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham ..	Mid Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton	N.W. Counties	1 5½	1 1½
A_2	Boston	Mid. Counties	1 4	1 0
A	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A	Brighton ..	S. Counties	1 4	1 0
A	Bristol	S.W. Counties	1 5½	1 1½
B	Brixham ..	S.W. Counties	1 2½	11
A	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
A	Burslem ..	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury	N.W. Counties	1 5½	1 1½
A	Buxton ..	N.W. Counties	1 5	1 0½
A_2	CAMBRIDGE ..	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A	Chelmsford ..	E. Counties	1 4	1 0
A	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester ..	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley ..	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A	Colchester ..	E. Counties	1 4	1 0
A	Colne	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorches ..	S.W. Counties	1 2½	11
A	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A_2	Dumfries ..	Scotland	1 5	1 0½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N.E. Coast	1 5½	1 1½
A_2	EASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorgan-shire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE	E. Counties	1 4	1 0
A	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S. W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A	Glasgow ..	Scotland	1 6	1 1½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	Gosport ..	S. Counties	1 4½	1 0½
A_2	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln ..	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12–15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_2	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middlesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid Counties	1 5½	1 1½
A	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth	Scotland	*1 5½	1 1½
A_2	Peterborough	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	Slough ..	S. Counties	1 4½	1 0½
A_1	Solihull ..	Mid. Counties	1 5	1 0½
A_2	Southampton	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stirling ..	Scotland	1 6	1 1½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud ..	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist. ..	N.E. Counties	1 5½	1 1½
A_2	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay ..	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall ..	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick ..	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby ..	Yorkshire	1 4½	1 0½
A	Widnes ..	N.W. Counties	1 5½	1 1½
A	Wigan ..	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor ..	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A	Wycombe ..	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil ..	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

		s.	d.
Bricklayer	per hour	1	7
Carpenter	"	1	7
Joiner	"	1	7
Machinist	"	1	8
Mason (Banker)	"	1	7
" (Fixer)	"	1	8
Plumber	"	1	7
Painter	"	1	6
Paperhanger	"	1	6
Glazier	"	1	7
Slater	"	1	7
Scaffolder	"	1	3
Timberman		1	3
Navvy	"	1	2½
General Labourer	"	1	2½
Lorryman	"	1	5
Crane Driver	"	1	6
Watchman	per week	2	10	0

MATERIALS

EXCAVATOR AND CONCRETOR

		£	s.	d.
Grey Stone Lime	per ton	2	2	0
Blue Lias Lime	"	1	16	6
Hydrated Lime	"	3	0	9
Portland Cement, in 4-ton lots (d/d site, including Paper Bags)	"	1	18	0
Rapid Hardening Cement, in 4-ton lots (d/d site, including Paper Bags)	"	2	4	0
White Portland Cement, in 1-ton lots	"	8	15	0
Thames Ballast	per Y.C.		6	3
¾" Crushed Ballast	"		6	9
Building Sand	"		7	3
Washed Sand	"		8	3
2" Broken Brick	"		8	0
¾" " "	"		10	3
Pan Breeze	"		6	6
Coke Breeze	"		8	9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

		4" s.	d.	6" s.	d.
Straight Pipes	per F.R.	0	9	1	1
Bends	each	1	9	2	6
Taper Bends	"	3	6	5	3
Rest Bends	"	4	3	6	3
Single junctions	"	3	6	5	3
Double	"	4	9	6	6
Straight channels	per F.R.	1	6	2	6
¾" Channel bends	each	2	9	4	0
Channel junctions	"	4	6	6	6
Channel tapers	"	2	9	4	0
Yard gullies	"	6	9	8	9
Interceptors	"	16	0	19	6
IRON DRAINS:					
Iron drain pipe	per F.R.	1	6	2	6
Bends	each	5	0	10	6
Inspection bends	"	9	0	15	0
Single junctions	"	8	9	18	0
Double junctions	"	13	6	30	0
Lead wool	lb.		6		—
Gaskin	"		5		—

BRICKLAYER

		£	s.	d.
Flettons	Per M.	2	18	0
Grooved do.	"	3	0	0
Phorpres bricks	"	2	17	3
" Cellular bricks	"	2	17	3
Stocks, 1st quality	"	4	11	0
" 2nd "	"	4	2	6
Blue Bricks, Pressed	"	8	17	6
" Wirecuts	"	7	17	6
" Brindles	"	7	0	0
" Bullnose	"	9	0	0
Red Sand-faced Facings	"	6	18	0
Red Rubbers for Arches	"	12	0	0
Multicoloured Facings	"	7	10	0
Luton Facings	"	7	10	0
Phorpres White Facings	"	3	17	3
" Rustic Facings	"	3	12	3
Midhurst White Facings	"	5	0	0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:				
Stretchers	"	21	0	0
Headers	"	20	10	0
Bullnose	"	27	10	0
Double Stretchers	"	29	10	0
Double Headers	"	26	10	0
Glazed Second Quality, *Less*	"	1	0	0
" Buffs and Creams, *Add*	"	2	0	0
" Other Colours	"	5	10	0
2" Breeze Partition Blocks	per Y.S.		1	7
2½" " " "	"		1	10
3" " " "	"		2	1
4" " " "	"		2	6

MASON

The following d/d F.O.R. at Nine Elms:		s.	d.
Portland stone, Whitbed	F.C.	4	4½
" " Basebed	"	4	7½
Bath stone	"	2	10
York stone	"	6	6
" " Sawn templates	"	7	6
" " Paving, 2"	F.S.	1	8
" " 3"	"	2	6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

		£	s.	d.
24"×12" Duchesses	per M.	28	17	6
22"×12" Marchionesses	"	24	10	0
20"×10" Countesses	"	19	5	0
18"×10" Viscountesses	"	15	10	0
18"×9" Ladies	"	13	17	6
Westmorland green (random sizes)	per ton	8	10	0
Old Delabole slates d/d in full truck loads to Nine Elms Station:				
20"×10" medium grey per 1,000 (actual)		21	11	6
" " green " "		24	7	4
Best machine roofing tiles	"	4	10	0
Best hand-made do.	"	5	0	0
Hips and valleys	each			9½
" hand-made	"			10
Nails, compo	lb.		1	4
" copper	"		1	6

CARPENTER AND JOINER

		s.	d.
Good carcassing timber	F.C.	2	2
Birch	as 1" F.S.		9
Deal, Joiner's	" "		5
" 2nds	" "		4
Mahogany, Honduras	" "	1	3
" African	" "	1	1
" Cuban	" "	2	6
O k, plain American	" "	1	0
" Figured "	" "	1	3
" Plain Japanese	" "	1	2
" Figured "	" "	1	5
" Austrian wainscot	" "	1	6
" English	" "	1	11
Pine, Yellow	" "	1	0
" Oregon	" "		4
" British Columbian	" "		4
Teak, Moulmein	" "	1	3
" Burma	" "	1	2
Walnut, American	" "	2	3
" French	" "	2	3
Whitewood, American	" "	1	1
Deal floorings, ¾"	Sq.	18	6
" 1"	"	1	6
" 1¼"	"	1	2
" 1½"	"	1	5
" 1¾"	"	1	10
Deal matchings ¾"	"		14
" 1"	"		15
Rough boarding ¾"	"	1	4
" 1"	"		16
" 1¼"	"		18
Plywood, per ft. sup. —Thickness ¼"	"	1	6

Qualities	AA.A.B. ¼" d.	d.	d.	AA.A.B. ½" d.	d.	d.	AA.A.B. ¾" d.	d.	d.	AA.A.B. 1" d.	d.	d.
Birch	4	3	2	5	4	3	7½	6	4½	8½	7	6
Alder	3½	3	2	5	4	3	6½	5½	4½	8	7	6
Gaboon Mahogany	4	3	3	6½	5½	4½	9½	7½	–	1/0½	10	–
Figured Oak 1 side	8½	7	–	10	8	–	11½	–	–	1/6	–	–
Plain Oak 1 side	6½	6	–	7½	7	–	9½	–	–	1/–	–	–
Oregon P.ne	5	4	–	5½	5	–	6	–	–	–	–	–

		d.
Scotch glue	lb.	8

SMITH AND FOUNDER

Tubes and Fittings:
(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	¼"	½"	1"	1¼"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
" 3"-11½" long "	7	9	1/3	1/8	3/–
Long screws, 12"-23½" long "	11	1/3	2/2	2/10	5/3
" " 3"M-½" long "	8	10	1/5	1/11	3/6
Bends	8	11	1/7½	2/7½	5/2
Springs not socketed "	5	7	1/1½	1/11½	3/11
Socket unions "	2/–	3/–	5/6	6/9	10/–
Elbows, square "	10	1/1	1/6	2/2	4/3
Tees "	1/–	1/3	1/10	2/6	5/1
Crosses "	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples "	3	4	6	8	1/3
Diminished sockets "	4	6	9	1/–	2/–
Flanges "	9	1/–	1/4	1/9	2/9
Caps "	3½	5	8	1/–	2/–
Backnuts "	2	3	5	6	1/1
Iron main cocks "	1/6	2/3	4/2	5/4	11/6
" " with brass plugs "	—	4/–	7/6	10/–	21/–

Discounts:

TUBES.

	Per cent.		Per cent.
Gas	65	Galvanized gas	52½
Water	61½	" water	47½
Steam	57½	" steam	42½

FITTINGS.

Gas	57½	Galvanized gas	47½
Water	52½	" water	42½
Steam	47½	steam	37½

SMITH AND FOUNDER—*continued*

		s.	d.
Rolled steel joists cut to length	cwt.	10	9
Mild steel reinforcing rods, ¾"	"	8	6
" " ½"	"	8	3
" " ⅝"	"	8	0
" " ¾"	"	7	6
" " ⅞"	"	7	6
" " 1"	"	7	6
" " 1¼"	"	7	6
" " 1½"	"	7	6

Cast-iron rain-water pipes of ordinary thickness metal	3" F.R.	4" s.	d.
		8	10
Shoes	each	2	0
Anti-splash shoes	"	4	6
Boots	"	3	0
Bends	"	2	7
" with access door	"	—	
Heads	"	4	0
Swan-necks up to 9" offsets	"	3	9
Plinth bends, 4½" to 6"	"	3	9
Half-round rain-water gutters of ordinary thickness metal	F.R.	5	
		6	
Stop ends	each	6	
Angles	"	1	7
Obtuse angles	"	2	0
Outlets	"	1	9

		£	s.	d.
Lead, milled sheets	cwt.		18	6
" drawn pipes	"		17	0
" soil pipe	"		18	6
" scrap	"		10	6
Solder, plumbers'	lb.			9½
" fine do.	"		1	0
Copper, sheet	"			8½
" tubes	"			11

L.C.C. soil and waste pipes:		3"		4"		6"	
Plain cast	F.R.	1	0	1	2	2	6
Coated	"	1	1	1	3	2	8
Galvanized	"	2	0	2	6	4	6
Holderbats	each	3	10	4	0	4	9
Bends	"	3	9	5	3	10	3
Shoes	"	2	10	4	4	9	6
Heads	"	4	8	8	5	12	9

PLASTERER

		£	s.	d.
Lime, chalk	per ton	2	5	0
Plaster, coarse	"	2	10	0
" fine	"	4	15	0
Hydrated lime	"	3	0	9
Sirapite	"	3	6	0
Keene's cement	"	5	0	0
Gothite Plaster	"	3	6	0
Thistle Plaster	"	3	6	0
Sand, washed	Y.C.		11	6
Hair	lb.			6
Laths, sawn	bundle		2	4
" rent	"		3	9
Lath nails	lb.			3½

GLAZIER

		s.	d.
Sheet glass, 21 oz., squares n/e 2 ft.	F.S.		2½
" " 26 oz.	" "		3
Flemish, Arctic, Figured (white)*	"		7
Blazoned glasses	"	2	6
Reeded; Cross Reeded	"		11
Cathedral glass, white, double-rolled, plain, hammered, rimpled, waterwite	"		6½
Crown sheet glass (n/e 12 in. x 10 in.)	"	2	0
Flashed opals (white and coloured)	" 1 and	2	0
¼" rough cast; rolled plate	"		5½
¼" wired cast; wired rolled	"		9½
¼" Georgian wired cast	"		11
¼" Polished plate, n/e 1 ft.	† 10 to ‡1		1
" " 2	†1 2 " ‡1		4
" " 4	†2 3 " ‡2		6
" " 8	†2 9 " ‡3		2
" " 20	†3 7 " ‡4		2
" " 45	†3 11 " ‡4		7
" " 100	†5 0 " ‡5		7
Vita glass, sheet, n/e 1 ft.		1	0
" " " 2 ft.		1	3
" " " over 2 ft.		1	9
" " plate, n/e 1 ft.		1	6
" " " 2 ft.		3	0
" " " 5 ft.		4	0
" " " "		5	0
" " " 15		6	0
" " " over 15		7	6
"Calorex" sheet 21 oz., and 32 oz.	2 6 and	3	0
" rough cast ¼" and ⅜"	"	8¾ "	1	0
Putty, linseed oil	lb.			3

* *Colours*, 1d. *F.S. extra.*
†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

		£	s	d.
White lead in 1 cwt. casks	cwt.	2	6	0
Linseed oil	gall.		2	2½
Boiled oil	"		2	4½
Turpentine	"		4	1½
Patent knotting	"		14	0
Distemper, washable	cwt.	2	0	0
" ordinary	"	2	0	0
Whitening	"		4	0
Size, double	firkin		3	0
Copal varnish	gall.		13	0
Flat varnish	"		14	0
Outside varnish	"		16	0
White enamel	"	1	15	0
Ready mixed paint	"		13	6
Brunswick black	"		7	6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR	£	s.	d.
Digging over surface n/e 12" deep and cart away . . . Y.S.		2	9
" to reduce levels n/e 5' 0" deep and cart away . . Y.C.		8	6
" to form basement n/e 5' 0" deep and cart away . . "		9	0
" " 10' 0" deep and cart away . . "		9	6
" " 15' 0" deep and cart away . . "		10	0
If in stiff clay . . . . . add "			6
If in underpinning . . . . . "		4	0
Planking and strutting to sides of excavation . . . F.S.		1	0
" " to pier holes . . . . . "			5
" " to trenches . . . . . "			5
" " extra, only if left in . . . . "			3
Hardcore, filled in and rammed . . . . . Y.C.		10	0
Portland cement concrete in foundations (6-1) . . . "	1	6	0
" " (4-2-1) . . . "	1	12	6
" " underpinning . . . "	1	16	0
Finishing surface of concrete, spade face . . . . Y.S.			7

DRAINLAYER		4" s.	d.	6" s.	d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1	6	2	3
Extra, only for bends	Each	2	8	3	9
" junctions	"	3	9	4	6
Gullies and gratings	"	16	6	18	0
Cast iron drains, and laying and jointing . . .	F.R.	4	9	6	9
Extra, only for bends	Each	10	6	15	6

BRICKLAYER	£	s.	d.
Brickwork, Flettons n lime mortar . . . . . Per Rod	27	10	0
" " in cement . . . . . "	28	15	0
" Stocks in cement . . . . . "	35	0	0
" Blues in cement . . . . . "	52	0	0
Extra only for circular on plan . . . . . "	2	0	0
" backing to masonry . . . . . "	1	10	0
" raising on old walls . . . . . "	2	0	0
" underpinning . . . . . "	5	10	0½
Fair Face and pointing internally . . . . . F.S.			1½
Extra over fletton brickwork for picked stock facings and pointing "			8
" " " red brick facings and pointing . "			11
" " " blue brick facing and pointing . "		1	4
" " " glazed brick facings and pointing "		3	6
Tuck pointing . . . . . "			7½
Weather pointing in cement . . . . . "			3
Slate dampcourse . . . . . "			10
Vertical dampcourse . . . . . "		1	1

ASPHALTER	s.	d.
½" Horizontal dampcourse . . . . . Y.S.	4	6
½" Vertical dampcourse . . . . . "	6	9
½" paving or flat . . . . . "	4	0
1" paving or flat . . . . . "	5	6
1" × 6" skirting . . . . . F.R.	1	6
Angle fillet . . . . . "		2
Rounded angle . . . . . "		2
Cesspools . . . . . Each	5	0

MASON	s.	d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete . . . . . F.C.	17	9
Bath stone and do., all as last . . . . . "	13	6
Artificial stone and do. . . . . "	13	0
York stone templates, fixed complete . . . . . "	10	6
" thresholds . . . . . "	13	6
" sills . . . . . "	1	0	6

SLATER AND TILER	£	s.	d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10" . . . . . Sqr.	3	10	0
Do., 18" × 9" . . . . . "	3	7	0
Do., 24" × 12" . . . . . "	3	17	0
Westmorland slating, laid with diminished courses . . . "	6	0	0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course . . . . . "	3	0	0
Do., all as last, but of machine-made tiles. . . . . "	2	16	0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey) "	4	6	0
" " " " " " (green) "	4	15	0

CARPENTER AND JOINER	£	s.	d.
Flat boarded centering to concrete floors, including all strutting . Sqr.	2	5	0
Shuttering to sides and soffits of beams . . . . . F.S.			8
" to stanchions . . . . . "			8
" to staircases . . . . . "		1	8
Fir and fixing in wall plates, lintols, etc. . . . . F.C.		3	9
Fir framed in floors . . . . . "		4	6
" " roofs. . . . . "		6	6
" " trusses . . . . . "		7	6
" " partitions . . . . . "		8	6
⅜" deal sawn boarding and fixing to joists . . . . Sqr.	1	14	6
1" " " " " " . . . . "	1	17	6
1¼" " " " " " . . . . "	2	3	0
⅜" × 2" fir battening for Countess slating . . . . "		9	6
Do. for 4" gauge tiling . . . . . "		12	0
Stout feather-edged tilting fillet . . . . . F.R.			4½
Patent inodorous felt, 1 ply . . . . . Y.S.		2	3
" " " 2 " . . . . . "		2	9
" " " 3 " . . . . . "		3	3
Stout herringbone strutting to 9" joists . . . . F.R.			10½
1" deal gutter boards and bearers . . . . . F.S.		1	2
1¼" " " " " . . . . . "		1	6
2" deal wrought rounded roll . . . . . F.R.			8
1" deal grooved and tongued flooring, laid complete, including cleaning off . . . . . Sqr.	2	1	0
1¼" do. . . . . "	2	10	0
1½" do. . . . . "	2	17	0
1" deal moulded skirting, fixed on, and including grounds plugge to wall . . . . . F.S.		1	6
1¼" do. . . . . "		1	9

CARPENTER AND JOINER—*continued*		s.	d.
1¼" deal moulded sashes of average size . . . . . F.S.		1	9½
2" " " " " " . . . . . "		1	11½
1½" deal cased frames double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ⅝" parting beads, and with brass faced axle pulleys, etc., fixed complete . . "		3	7
2" " " " " " . . . . . "		3	10
Extra only for moulded horns " . . . . . Each			6
1½" deal four-panel square, both sides, door . . . . . F.S.		2	0
2" " " " " " . . . . . "		2	8
1½" " but moulded both sides . . . . . "		2	4
2" " " " " " . . . . . "		3	0
4" × 3" deal, rebated and moulded frames . . . . . F.R.		1	0
4½" × 3½" " " " " . . . . . "		1	4
1½" deal tongued and moulded window board, on and including deal bearers . . . . . F.S.		1	9
1½" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages . . "		2	6
1½" deal moulded wall strings . . . . . "		2	1
1½" " outer strings . . . . . "		2	4
Ends of treads and risers housed to string . . . . . Each		1	9
3" × 2" deal moulded handrail . . . . . F.R.		1	3
1" × 1" deal balusters and housing each end . . . . Each		2	0
1½" × 1½" " " " " . . . . . "		2	9
3" × 3" deal wrought framed newels . . . . . F.R.		1	3
Extra only for newel caps . . . . . Each		6	0
Do., pendants . . . . . "		6	0

SMITH AND FOUNDER	£	s.	d.
Rolled steel joists, cut to length, and hoisting and fixing in position . . . . . Per cwt.		15	6
Riveted plate or compound girders, and hoisting and fixing in position . . . . . "		19	6
Do. stanchions with riveted caps and bases and do. . . . "		19	0
Mild steel bar reinforcement, ½" and up, bent and fixed complete "		17	6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g. . . . . F.S.			11
Wrot-iron caulked and cambered chimney bars . . . . Per cwt.	1	10	0

PLUMBER	£	s.	d.
Milled lead and labour in flats . . . . . cwt.	1	12	0
Do. in flashings . . . . . "	1	15	6
Do. in covering to turrets . . . . . "	2	3	0
Do. in soakers . . . . . "	1	7	6
Labour to welted edge . . . . . F.R.			3½
Open copper nailing . . . . . "			3
Close " " . . . . . "			4

Lead service pipe and fixing with pipe hooks . . F.R.	½" s.	d.	¾" s.	d.	1" s.	d.	1¼" s.	d.	2" s.	d.	4" s.	d.
	10		1	0	1	3	2	0	2	10	—	
Do. soil pipe and fixing with cast lead tacks . . .	—		—		—		—		—		5	6
Extra, only to bends Each	—		—		—		—		2	0	6	9
Do. to stop ends . "	6½		8		9		11		1	0	—	
Boiler screws and unions . . . "	3	3	3	9	5	0	8	0	—		—	
Lead traps . "	—		—		—		6	3	8	9	—	
Screw down bib valves . . . "	6	9	9	6	11	0	—		—		—	
Do. stop cocks . . "	7	0	9	6	12	6	—		—		—	

		s.	d.
4" cast-iron ½-rd. gutter and fixing	F.R.	1	0
Extra, only stop ends	Each	1	0
Do. angles	"	1	6
Do. outlets	"	2	9
4" dia. cast-iron rain-water pipe and fixing with ears cast on .	F.R.	1	2
Extra, only for shoes	Each	1	3
Do. for plain heads	"	5	6

PLASTERER AND TILING	s.	d.
Expanded metal lathing, small mesh . . . . . Y.S.	2	0
Do. in n/w to beams, stanchions, etc. . . . . "	2	9
Lathing with sawn laths to ceilings . . . . . "	1	3
½" screeding in Portland cement and sand for tiling, wood block floor, etc. . . . . "	1	5
Do. vertical . . . . . "	1	7
Rough render on walls . . . . . "	1	2½
Render, float and set in lime and hair . . . . . "	1	9
Render and set in Sirapite . . . . . "	1	11
Render, backing in cement and sand, and set in Keene's cement . "	2	9
Extra, only if on lathing . . . . . "		4
Keene's cement, angle and arris . . . . . F.R.		6
Arris . . . . . "		1½
Rounded angle, small . . . . . "		3
Plain cornices in plaster, including dubbing out, per 1" girth . "		1½
1" granolithic pavings . . . . . Y.S.	3	6
1½" " " " " " . . . . . "	4	6
6" × 6" white glazed wall tiling and fixing on prepared screed . "	17	6
9" × 3" " " " " " . . . . "	1	2	6
Extra, only for small quadrant angle . . . . . F.R.			8

GLAZIER	s.	d.
21 oz. sheet glass and glazing with putty . . . . . P.S.		7½
26 oz. do and do. . . . . "		8½
Flemish, Arctic Figured (white) and glazing with putty . . . "	1	1
Cathedral glass and do. . . . . "	1	2
Glazing only, British polished plate . . . . . "		7
Extra, only if in beads . . . . . "		2
Washleather . . . . . F.R.		4

PAINTER	s.	d.
Clearcolle and whiten ceilings . . . . . Y.S.		6
Do. and distemper walls . . . . . "		9
Do. with washable distemper . . . . . "	1	1
Knot, stop, prime and paint four coats of oil colour on plain surfaces "	3	3
Do. on woodwork . . . . . "	3	6
Do. on steelwork . . . . . "	3	0
Do. and brush grain and twice varnish . . . . . "	5	6
Stain and twice varnish woodwork . . . . . "	1	11
Stain and wax-polish woodwork . . . . . "	4	6
French polishing . . . . . F.S.	1	2
Stripping off old paper . . . . . Piece	2	0
Hanging ordinary paper . . . . . from "	2	9

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RAVEN PLASTER BOARD :

The board is composed of Gypsum Plaster and an especially-processed fibre of such a nature that plaster applied to the surface makes a perfect bond immediately it sets. It is a base for plastering on, and is distinct from those large-size wallboards which will not bond with plaster, but on which decoration is applied direct. With one coat of plaster it takes the place of wood laths and two coats, and is cheaper and quicker to erect, in addition to forming a lighter and therefore stronger ceiling.

The material may be fixed and finished with one coat of plaster in a day and the decoration commenced immediately. The rapid and hard set of the hardwall plaster enables work to be carried out independently of weather conditions, while the absence of lime prevents discoloration in the subsequent decoration.

CUTTING, JOINTING & FIXING :

When the fibre binding is scored at the required point of breakage, the brittleness of the enclosed plaster ensures a clean break over a straight edge, thus enabling both pieces to be used without waste.

Leave gap of 1/8" to 1/4" between adjacent boards, and stagger joints by commencing alternate rows with a half board.

For fixing to wood joists, studs, or to battens over brick or masonry surfaces the boards may be nailed direct with 1¼" x 12 W.G. Galvanized nails 6" apart and driven well home. The centre of each board should be nailed before the outer edges.

PLASTERING : ONE COAT WORK :

Fill joints with neat Hardwall plaster, lay on joints a thin band of plaster 4" wide, and immediately press in dry scrim cloth kept as flat as possible. When joints have set hard skim the entire surface with 1/4" coat of neat hardwall plaster and allow two to three hours for drying out before applying decoration.

: TWO COAT WORK:

The first or floating coat should be composed of two parts (by weight) of clean sharp sand with one part of hardwall plaster, unhaired. One ton covers 300 yards super, and the plaster should be laid direct on the board and forced into the joints.

Apply the second or finishing coat of neat hardwall plaster after the first coat has set good and hard.

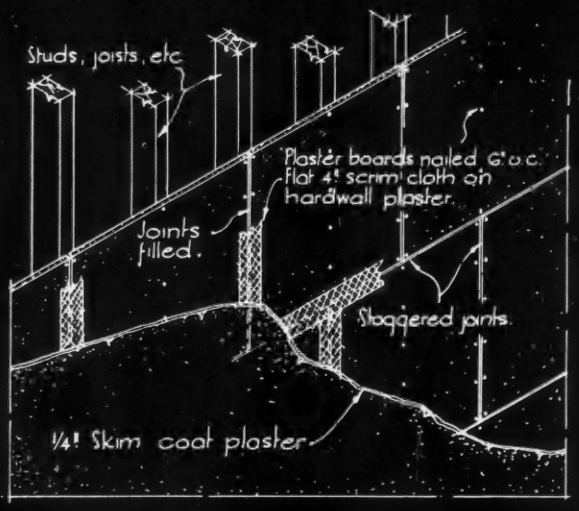
NOTE : Boards must not be wetted before plastering, nor should lime be used in the plastering material.

WEIGHTS & TESTS : For weight, tests of inflammability, adhesive and rupturing strengths and heat and sound transmission, see reverse side hereof.

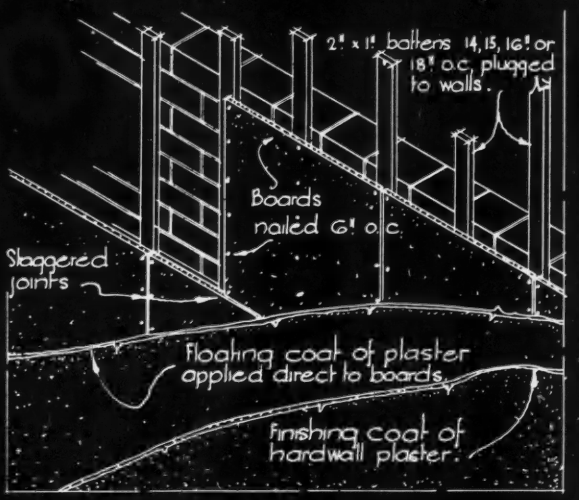
TABLE OF SIZES, ETC.

LENGTH.	BREADTH.	THICKNESS.	SPACING OF JOISTS, STUDS, BATTENS, ETC.
28 INS.	36 INS.	3/8 IN.	14 IN. C. TO C.
30 INS.	36 INS.	3/8 IN.	15 IN. C. TO C.
32 INS.	36 INS.	3/8 IN.	16 or 18 IN. C. TO C.

PLASTER BOARD APPLIED TO CEILING OR STUDDING (showing 1-coat work.)



PLASTER BOARD APPLIED TO BRICK WALLS OR MASONRY (1-coat or 2-coat work)



Information from Blackwells & National Roofings Ltd.

INFORMATION SHEET : PLASTER BOARD.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1.

THE ARCHITECTS' JOURNAL
LIBRARY OF PLANNED INFORMATION

INFORMATION SHEET

• 169 •

PLASTER BOARD

Product : Raven Plaster Board

Description :

Raven Plaster board, dealt with in this Sheet, is a board designed to serve as a backing to plaster, eliminating the usual laths, floating coats, etc., and providing a ready prepared backing on which one coat work can be quickly run and dried out. The absence of any lime allows decoration to be applied without loss of time, and prevents discoloration of the decoration at a later date.

Raven Plaster Board has been tested by recognised authorities whose reports are summarised below.

Adhesion :

The adhesion between Hardwall Plaster and Raven Plaster Board is over 18 lb. per sq. in.

Tests were made by placing a thin layer of plaster between two pieces of board and when dry pulling them apart.

This very high result is due to the special quality of the fibre used in the manufacture of the board.

Non-Inflammability :

The Building Research Station have tested Raven Plaster Board in accordance with the requirements of the British Standard Specification No. 476 for unperforated boards, and report that it comes under the *very low inflammability class.*

Strength :

The Building Research Station carried out bending tests on Raven Paster Board and report that the modulus of rupture in lb. per sq. in. varied from 594 to 688 lb. with an average of 636 lb. per sq. in.

Heat Transmission :

The thermal conductivity of Raven Plaster Board tested at the National Physical Laboratory was 2.9 B.T.U. per sq. ft. per hour for 1 deg. F. temp. difference, giving an equivalent thermal conductivity of 1.1 B.T.U.'s per sq. ft. per hour for 1 in. thickness.

Sound Transmission :

Tests were made on a timber partition built with 4 in. by 2 in. timbers and covered on both sides with Raven Plaster Board finished with scrim joints and a single skim coat of Hardwall Plaster, with the following results :

Frequency Cycles per Second	Sound reduction Factor(R)	Sound reduction in decibels (10 log R) 10
200	1,000	30
300	10,000	40
500	1,000	30
700	8,000	39
1,000	100,000	50
1,600	400,000	55
2,000	630,000	58
4,000	6,300,000	68

Weight :

140 sq. yards of Raven Plaster Board (unplastered) weight one ton.

Name of Manufacturers : Blackwells and National Roofings, Ltd.

Address : Carlton Road, South Croydon, Surrey

Telephone : Croydon 2168

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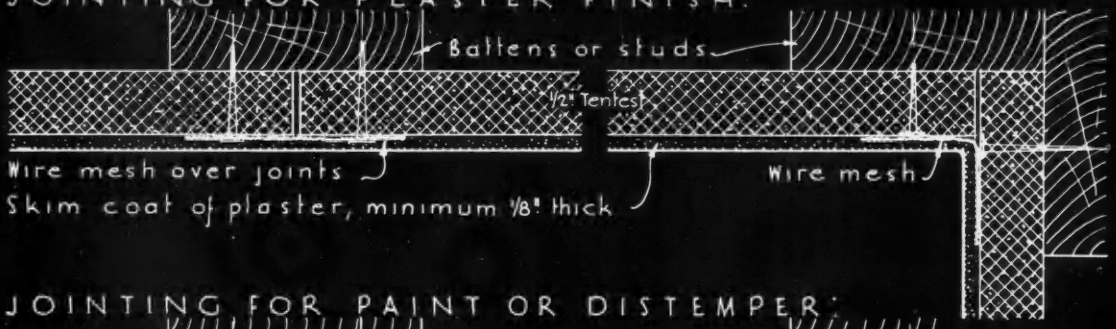
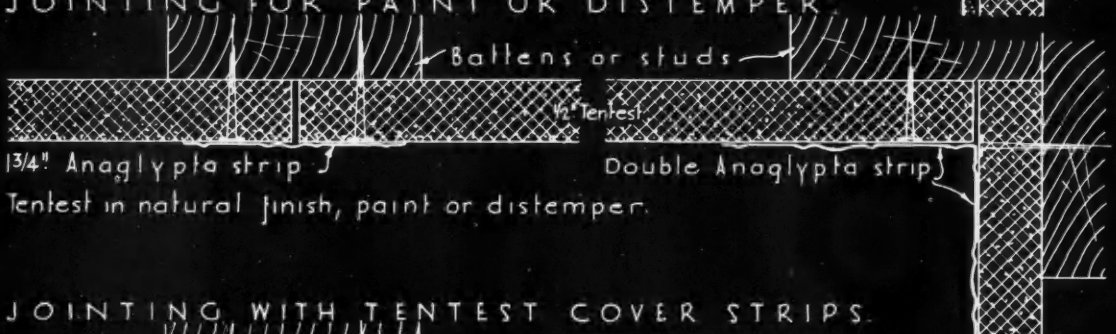
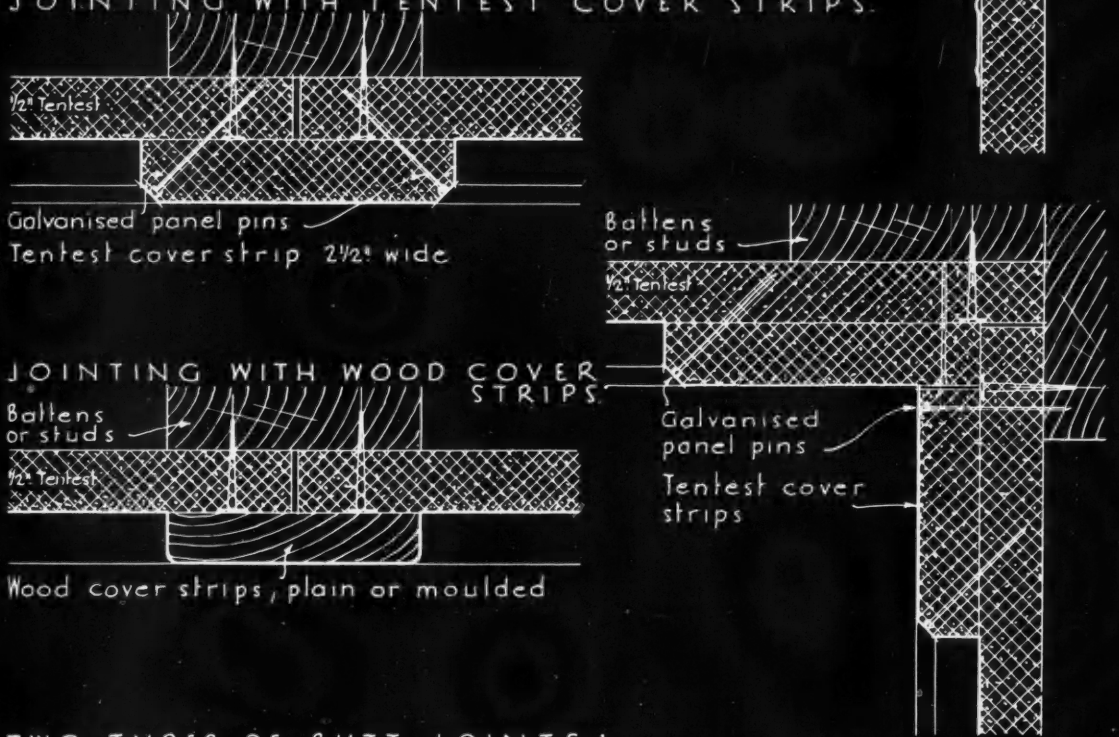
JOINTING FOR PLASTER FINISH:



JOINTING FOR PAINT OR DISTEMPER:



JOINTING WITH TENTEST COVER STRIPS.



JOINTING WITH WOOD COVER STRIPS.

TWO TYPES OF BUTT JOINTS:

Information from the Tentest Fibre Board Co Ltd.

INFORMATION SHEET: METHODS OF JOINTING TENTEST FIBRE BOARD

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON.WC1

INFORMATION SHEET • 170 • WALLBOARDS (TREATMENT OF JOINTS)

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 170 •

WALLBOARDS
(TREATMENT OF JOINTS)

Name of Product : TenTest Fibre Board

Description :

This is the first of a series of Information Sheets showing various methods of treating the joints in wallboards, a problem which has, for many years, offered considerable difficulties.

Opinions as to the best method of joint treatment are many, but, generally speaking, they come under four headings :—

1. PLASTER—thus hiding the joint entirely.
   Where a plaster finish is required, wire mesh is used over the joints.
2. COVER STRIPS of various materials giving a panel effect.
   The cover strips can be of paper-faced linen, corrugated anaglypta strip in single or double widths, bevelled fibre board strips or wood.
3. BUTTED—exposing the joints—making no attempt at concealment.
   This method is well worth consideration, as excellent effects have been secured. The boards can be cut to any size and shape and arranged in patterns.
4. ACCENTUATED. This method is becoming exceedingly popular, and there is much to be said in its favour. The edges of the board can be bevelled before or after fixing or left square and spaced apart, showing a channel effect.

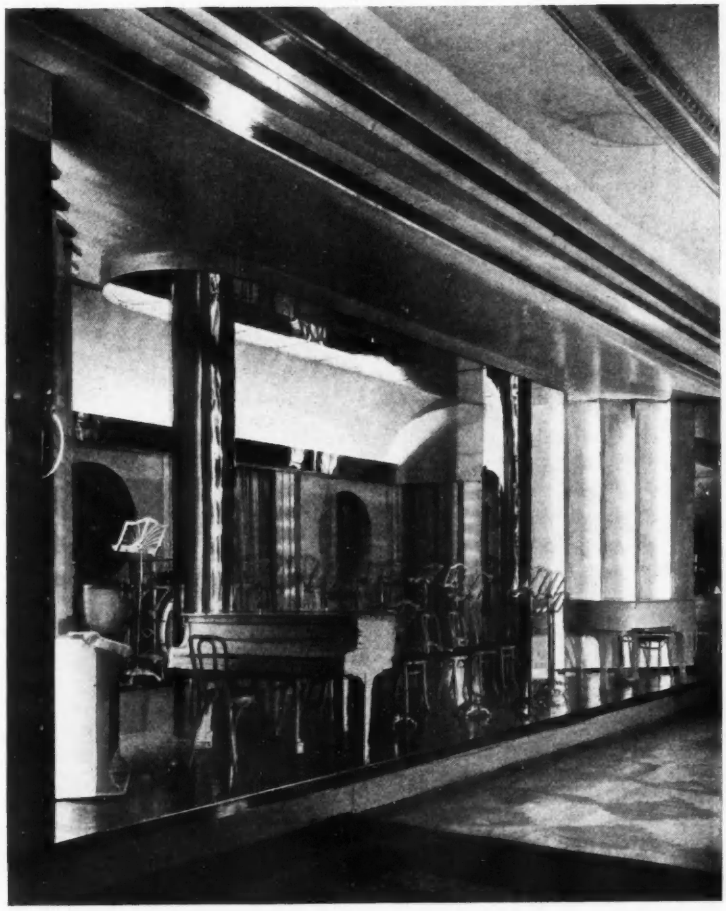
Name of Manufacturers : TenTest Fibre Board Co., Ltd.

Address : Astor House, Aldwych, London, W.C.2

Telephone : Holborn 8018

AT THE SAVOY HOTEL

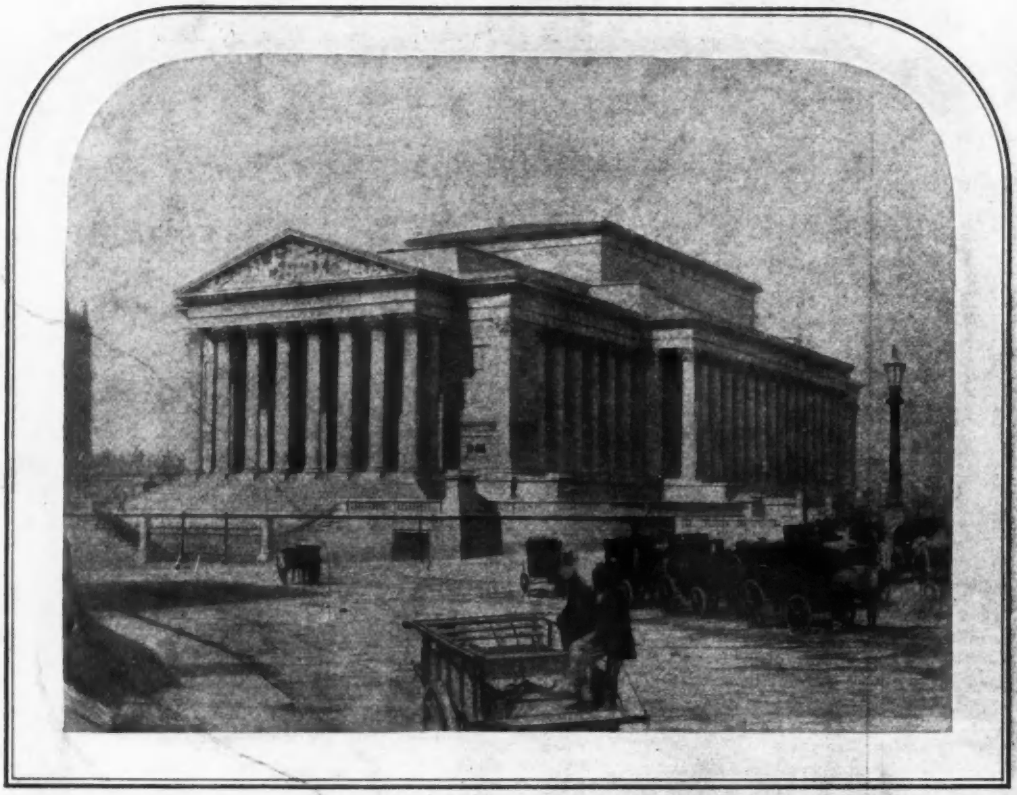
SETTING FOR DANCE BANDS



A RECONSTRUCTED setting for the dance bands and cabaret entertainments has been opened in the restaurant foyer of the Savoy Hotel, London. This consists of a new platformed recess for the dance bands, built at the rear of the rising floor on which the cabaret artistes appear.

The opening of the recess is framed in columns of mirror glass, and across the proscenium there is a cornice of polished sycamore and stainless steel. The sides of the recess, which are splayed for reasons of acoustics, are formed in receding planes of sycamore, lit by concealed lamps.

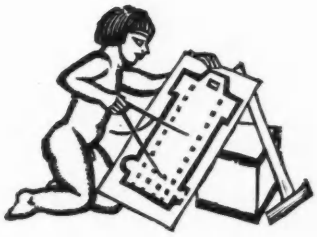
A portion of the ceiling is in mirror glass, and on the back wall, on either side of a curtained opening, through which the artistes make their entrances and exits, are two circular light boxes glazed with transparent mirror. The new opening is entirely free, except for two slender supports which are clothed in stainless steel. The architects for the new scheme were Stanley Hall and Easton and Robertson.



ST. GEORGE'S HALL, LIVERPOOL.

ELMES' DESIGN: AN EARLY RECORD

Above is a reproduction of an early photograph, taken about 1870 (or even earlier), of St. George's Hall, Liverpool, sent by a correspondent to show the difference between the original southern termination as designed by Harvey Lonsdale Elmes in 1839, and the southern end as it is today. The small photograph, reprinted from the historical summary that appeared in our issue for November 8, is the more recent one with which our correspondent compares his own. His letter pointing out the differences is printed on page 886.



STOP, CAUTION — GO: AN OPEN LETTER TO MR. HORE-BELISHA

WE, Sir, in common with a great many other people, have indulged in a certain amount of criticism of your recent experiments in organizing road traffic for the reduction of road accidents ; but our criticism does not diminish our ability honestly to congratulate you when you now attack the traffic problem in the whole-hearted manner its magnitude requires. The apparent shortsightedness of your earlier efforts in which a partial palliative was allowed to be a substitute for a radical cure—as exemplified by the beacon-fixation with which your department appeared to be imbued—only becomes a mild psychological idiosyncrasy when compared with the talent for courageous action that you now manifest. Transport is the key to a great many contemporary problems. The history of its development largely coincides with the general history of modern scientific development, the one continually reacting on the other. Inadequate organization of transport is also the source of many of our economic ills, and in announcing your ambitious scheme for the replanning of our road transport system (road transport being the form of transport of quickest growth that suffers most from confused expansion on individualistic lines) you prove your realization that bold—even ruthless—re-planning is of the utmost importance in this complicated age. It is most appropriate that you, Sir, as Minister of Transport, should take the first definite step to lead us (to expand the metaphor from your own department which is used in the heading to this article) out of the amber shade of cautious hesitation into the green light of confident advancement, which large-scale planning represents. You have given the signal to go forward, and set in motion machinery whose success in reaching the required destination will not only, we trust, provide the solution to your own problems but provide also encouragement to other departments to tackle theirs in a similar way.

There will be difficulties, of course, which you are bound to encounter : such bold projects as yours are always opposed by vested interests—both material and ideological (the latter, though sounding less sinister, are often far harder to overthrow)—and it is not easy to preserve a constant equilibrium between all the parties clamouring for your attention ; between the rights of the individual as an individual and as a member of the community ; between, for instance, the expedition of the motorist and the safety of the pedestrian ; between commercial expediency and ultimate economic benefit ; between the last and those less tangible amenities such benefits are apt to destroy—but of these difficulties you are no doubt fully aware. There are, however, some questions of a more specialized nature to which ample consideration will also have to be given, and to two of these in particular we would draw your attention.

First, traffic planning is an inseparable part of town planning, transport being only one of the services the organization of which the town planner has to design. Future traffic needs, for example, are dependent on future housing developments. Town planning is not just one of the " amenities " to which respect has to be paid. The best available town planning skill and experience must therefore be utilized, both from official and non-official sources. Secondly, unless the Bill to prevent ribbon-development which the Government has vaguely promised (and which you have declared to be completely separate from your new highway development scheme) be immediately put in hand, any improvements your scheme may effect will be endangered from the start. Ribbon development is one of the main causes of high road-accident figures, and the benefits of new arterial roads are almost nullified if ribbon-development is still possible along them.

In presenting these observations we do not seek to inform you of the complexity of the task you have undertaken. That is an aspect of it you must be more aware of than anyone. What we would do is to reassure you that, in opposition to the obstructive interests you are bound to encounter, there is a huge body of responsible opinion (not necessarily very vocal) from which you can be sure of whole-hearted support. May we congratulate you, Sir, on the momentous and very timely example you are setting of truly long-sighted departmental administration.

The Architects' Journal
Westminster, S.W.1
Telephones: Victoria
9212-7
Telegrams:
Buildable
Parl
London

NOTES & TOPICS

WHOSE SWAN SONG?

MLE CORBUSIER, the record of whose works are now brought up to date in a new book dealing with the period 1929–1934, reminds us that though modern architecture has won spectacular victories in every country during those five years, "1929-1934 is at the same time a period of tremendous reaction, the attack of all those only commercially interested—the swan song of a dying civilization."

*

Whether a civilization that is run by those who are only "commercially interested" can be patched up much longer is, perhaps for the first time since commerce became a sacred subject, being questioned all over the world. A new clean world of power and light and spacious liberties is sketched in these pages of suggestive illustrations. Shall we attain it in our time?

*

"The world's greatest happiness lies in action," is the concluding sentence of the author's introduction. Unfortunately men of action usually create fear and misery. Europe is now darkened by their military indiscretions and their lustful aggressions.

*

As Aldous Huxley recently remarked: "What is wanted is a world psychological conference." Followed, I suggest, by the compulsory study of M. le Corbusier's new book by statesmen everywhere.

HOUSING ENGLAND

Our own statesmen could absorb with particular profit to their collective intelligence the guide to housing problems and the building industry presented in a report by the Industries Group of P.E.P. This is now published under the title of *Housing England*, and a remarkably competent piece of work it is.

*

The evidence is collected and the facts examined in the proper laboratory spirit, and this publication is a model of lucidity, and its forcefulness is increased by a certain terseness of expression. Somebody has cut out every unnecessary word and captured nearly every essential fact.

ROBERT BYRON'S DRAWINGS

An exhibition of Robert Byron's drawings, illustrating his journey in Persia and Afghanistan, opened at the end of last week at Walker's Galleries, London. Mr. Byron, as those who know his fascinating book, *First Russia, Then Tibet* are aware, draws in a delicate, Ruskinian way. He has a sympathetic comprehension of the anatomy of architecture.

*

Some years ago the *Architectural Review* published many of his drawings in colour, in a special number on Russia. The pictorial record of his recent Asiatic journey is just as exciting. I gather that it was not a smooth, easy tour. On his travels Mr. Byron, willingly or unwillingly, appears to regard comfort as superfluous.

THE KING'S HOUSE

I have been looking through a list of the Royal Warrant Holders in order to form some sort of idea about the kind of building and equipment which we may expect to see at the King's House.

*

So far as I can see, there is no general contractor and there are certain other blank spaces. However, no doubt there will be some way of getting over these difficulties.

*

What specially interests me is the advisory panel of architects appointed by Sir Giles Gilbert Scott. These people will, I think, have their work cut out. I look forward to seeing their names.

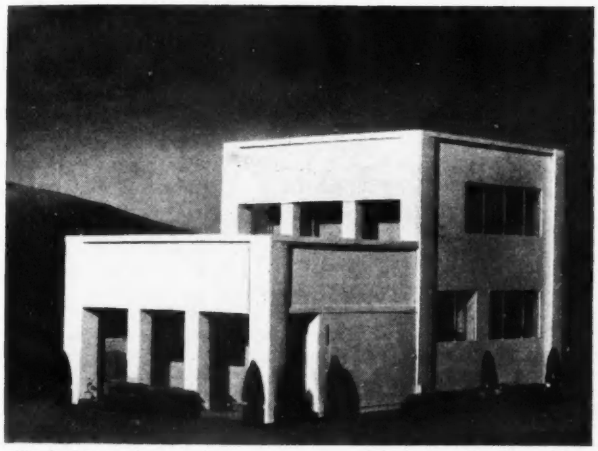
THE MODERN MOVEMENT IN THE NURSERY

I have been inspecting a modern house of bland and agreeable aspect, furnished with the richly simple comfort of our own time, and wholly desirable in accommodation and appearance. I could afford to buy it, for it is only twelve guineas furnished; but because I am more than three inches high I can't live in it.

*

It is designed by Mr. Ralph Wright, and the interior decoration and furnishing are by Miss Bertha Wright;

Verner O. Rees, F.R.I.B.A., author of the design placed first in the competition for a new library block for the University College of Swansea. *See page 878.*



Desirable modern residence, now on exhibition at Heal's. (See note below.)

it has been made by hand by Heal's, and is the most attractive doll's house I've ever seen.

ART AND INDUSTRY IN THE NEWS

There is a spate of books on industrial design, many writers having conceived the idea that the subject might be topical in view of the activities of the Royal Academy and the Royal Society of Arts in the early part of next year. The most able and comprehensive work I have yet seen is Mr. Herbert Read's *Art and Industry*.

*

Mr. Read uses the most caressing English. He has an orderly mind and a gift for simple exposition and the ability to marshall his facts ; and he never allows the mind of his reader to become confused. Unfortunately the typographical presentation of this admirably illustrated book allows the reader's eye to become confused, almost on every page.

*

The lay-out is full of bright stunts that I think really deserve the label "modernistic." And why in the name of all clarity have the contents page at the end of the book, just before the index ?

D.I.A. ANNUAL DINNER

I regret to say that I failed, last Friday at the Café Royal, to be impressed by the remarks of H.M. First Commissioner of Works. I will go further, and say that personally I thought that he was disappointing.

*

Mr. J. E. Barton, however, was not. He is always to be relied upon to stir things up. On this occasion he delivered himself of as much good sense in a few minutes as would last the entire Government for eighteen months—and on all sorts of subjects.

*

He drew attention, incidentally, to a cliché now much in use by almost everybody who is not an avowed "modernist," i.e., in sympathy with contemporary trends in design. "*It looks like a factory.*" That is the phrase which Mr. Barton couples (for absolute effeteness) with : "I don't know anything about Art, but I know what I like."

*

By the way, for the benefit of those who despair of ever getting well-designed things into common use, because the existing bad ones are so confoundedly durably made, Mr. Barton had a word or two of encouragement : The oldest type of G.P.O. telephone is now kept for hiring out to bookies.

*

I have always maintained that Sir Kingsley Wood was a genius.

*

LORENZO AND ALVIDA

Everybody knows (or ought to know, because I have been harping on the matter for years) that I am a firm believer in the A.A. Students' Pantomime. It has long been an essential part of my own personal prelude to Christmas.

*

Students are in an enviable position. They are, as it were, "on the course" but outside "the ring" ; they can observe architectural life while touching only the fringe of it ; and their strong suit is that, rude as they may be, everybody just laughs at their sallies—for the time being—and then goes home to feel and to enjoy the stings which would have hurt if they had been administered otherwise than in burlesque.

*

In past years at the A.A. there have always been some shrewd jabs at the profession, to say nothing of the internal personnel of the A.A. School. This year there is a great lack of this quality, which is the more surprising in view of the vast scope afforded by a new R.I.B.A. building, a conference in London, traffic problems, trolley 'buses, beacons, and such a variety of other things as might brighten Bloomsbury basements—and in the past have so done.

*

Perhaps the load is too great for one or two shoulders, in so far as the "production" is concerned. I feel a lack of versatility in the book and in the settings ; the producer (to me and to those others who have seen him in previous years) is wasted as such. Salaman is a complete "show" all by himself, *left* to himself.

*

I once emerged from an "A.A. Panto" (some years ago now) and heard somebody say to Robert Atkinson : "What did you think of it ?" "Not as good as next year," came the reply.

THE IRON ROAD

At the Public Health Exhibition recently held at the Agricultural Hall, Islington, there was a road made of cast-iron paving, which is said to have a non-skid surface. Nobody (except Mr. H. G. Wells in, I think, 1897) has yet thought of a glass road. But why not a road of toughened glass, lit from below, so that everything on it would be visible ?

*

What need of Belisha beacons, car lights, traffic policemen or lamp-posts, if the road surface itself was illuminated ? I once ventured to say something like this to Mr. Frank Pick. He didn't say anything. He just *looked*. I didn't say anything myself after that for two or three hours.

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

"*Mr. Hore-Belisha is convinced that the needs of the future cannot be boldly or intelligently faced, from the point of view of transport, in the absence of some general plan for a series of boldly designed and properly inter-related highway improvements*".. 876

"*The goal to be aimed at is a 'box of bricks' for adults*" 877

"*The pre-fabricated house in metal and minerals is not yet cheaper than the wooden frame house that the local contractor puts up*".... 891

"*This report is the first of the many post-war reports on housing which has sought to deal with the building industry as a whole*"..... 896

THE ARCHITECTS' DIARY

Thursday, December 13

R.I.B.A. *At 66 Portland Place, W.1. Exhibition of International Architecture, 1924–34. Open until January 3.*

INSTITUTION OF STRUCTURAL ENGINEERS. *At 10 Upper Belgrave Street, S.W.1. "The Code of Practice for Reinforced Concrete." By C. E. Reynolds.* 6.30 *p.m.*

INCORPORATED INSTITUTE OF BRITISH DECORATORS. *At the Royal Station Hotel, York. "The Colour Note in Modern Decoration." By Hugh Munro.* 7.30 *for* 8 *p.m.*

WALKER'S GALLERIES. *At 118 New Bond Street, W.1. Exhibition of Drawings, illustrating a Journey in Persia and Afghanistan. By Robert Byron. Until December 20.*

ARCHITECTURAL ASSOCIATION. *Bedford Square, W.C. Students' Pantomime. Also December 14.* 8.30 *p.m.*

Friday, December 14

TOWN PLANNING INSTITUTE. *At the Carlton Hall, Westminster, S.W.1. "Ribbon Development in Relation to the Traffic Problem, with Special Reference to the Surrey County Council Act, 1931." By W. P. Robinson, M.Inst.C.E.* 6 *p.m.*

SOCIETY OF CHEMICAL INDUSTRY. *Burlington House, Piccadilly, W.1. "The Chemical Aspect of Building Research." By W. A. Campbell, B.Sc.* 8 *p.m.*

Saturday, December 15

THE BUILDING CENTRE. *At 158 New Bond Street, W.1. The Novelty Exhibition, showing the latest development in building products and equipment. Last day.*

Monday, December 17

R.I.B.A. *At 66 Portland Place, W.1. "Modern Church Architecture." By Edward Maufe. Presentation of the London Architecture Medal, 1933.* 8 *p.m.*

L.C.C. *Central School of Arts and Crafts, At Southampton Row, W.C.1. "French Renaissance—4. The Churches and later palaces of France." By Sir Banister Fletcher M.Arch., F.S.A., P.P.R.I.B.A.* 6 *p.m.*

THE KING'S HOUSE: ROYAL WARRANT HOLDERS' JUBILEE GIFT

The King has accepted a proposal of the Royal Warrant Holders' Association that, as an expression of their loyalty and appreciation, and in celebration of the 25th year of His Majesty's reign, Royal Warrant Holders shall build, equip, furnish and endow a house for presentation to His Majesty.

According to the official statement issued by the Association "the house, which subject to His Majesty's approval, will be known as The King's House, will be at the disposal of the Sovereign for the accommodation of any person whom His Majesty may think worthy of this indication of the Royal favour.

"All materials and labour necessary to the building, equipment and furnishing of the house will be provided by holders of the Royal Warrant, who will also contribute to an Endowment Fund which will relieve the property of any charges in perpetuity."

Sir Duncan Watson, president of the Royal Warrant Holders' Association, has issued the following statement: "The house is going to be within reach of London in a very charming spot, which has been presented by a Peer who is associated with the Royal Warrant Holders' Association. The position has been specially selected so that in future it cannot be encroached upon; nor will it be possible for the view from the residence to be disturbed.

"A panel of distinguished architects has been chosen to submit designs. We shall act upon advice given by the President of the Royal Institute of British Architects, and will, in due course, submit to His Majesty designs for his approval.

"It is hoped that the foundation-stone will be laid early in the New Year."

In the *Daily Express* for December 10 a special correspondent, under the title "The site of the King's New Home," said:—

"I have just seen the secret site on which will stand the Jubilee gift of the royal tradesmen to the King.

"The site can be recognized in the beech-wooded country between Weybridge, Esher, and Cobham only by a few cut-down trees beside which lie surveyors' painted poles.

"I went through a white-barred gate standing back on the Portsmouth Road. I drove over the roads of the Burhill Estate, Ltd., controlled by Lord Iveagh, past newly erected country mansions, over a wooden bridge. I turned off down a lane and passed through a newly made way cleared in a dense mass of undergrowth. It was marked out by pegs twelve feet apart, set at intervals for more than a quarter of a mile—the drive to what will be 'The King's House.' Facing the house-to-be are the velvet lawns of the Burhill Park golf course; backing it is a children's country home."

THE NEW HOUSING BILL

A postponement of the Government's new housing Bill was announced in the House of Commons last week. The text of the Bill, which was to have been issued on December 6, will be published during the Christmas recess, and will be put down for second reading shortly after Parliament resumes its sittings towards the end of January.

A HIGHWAY PLAN FOR LONDON

The Minister of Transport has appointed Col. C. H. Bressey, hitherto chief engineer of the Ministry's roads department, to the formidable task of surveying all the traffic routes of Greater London, and preparing within three years a plan of development and re-design likely to determine traffic movements for the next generation.

Sir Edwin Lutyens, R.A., will act as consultant, and give advice on amenities and on the architectural opportunities of new roads and bridges. The co-operation will be sought of all the local government and town planning authorities concerned.

Col. Bressey's first step will be to examine all available data about past schemes, whether they were carried out or not, and next summer he will make an exhaustive traffic census.

The Ministry has circularized highway authorities in the London traffic area, pointing out that the full advantage of the piecemeal improvements made from time to time has too often been frustrated by lack of continuity with the surrounding lines of communications. "Mr. Hore-Belisha is convinced," the circular adds, "that the needs of the future cannot be boldly or intelligently faced, from the point of view of transport, in the absence of some general plan for a series of boldly designed and properly inter-related highway improvements."

Col. Bressey will consider the construction of new roads and the remodelling of existing ones, without regard to administrative boundaries. He will have to estimate the future flow of traffic, and interim reports will be presented from time to time.

When the report and plan are completed, they will be referred to the London and Home Counties Traffic Advisory Committee.

EXHIBITION OF MODERN LATVIAN ARCHITECTURE

An exhibition of Modern Latvian architecture, organized by Professor Eizens Laube and the Latvian Union of Architects, is to be held in the Municipal Museum at Riga, from December 16 to January 8, inclusive.

A LECTURE BY PROFESSOR GROPIUS

A lecture on "Problems of Modern Architecture and Town Planning" was given by Professor Walter Gropius at the Edinburgh College of Art last week.

Today, said Professor Gropius, we were in a position to prove conclusively that the outward forms of modern architecture were not the whim of a few architects hungry for innovation, but the inevitable consequential product of the intellectual, social, and technical conditions of our age. It had taken a quarter of a century of

earnest and pregnant struggle to bring these forms into being—forms which evinced so many fundamental structural changes when compared with those of the past.

The liberation of architecture from the mass of ornament, the emphasis on the functions of its structural members, and the quest of concise and economical solutions only represented the material side of that formalizing process on which the practical value of the new architecture depended. What was far more important than this structural economy and its functional emphasis was the intellectual achievement which had made possible a new spatial vision; for whereas the practical side of building was a matter of construction and materials, the very nature of architecture made it dependent on the mastery of space.

The greatest opposition which the new architecture had encountered, he continued, had been due to the demand of modern architects that the principle of mass production should be applied to house construction. The opponents feared that such a transformation would produce an overwhelming monotony of form and the decay of the handicrafts. But the danger of "monotonization" of form could be overcome the moment it was possible to manufacture in series, not whole houses, but only their component parts; since, from the latter, different types of houses could be assembled to correspond to the needs of individual requirements. The goal to be aimed at was therefore a "box of bricks" for adults. The second objection, that mass production of dwellings would cause the destruction of handicrafts could be countered by the example of the Japanese, who for centuries had been making completely standardized houses of the highest quality carried out entirely by manual labour.

ARCHITECTURAL ASSOCIATION

The following talks by architects and others to young architects are to be given at the Architectural Association, 36 Bedford Square, during the next four months:—

January 17.—C. Lovett Gill, F.R.I.B.A.
January 31.—J. R. Leathart, F.R.I.B.A.
February 14.—C. J. Medley (solicitor).
February 28.—G. Grey Wornum, F.R.I.B.A.
March 14.—A. P. Costain (contractor).
March 28.—T. S. Tait, F.R.I.B.A.
April 11.—B. Greig (district surveyor).
April 25.—H. T. Barnard, A.R.I.B.A.

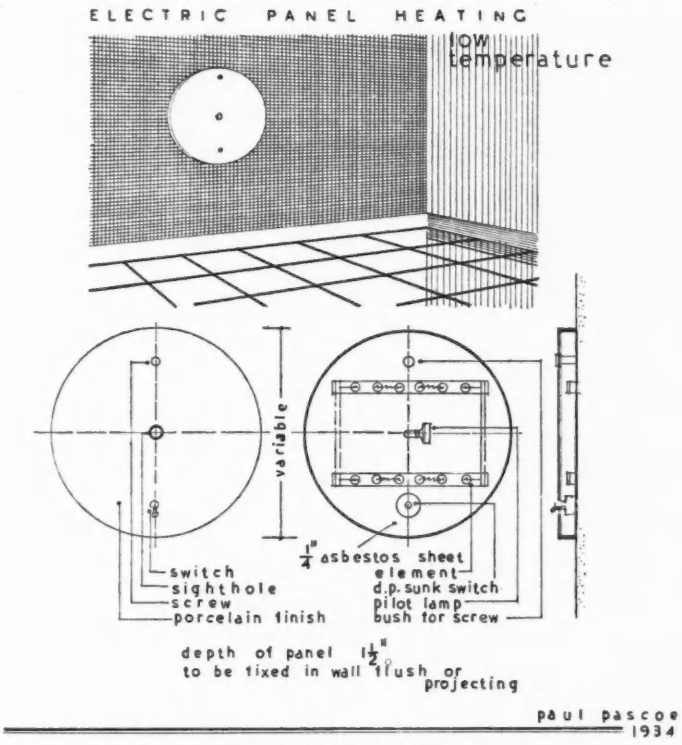
The object of these talks is to give young architects the benefit of the lecturers' experience. It is intended that the talks shall be for assistants and young architects just started in practice, and only those under 30 years of age will be admitted to the meeting. The number admitted to each talk and discussion will be strictly limited to 25. The talks will commence at 8 o'clock. Admission will be by ticket only.

SIR RAYMOND UNWIN ON HOUSING

At a luncheon of the Women's National Liberal Federation, in London, last week, Sir Raymond Unwin, PP.R.I.B.A., discussed the attempt which is being made to solve the housing problem by building blocks of tenements. He said: "That you will have to have some flat buildings, I do not deny for a moment, but they are not proper places in which to bring up a family, nor do they lead to a happy family life. They do not lead to health among the people, and they do not lead to community life, which is most important of all.

"Have our authorities really considered what is likely to be the result, socially and politically, of herding together vast masses of those members of the community who have least cause to be content with life—people who by their very conditions have the least opportunity for escaping from the confined conditions of flat life? It is all very well for people like us to live in a flat. We can get away for the week-end, and to our clubs, and to the theatres. But the people with low incomes—the 2,000,000 unemployed, and all the rest who are to be housed in these tenements, these are the very people who will suffer worst from this confined life."

Sir Raymond pointed out that it cost a good deal more to house families in one of these tenements than it did to house them in little cottage dwellings with gardens on the outskirts of London.



Electric panel heating. Designer: Philip Evans Palmer.

GLASGOW SCHOOL OF ARCHITECTURE

Sir George MacDonald, K.C.B., in an address to the students of the Glasgow School of Architecture last week, said that the architect was going to be more and more looked to for guidance in the matter of lay-out or amenity; he would be concerned not only with the individual building, but with its surroundings.

Mentioning the fact that he was a member of the Royal Fine Art Commission for Scotland, Sir George said that from time to time the Commission considered proposals for new structures of various kinds, down even to road bridges and the like.

The principle which they were trying to impress on the different bodies that consulted them was that if they had to build a bridge in a beautiful country district or lay out a new road it was their duty to take counsel not merely with the engineer but with the architect.

By that means they would find out the effect that the changes were likely to have upon the neighbourhood in which the bridge or road was to be constructed.

Referring to the opportunities that awaited the young architect, Sir George observed that there never was a time when more houses were being built. It was true that many of them were being built on mass-production principles, but it was the duty of the architect to see whether they could not modify those principles, and see that absolute identity was not insisted upon in every case.

HORNSEY'S NEW TOWN HALL

On November 29 the Mayor of Hornsey (Councillor W. J. Grimshaw) laid the foundation-stone of Hornsey's new town hall in Crouch End Broadway. The architect for the building, which is estimated to cost £120,000, is Mr. R. H. Uren, A.R.I.B.A., whose design was placed first in an open competition held some twelve months ago.

COUNTY OFFICES, TROWBRIDGE

The Wilts County Council decided last week to accept a recommendation of the Finance Committee to apply to the Ministry of Health for sanction to borrow a sum not exceeding £113,000 for the erection of new county offices at Trowbridge.

FLATS v. COTTAGES

In a paper, read at a recent meeting of the Royal Sanitary Institute, at Derby, last week, Mr. C. H. Aslin, F.R.I.B.A., the Borough Architect, advocated the use of flats for rehousing people in improvement

areas rather than placing them in cottages on housing estates, which meant additional cost for transport. The argument that flats cost more than houses was not tenable. Research had shown that it was possible to build flats at prices much nearer those of cottages than at present obtained. Hot water and central heating could be provided more efficiently and cheaper than in cottages. Moreover, there was an absolute minimum of labour entailed in running a flat.

THE UNDER FORTY CLUB

The Under Forty Club is to hold a Christmas Market in aid of housing funds at Central Hall, Westminster, S.W., on December 10 (2 p.m. to 7 p.m.) and December 11 and 12 (11 a.m. to 7 p.m.). A selection of exhibits from the New Homes for Old Housing Exhibition will be on view. On December 10, at 7 p.m., a lantern lecture on "Foreign Housing" will be given by Mr. F. R. Yerbury; and, on December 11, at 7 p.m., the Under Forty Club and other films will be shown.

ST. PANCRAS HOUSE IMPROVEMENT SOCIETY

"Challenge," a film of the work of the St. Pancras House Improvement Society, was shown for the first time at a special meeting of the Society, held at the Central Hall, Westminster, S.W., on December 11.

ANNOUNCEMENT

Messrs. Skelding and Boucher, architects, of Stourbridge, have opened an office at Old Bank Chambers, Stafford.

R. I. B. A.

THE NEXT MEETING

At the general meeting of the R.I.B.A. to be held on Monday, December 17, at 8 p.m., Sir Giles Gilbert Scott, R.A., PP.R.I.B.A., will present the R.I.B.A. Medal and Diploma for a London building completed between 1931 and 1933 to Messrs. Welch, Cachemaille-Day and Lander (F., A., and A.R.I.B.A.), the architects for St. Saviour's Church, Eltham, S.E. The presentation will be preceded by a paper on "Modern Church Architecture," by Mr. Edward Maufe, F.R.I.B.A.

ELECTION OF MEMBERS

At a recent meeting of the Council of the R.I.B.A. the following members were elected:—

As FELLOWS (10):—W. B. Edwards, L. Jacob, E. W. Jennings, A. Mackintosh, F. McKnight, W. S. Purchon, A. C. Townsend, W. C. Von Berg, J. R. Young, and E. W. C. Coleridge.

As ASSOCIATES (120):—J. G. Abraham, C. H. Allport, T. W. Barton, P. Billington, G. V. Bird, D. G. Board, E. Boothroyd, C. E. Boreham, H. J. Brewster, C. G. Brown, H. M. Casson, G. V. Charles, R. G. Chase, E. Clarke, T. H. Clayton, E. W. Collins, J. F. Cooper, H. W. Cortis, J. F. Coull, C. McVeagh Crichton, P. E. Culling, E. J. Cunliffe, K. E. Curry, J. P. Darby, D. W. Dickenson, R. Dickinson, (Miss) C. J. Dillon, B. E. Doctor, R. Dron, G. C. Duke, J. S. Egan, K. F. Farnfield, E. Farrar, M. Fayazuddin, H. Fedeski, L. H. A. Fermaud, (Miss) R. S. Fletcher, C. H. Francis, H. S. Gardiner, M. Gardner, S. G. Goligher, (Miss) I. M. Gordon, F. C. G. Grant, A. L. Gray, M. S. Green, (Miss) M. N. Grieve, L. J. Grigg, B. Hackett, A. J. Hardcastle, E. W. Harkness, F. C. Hassell, W. G. Henderson, G. A. Henry, A. H. Hope, R. P. S. Hubbard, W. Ingham, (Miss) C. J. Johnson, N. R. J. Johnston, C. Y. Koh, E. C. Laird, J. Lazarus, C. W. Lemmon, H. J. W. Lewis, C. J. Longden-Thurgood, A. A. MacFarlane, E. K. Mackay, H. Mackley, L. Marks, W. Marsden, L. G. Mayman, D. L. Milner, J. L. Morgan, R. S. Morton, P. G. Negus, A. M. Neilson, H. Nightingale, G. A. Nuttall-Smith, C. Pape, A. P. Pascoe, C. H. Pike, J. Pym, A. S. Pyne, M. Rathmell, M. H. Raza, (Miss) M. P. Reavell, C. E. Reeve, A. Reiach, S. G. Roberts, W. C. Rule, C. G. Runnicles, G. H. Samuel, W. J. Scott, C. J. Searle, L. H. Sherrard, R. W. Sherwin, P. H. T. Shillington, J. G. Simpson, C. L. Sjostrom, R. A. Smeeton, J. F. G. Smith, E. R. Somerville, C. C. Spence, G. D. Stalker, D. R. Steele, A. C. Sutherland, J. Taylor, M. C. Tebbitt, V. D. L. Thomas, H. B. Thompson, J. L. Thorpe, C. E. Todd, A. C. Tripe, E. B. Walton, J. S. Watt, E. R. Welstead, J. S. Westcott, G. L. Williams, W. E. Wolff, T. B. Wrathmell, and C. I. Wylde.

As LICENTIATES (14):—J. A. Allan, H. A. Andrews, J. E. G. Green, F. W. Hagyard, P. E. Jackman, F. L. Johnson, A. C. H. Locke, J. E. Osborne, J. C. Rogerson, J. H. Stevenson, W. J. H. Stevenson, C. W. Venton, A. H. Walsingham, and H. F. Willoughby.

COMPETITION NEWS

LIBRARY BLOCK, SWANSEA

Professor W. G. Newton, F.R.I.B.A., the assessor in the competition for a new library block for the University College of Swansea, has made his award as follows:

Design Placed First (£100): Verner O. Rees, F.R.I.B.A., of 30 Upper Mall, Hammersmith, W.6.

Design Placed Second (£75): W. Curtis Green, R.A., and Partners, of 5 Pickering Place, St. James's Street, S.W.1.

Design Placed Third (£75): F. R. Bates and Son, A.R.I.B.A., of 78 Bridge Street, Newport, Mon.

PROPOSED COMPETITION, YORK

At a recent meeting of the York Corporation Castle Committee, the city engineer reported that in his opinion a building capable of housing the education, public assistance and health departments could be erected on the Castle area for approximately £50,000. The Committee, therefore, propose to recommend, in connection with the proposed competition for plans of buildings to be erected on the Castle area, that the competition be confined to plans for a building of three storeys in height to house the three departments mentioned, the buildings however to be so designed as to allow for extensions to accommodate other departments. The Committee further suggested that it be authorized to appoint an assessor in connection with the competition.

Competitions Open

Dec. 22.—Proposed Public Offices, Bridge Road, Welwyn Garden City, for the Welwyn Garden City U.D.C. (open to architects of British nationality). Assessor: C. H. James, F.R.I.B.A. Premiums: £75, £35 and £25, for designs placed first, second and third, respectively. Conditions, etc., obtainable from B. H. Deamer, Clerk to the Council, Council Offices, Bridge Road, Welwyn Garden City (deposit £1 1s.).

Dec. 31.—Proposed Council Offices, Wirral, for the Wirral U.D.C. Open to architects in practice in Birkenhead, Chester, Liverpool and Wirral. Assessor: Gilbert Fraser, F.R.I.B.A. Premiums: £40, £30 and £20, for the designs placed first, second and third respectively. Conditions are obtainable from Mr. W. F. Roberts, Clerk to the Council, Council Offices, Wirral. (Deposit £1 1s.)

January 19.—Designs for five-storey blocks of working-men's flats suitable for construction in reinforced concrete for the Cement Marketing Company. Assessors: Joseph Emberton, F.R.I.B.A., Burnard Geen, M.INST.C.E., and L. H. Keay, O.B.E., F.R.I.B.A. Premiums: £300, £200 and £100 for designs placed first, second and third, respectively. Copies of the conditions will be forwarded on application to the Publicity Department, the Cement Marketing Co., Portland House, Tothill Street, S.W.1. Latest date for submission of designs: January 19.

April 30.—The Croydon Corporation invite the submission of designs for laying out an area in Central Croydon which is to provide an extension of the Civic Centre of the Borough and to improve central means of communication. Assessor: Dr. Thomas Adams, F.R.I.B.A., F.S.I., M.T.I. Premiums: £500 for the design placed first; £350 to be divided (in proportions to be determined by the Assessor) for not more than three designs placed next in order of merit. A copy of the conditions is obtainable on application to the Town Clerk, Town Hall, Croydon (deposit of one guinea). Designs are to be submitted not later than April 30.

THIS ARSHETECTURE

CITÉ UNIVERSITAIRE DE PARIS

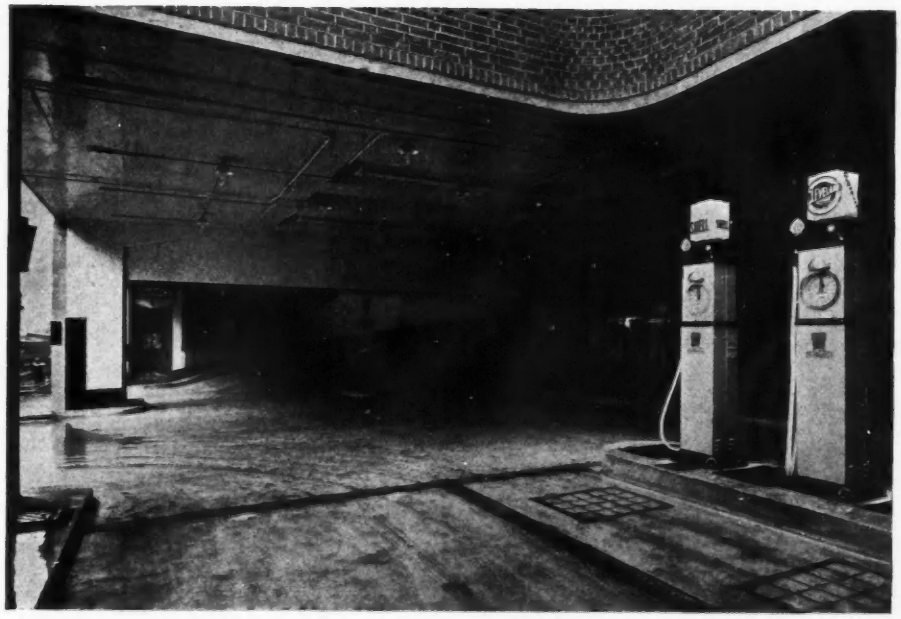
In your issue of November 19 was reproduced the photograph of a scale model of the Franco-British Section of the Cité Universitaire de Paris, which should be completed by next spring. The president of the board of the Cité Universitaire, Sénateur Honnorat, expressed to me lately his earnest desire to see in every hall and room of this Franco-British College old prints, pictures, trophies, or the like, recalling various aspects of the life in British universities, public schools, or other seats of learning, thus creating a congenial atmosphere for both the British and the French students for whose benefit the building is erected.

From a letter in *The Times*.

CUMBERLAND GARAGE, MARBLE ARCH

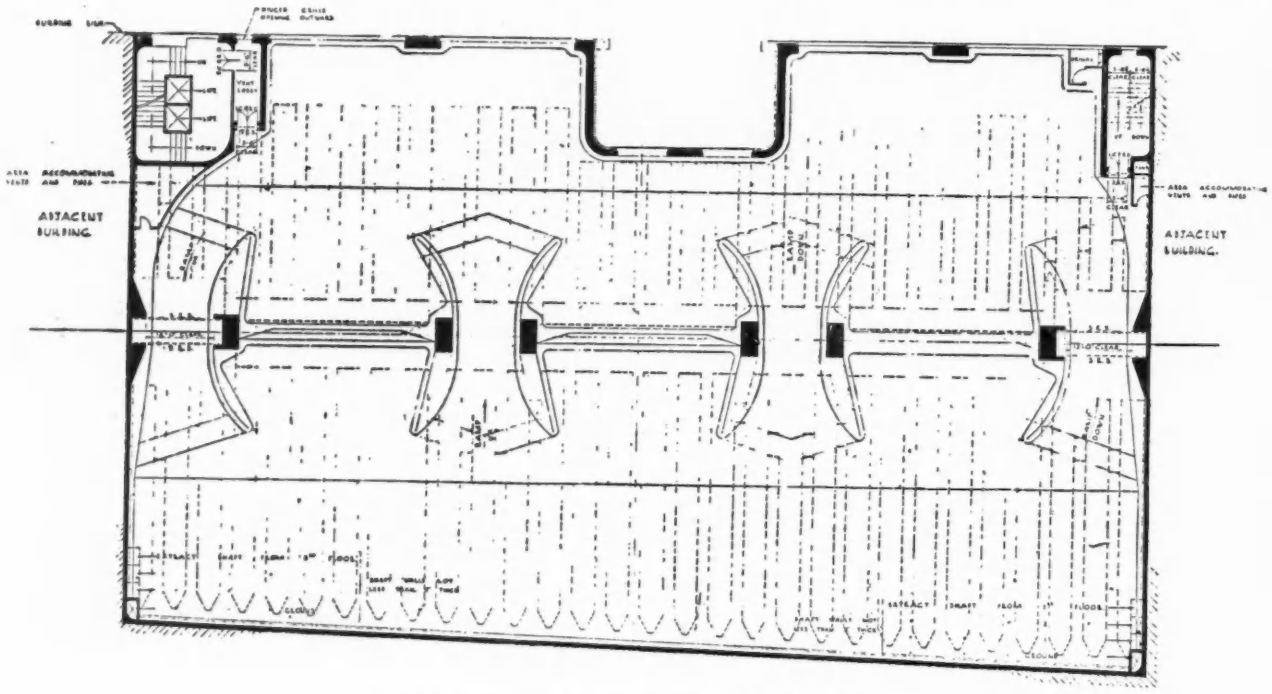
DESIGNED BY SIR E. OWEN WILLIAMS, K.B.E.

This multi-floor garage provides parking space for 400 cars, a general service and petrol station, and separate lounges and rest rooms for owners and chauffeurs. Structurally, the building is of reinforced concrete, faced with brick and insulated from the surround block of Mount Royal flats by a layer of cork between the walls of the two buildings. Access to the different floors is by two ramps, with a gradient of 1 in 8, and traffic is all one way, tests with various types of car and driver having shown that a continuous anti-clockwise turn is easier than clockwise. The garage has been designed by Sir E. Owen Williams, K.B.E. (Chief Assistant, Mr. A. B. Newby).

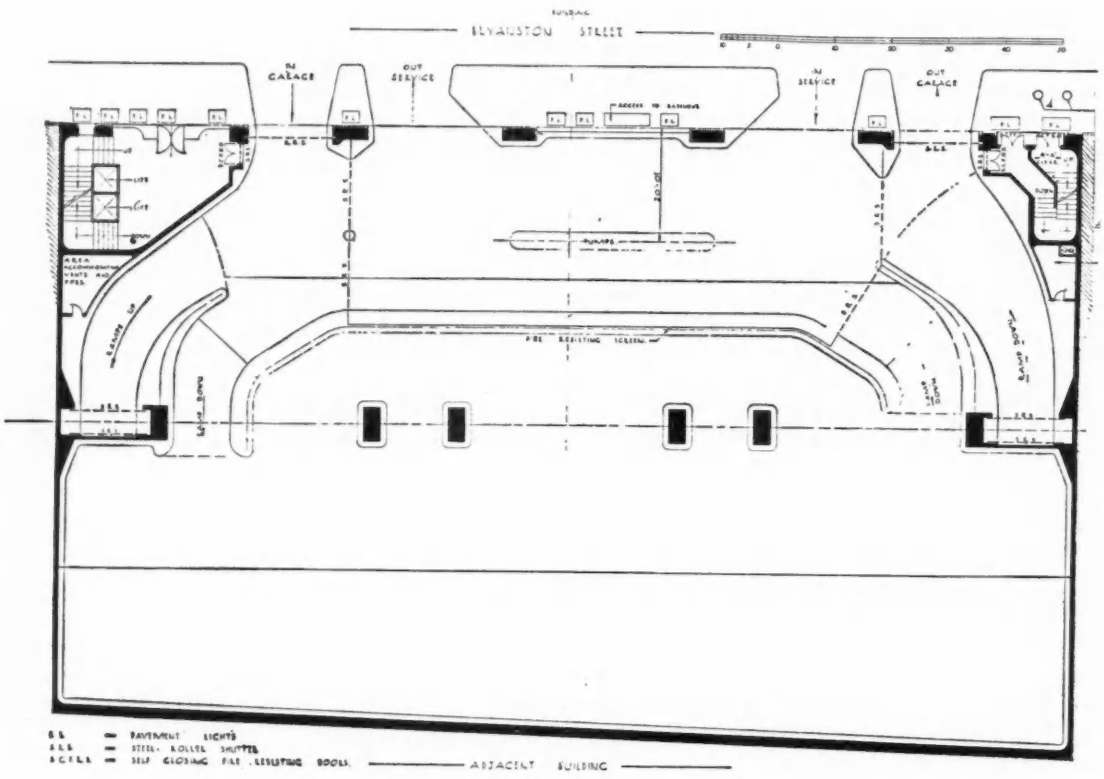


The photographs show: above, a view of the exterior from Bryanston Street; part of Mount Royal flats is shown on the extreme right of the photograph; below, the petrol filling station, which, to comply with L.C.C. regulations, is separable from the remainder of the building by means of roller shutters.

CUMBERLAND GARAGE AND

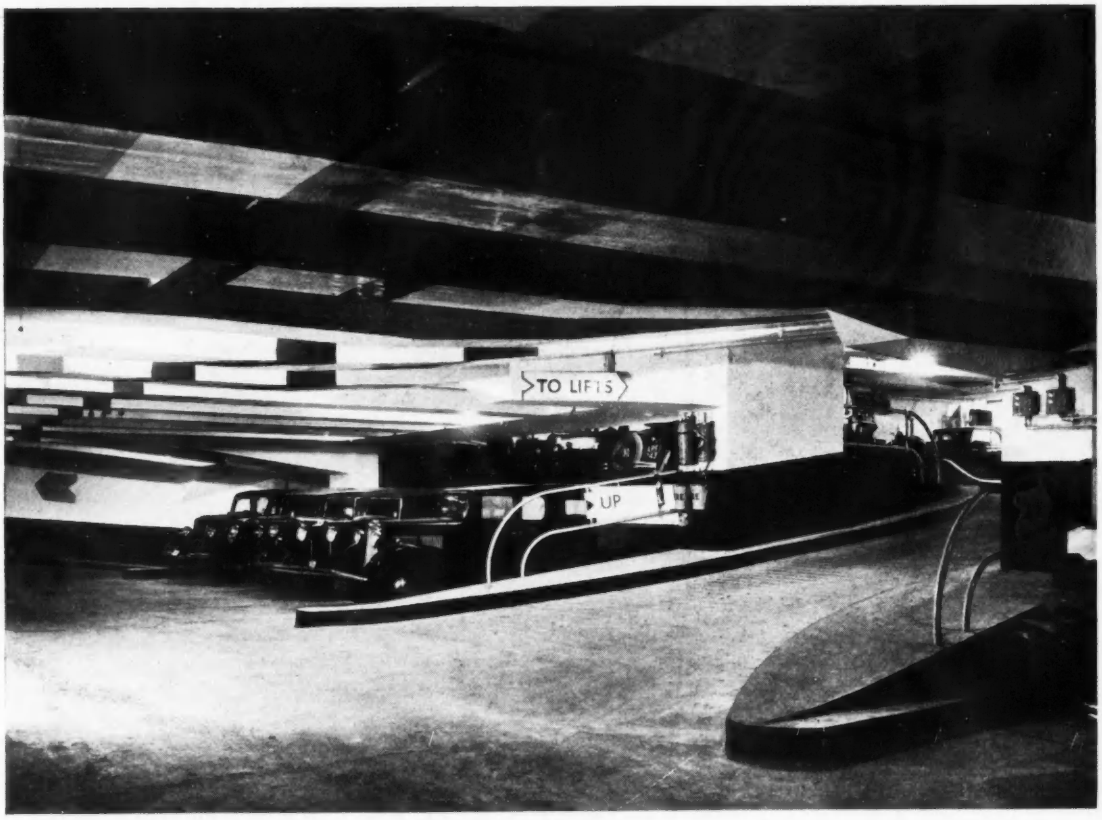


TYPICAL UPPER FLOOR PLAN



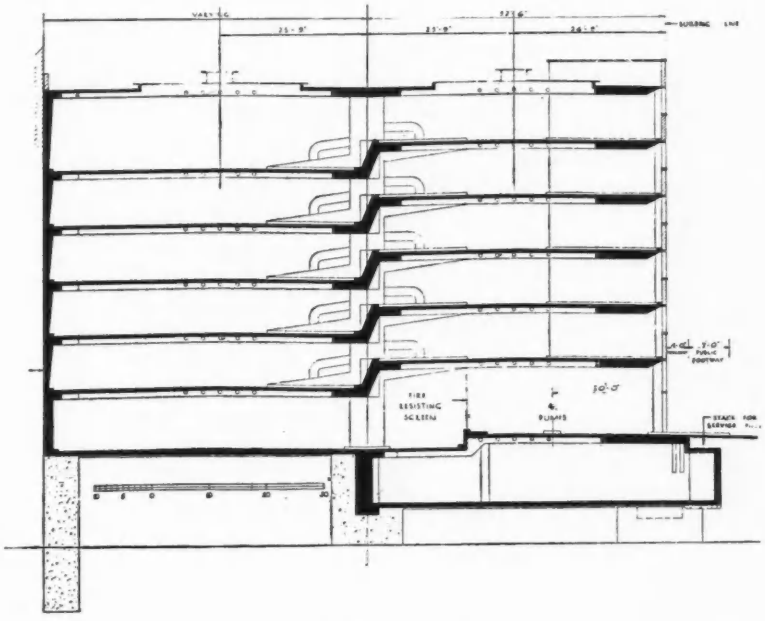
GROUND FLOOR PLAN

CAR PARK, MARBLE ARCH



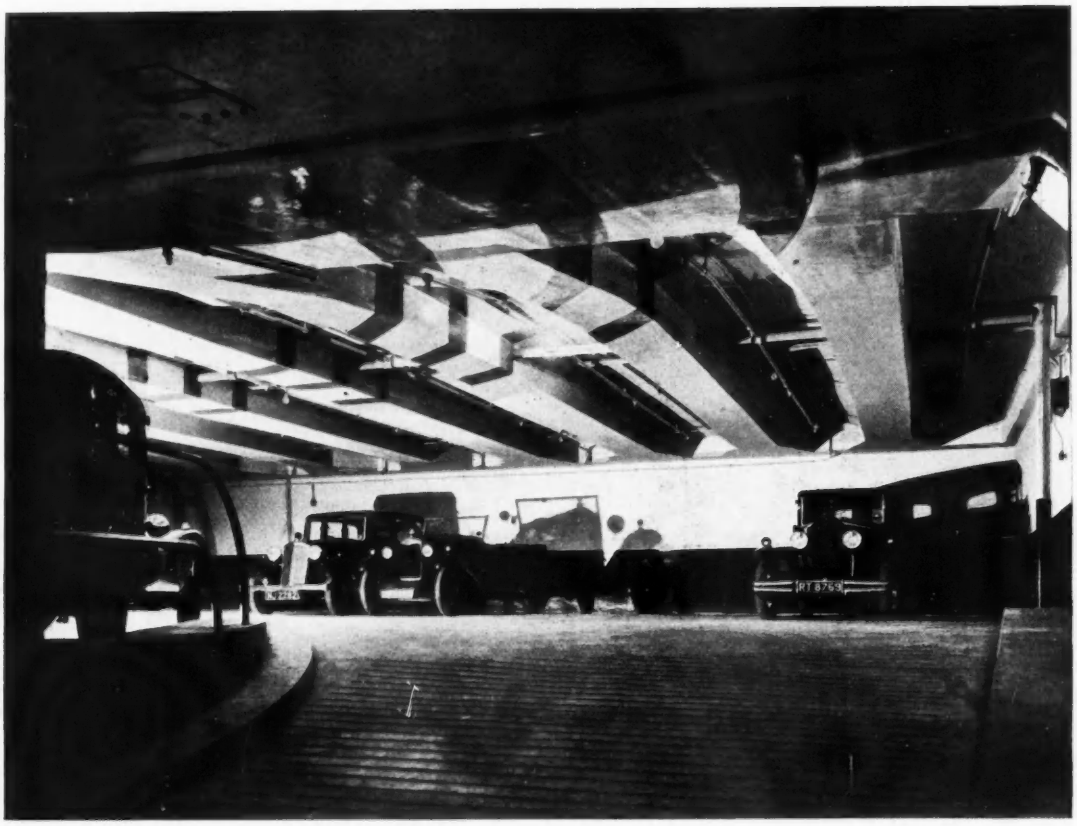
In section, the building may be considered as two continuous spiral ramps, with staggered floors at each half landing. Floors have a span of 55 ft., with a depth of 18 in., the headroom being 8 ft. Ramp headroom is adequate for all standard cars, but to deal with the problem of the large closed car with luggage on the roof, an invisible ray alarm system has been installed. Any car of an excessive height will break the ray and thus operate a relay, ringing an alarm gong and illuminating two large "stop" signs. On the right is a section showing the staggered floor arrangement; above is an interior view of a typical floor. Walls are painted black to a height of 3 ft. 6 in. to avoid marking by exhaust smoke; above this the colour is white.

DESIGNED BY SIR E. OWEN WILLIAMS, K.B.E.



SECTION

CUMBERLAND GARAGE AND

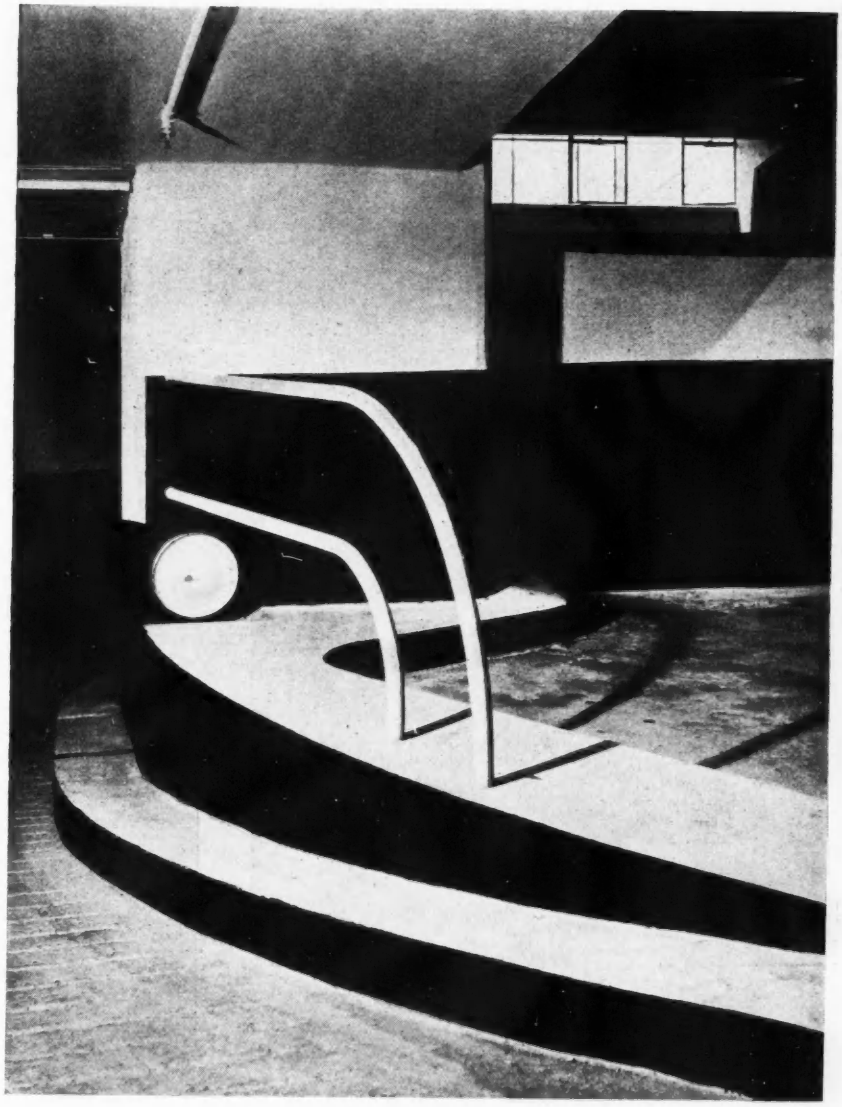


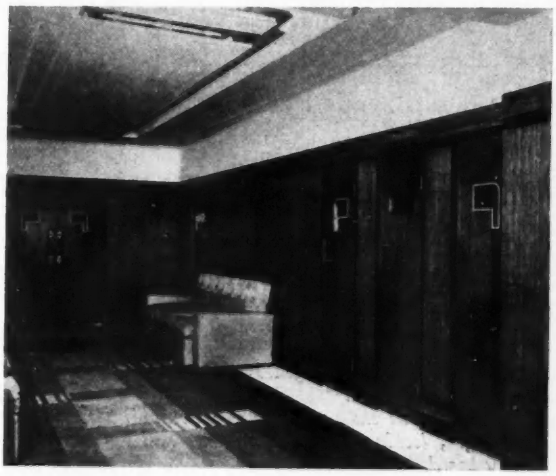
DESIGNED BY SIR E. OWEN WILLIAMS, K.B.E.

[CLOAK ROOM AND RECEPTION INTERIORS BY THE ARCHITECTURAL DEPARTMENT OF J. LYONS & CO.]

Above, a view looking up one of the ramps to a typical floor. The ceilings of each floor are a different colour, corresponding to the colour of the parking ticket issued. Each floor is supplied with water for radiator filling and compressed air for tyres. Left, the customers' cloak room in the basement.

CAR PARK, MARBLE ARCH

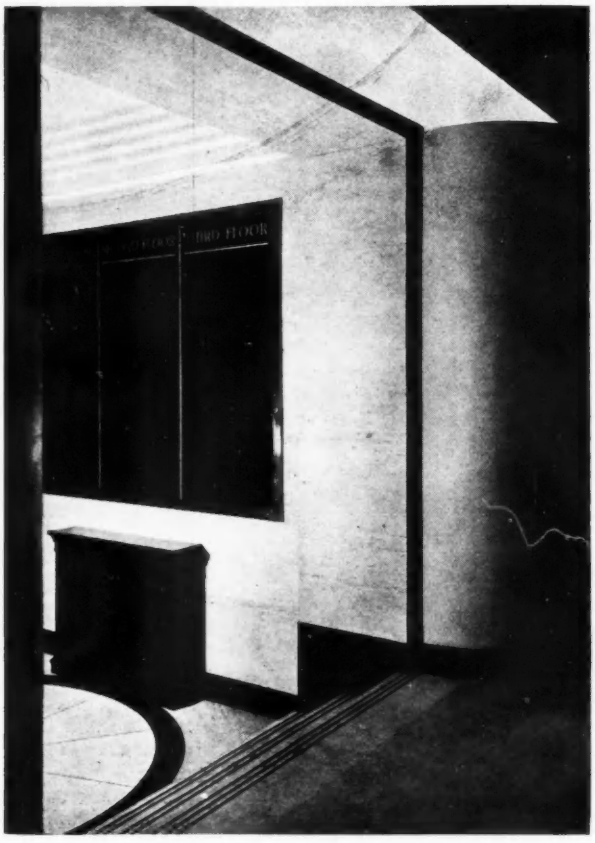




Above, a detail of one of the spiral ramps; right, the customers' lounge, with telephones and passenger lifts to the upper floors. There is a special cloak room to which customers' parcels may be addressed, and chauffeurs are provided with every comfort from dart boards to chess.

MARLON HOUSE: SHOPS AND O

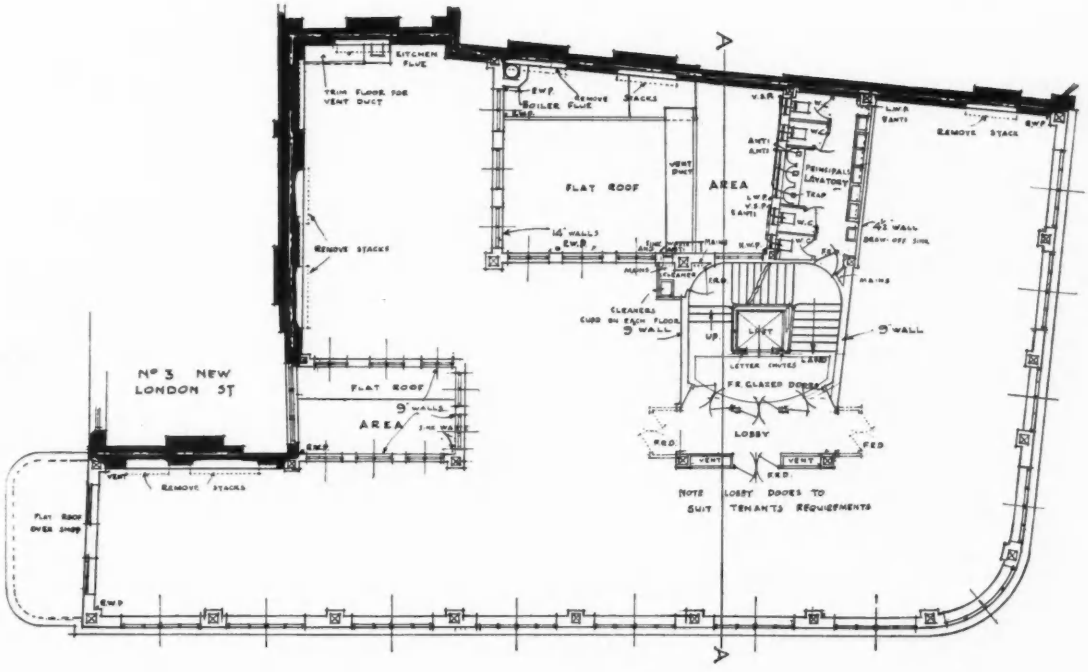
DESIGNED BY RICHARDSON AND GILL



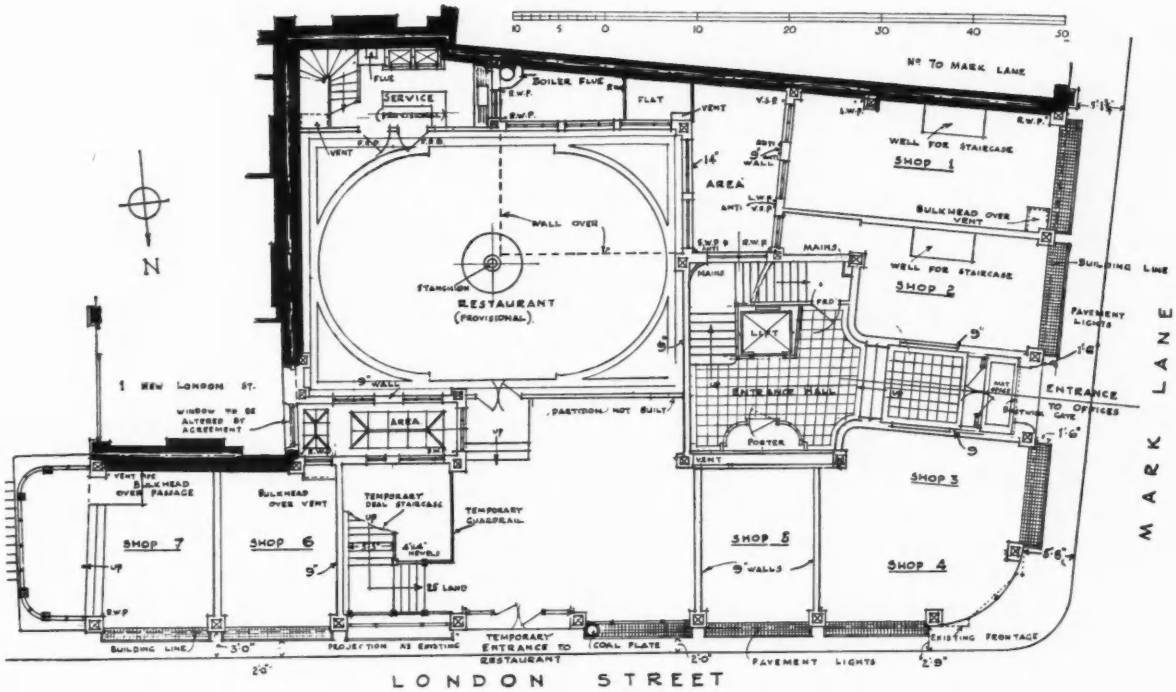
This six-storey building, containing shops, offices and a restaurant, stands on a corner site; the entrance to the offices is in the main (Mark Lane) front and the entrance to the restaurant on the side elevation overlooking London Street. The end of the latter façade adjoins a stairway leading up to New London Street. Externally, the building is faced with artificial stone, and the windows are of metal, painted dark grey.

The photographs show: above, a general view from London Street: right, looking across the entrance hall towards the name indicator board.

OFFICES, MARK LANE, E.C.



TYPICAL UPPER FLOOR PLAN



GROUND FLOOR PLAN

LETTERS FROM READERS

St. George's Hall, Liverpool

SIR,—In your issue for November 8 you publish a south end view of St. George's Hall, Liverpool, as an illustration of a civic building of the period 1839. This, showing the main entrance of the building as at present, obviously was not intended for criticism of detail, but that Elmes did not design the front exactly as shown is generally admitted. I have a photograph of the building of whose genuineness I have not the slightest doubt. It is about 60 or 70 years old at least—I have been in possession of it close on 40 years. It is also a south end view, but here steps are shown leading down to the roadway. The photograph is a little faded, naturally, but I do not know of any other in existence, so I send it to you thinking it may be a matter of interest to your JOURNAL and readers.

LIVERPOOL

[*We are grateful to our correspondent for the loan of his early photograph of St. George's Hall. It is reproduced, together with the present-day photograph with which he compares it, as this week's frontispiece on page 872.*—ED., *A.J.*]

R.I.B.A. Defects and Remedies

SIR,—The articles by "Iconoclast" on the defects of the R.I.B.A. contain several references to the representatives of the A.A.S.T.A. at the R.I.B.A. I should point out that this representation no longer applies, as the A.A.S.T.A withdrew its representatives from the R.I.B.A. Council and R.I.B.A. Board of Architectural Education in November, 1933.

The R.I.B.A. is and has been unwilling even to recommend its employer members to recognize a proper scale of remuneration for assistants in their employment. It is admitted that the R.I.B.A. could only recommend such a course, as any action to secure its general adoption would necessarily fall upon the A.A.S.T.A. as the only body legally accredited for this duty.

The Institute both seeks and takes action to protect the remuneration of its members who are employers, and although the majority of the members of the R.I.B.A. are in salaried employment their conditions are disregarded by the R.I.B.A. In these circumstances the A.A.S.T.A. cannot participate in the work of the R.I.B.A.

A SEYMOUR REEVES
(Secretary, the Association of Architects, Surveyors and Technical Assistants)

Beauty in Architecture

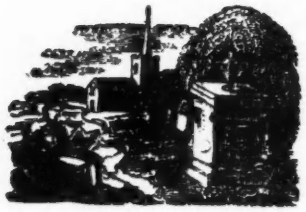
SIR,—The essential qualities of beauty in all things are utility and economy; that is to say fitness for purpose achieved with the minimum expenditure of labour and materials. It is cheaper to build a beautiful building than an ugly one, for beauty and efficiency are nearly the same thing.

Increased knowledge has resulted in a great advance in the average man's ability to appreciate beauty in most things, but in architecture he is still lost, led astray by the very people to whom he should be able to look for guidance. All over the country buildings, and particularly public buildings, are being erected of a design which can only be described as depraved. At first sight an attempt may be made to excuse this on the grounds that architects have no control over the design of those buildings whose erection they are paid to supervize, and that they must give their clients and the public what they want. When, however, it is realized that the public usually wants what it has been taught to believe it should want, and that the architectural profession is, or should be, its mentor in this direction, this excuse fails.

It is conceivable that useless ornament and decoration are deliberately introduced into a design by an architect solely for his own personal profit. By increasing the cost of a building the prestige which inevitably though usually undeservedly accrues to the designer of an expensive building, is enhanced, and at the same time it justifies a higher professional fee being charged. One is reluctant, however, to assign these reasons for their love of ornament, and it would certainly be kinder and probably more correct to attribute it to incompetence and ignorance whether these are wrapped in the guise of tradition or not. The poor ignorant jerry-builder who introduces into the exterior finish of a house, a form of imitation half timbering composed of inch boards with circles of three-ply nailed on to represent dowel-heads, is the object of the scorn of most architects. Yet the same men who condemn him, will praise a man who, after getting an engineer to design the framework and floors of a building, proceeds to stick on a façade of his own design, incorporating pillars which carry no weight, canopies which shelter nothing, and handrails guarding inaccessible places, seeming to be setting out to waste as much money as possible and to think that beauty can be stuck on to a building as wallpaper is on a wall. For examples of the depths to which architectural depravity can descend it is only necessary to look at our famous buildings. The best known is perhaps St. Paul's which, owing to the misguided efforts of those who fight against a benevolent nature which would, if allowed, reduce it to a far more pleasing heap of rubble, still stands as a monument to the ignorance prevailing at the time when it was built.

I am not attempting to justify the destruction of these buildings; on the contrary some of them at any rate should be preserved as interesting curiosities. But let us place them in their proper class along with instruments of torture and mummies of five-legged cats and similar monstrosities. It cannot be denied that good architecture is being seen more frequently as the years go by, but the designers of these buildings seem to receive little recognition for their merit, and the education of the public is laboriously slow. When will architecture cease to be a racket, and when will architects be deserving of professional status?

CAMPBELL JOHNSTON
Swansea



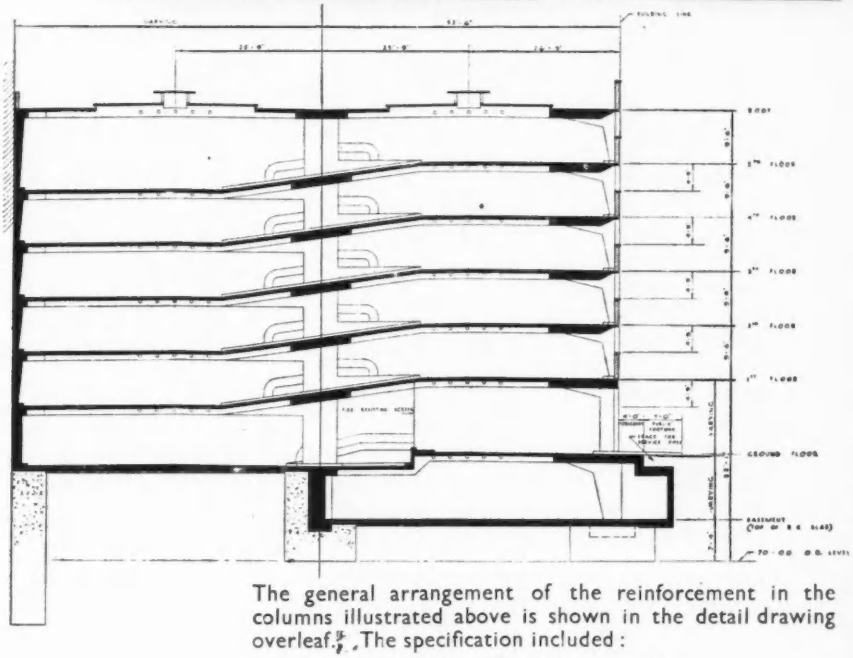
£105,000 Parade for Hastings

Work is expected to begin shortly on the first section of a mile-long, double-decked parade of reinforced concrete, to cost £105,935, for which plans have been prepared by the Hastings Borough Engineer, Mr. Sidney Little. The first portion will cost nearly £37,000 and include two large underground car parks.

The second section will provide a large bowls pavilion, with two rinks and a spectators' gallery, which may be transformed into a conference hall; a café, boat house, six public squash courts, a bathing station and forty bathing chalets, each equipped with running water and an electric kettle.

WORKING DETAILS : 173

COLUMN REINFORCEMENT • CUMBERLAND GARAGE, LONDON • SIR E. OWEN WILLIAMS, K.B.E.



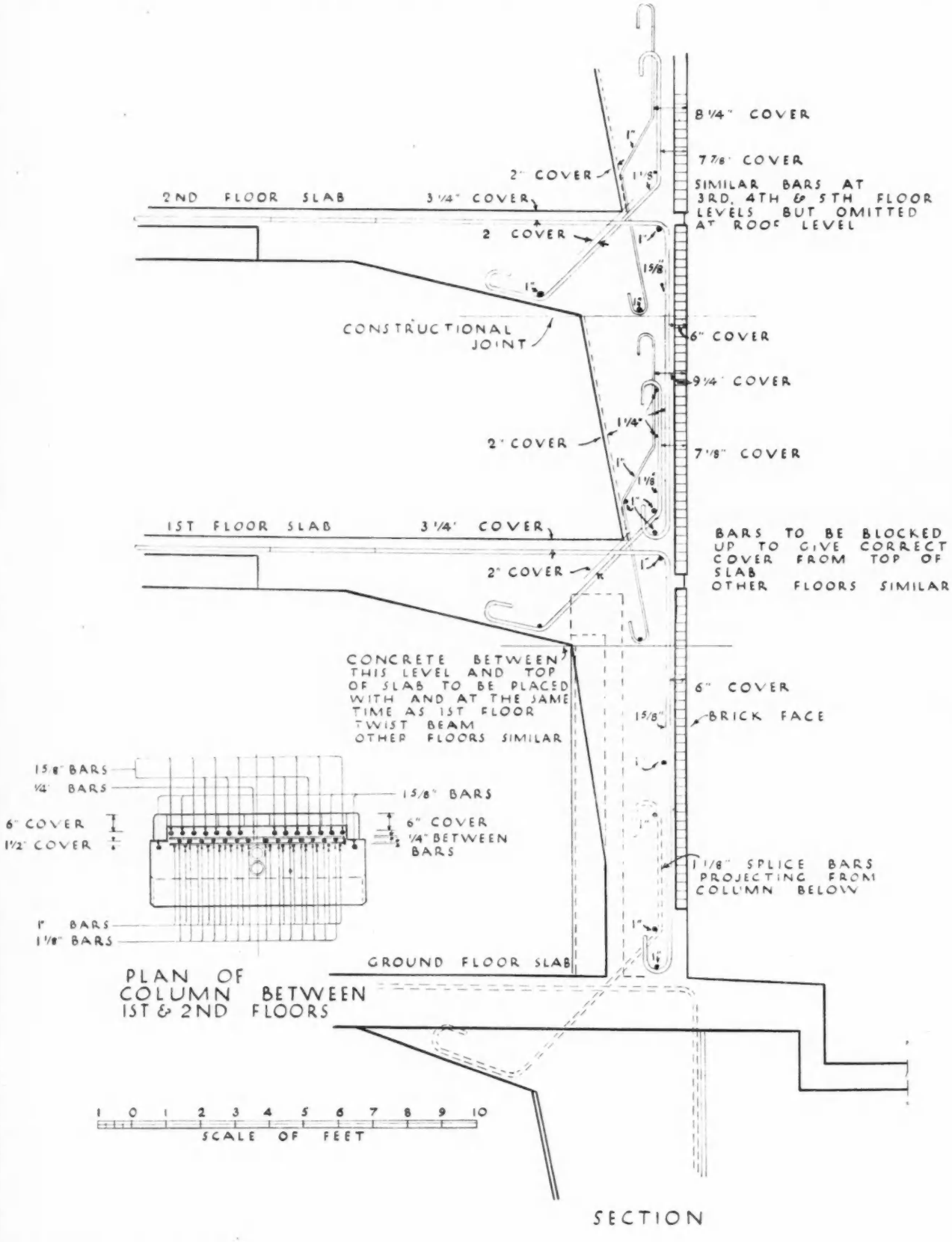
The general arrangement of the reinforcement in the columns illustrated above is shown in the detail drawing overleaf. The specification included :

1. All concrete to be $2\frac{1}{2} : 1\frac{1}{2} : 1$ mix.
2. All heads to be of an easy radius.
3. All hooks to be bent to a radius of two diameters.

In order to avoid drains, gullies, etc., a slight displacement of the reinforcement was allowed, subject to the designer's approval.

WORKING DETAILS : 174

COLUMN REINFORCEMENT • CUMBERLAND GARAGE, LONDON • SIR E. OWEN WILLIAMS, K.B.E.



Reinforcement details of the columns illustrated overleaf.

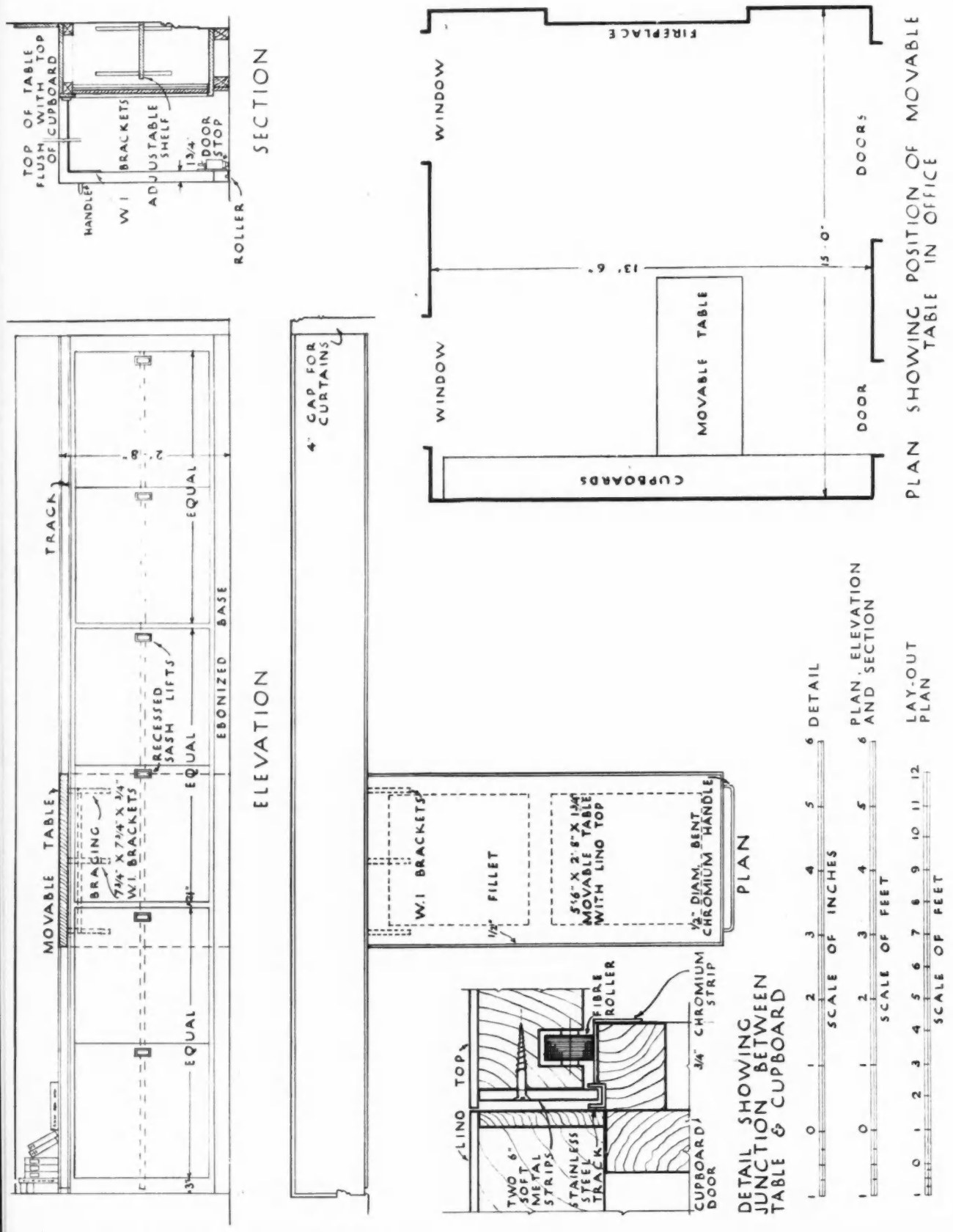
WORKING DETAILS : 175

SLIDING TABLE • ARCHITECT'S OWN OFFICE • CHRISTOPHER NICHOLSON

This table, built up from a standard flush door, is arranged to slide the full length (13 ft. 6 in.) of the designer's own office. The drawings overleaf show the general lay-out of the table and cupboards, and a section of the channel and rollers. The table is fixed in any desired position by a spring-controlled door-stop fitted to the leg. Lateral movement is prevented by a pair of plates screwed to the end of the door and sliding in an inverted U section channel.

WORKING DETAILS : 176

SLIDING TABLE • ARCHITECT'S OWN OFFICE • CHRISTOPHER NICHOLSON



Elevations and sections of the sliding table illustrated overleaf, and a key plan showing the arrangement of the room.

DESIGN IN AMERICA

[BY JOHN GLOAG]

IV. ARCHITECTS AND THE PRE-FABRICATED HOUSE

"AND what are you going to do about housing?" I asked the young architects. I had been trodden on, charmingly but firmly, because I had assumed that experiments like Knickerbocker Village, that has risen in place of some lower East Side slums, indicated a solution. The Government will lend you quite a lot of money at reasonable interest (4 per cent.), repayable in twenty years or so, if you are prepared to go into big, cheap housing projects. Knickerbocker Village had been financed like that; but it wasn't cheap housing, these young men told me.*

The average monthly room rent of the housing it replaced was $5. The Knickerbocker Village average was $12. Seeing what you got for it, it still seemed cheap to me; but I was told that as a contribution to slum clearance it was useless. It had provided homes for a higher grade of worker at the expense of a lower grade. Well, what *were* they suggesting, anyway? And not only in New York; for although as H. G. Wells once said: "To the World she was America; to America she was the Gateway of the Earth!" New York only represents one section of America's housing problem, though I gathered that the Federal Government is anxious for her to get started, so that other cities will have a lead. I'm beginning to suspect that in America New York enjoys Manchester's reputation of being one ahead. But she's fallen down on leadership in housing.

"Half the office and hotel buildings are unoccupied," said one architect. "If we pulled down everything under ten storeys in the city, and filled up the empty show buildings—why, you'd get over a thousand families into the Empire State Building alone, and then have space left over for offices."

I'd been told a bit earlier that New York was full of old-fashioned buildings; now I learned that most of them were hollow monuments to the spirit of advertisement; hollow because they were empty except for a few floors.

"And even if we got the chance to put up some modern building to get rehousing started, we'd have to cover them with useless masonry," they said. Why? Because of the building regulations. Why can't they be altered? Surely nothing old-fashioned could live long in this free, vigorous air?

"Ever heard of vested interests?"

I had. They explained that too many politicians were in brick and terra cotta to make modern architecture possible. Such people preserved the existing regulations

"And that's what is holding up the pre-fabricated house," somebody added.

"General Motors could put out a mass-produced house tomorrow, a pre-fabricated cheap structure in minerals and metal, but the building industry just shoots up the idea with the usual stuff about the hand labour it will displace—as if we hadn't been displacing hand labour as fast as we can for fifty years. Then they've got another crack about them: people won't buy them, because they look like everybody else's. You make them cheap enough and see what happens."

I asked where the architect came in.

"Why, in the larger aspect of planning. Yes, sir! The pre-fabricated house will give him a big problem in lay-out; and that's just what the function of an architect should be: not individual house design."

Architects had been called in by some firms who were making and marketing pre-fabricated houses; but they had consulted the "tail-coat school" and as a result one firm had got metal houses painted to look like wood. (I thought of the parlour car of the Pullman in the luxurious train journey from New York to Washington, with every bit of metal surface painted and grained to imitate walnut; and of the beds in hotel bedrooms, with the metal head and foot painted to imitate mahogany.)

"They will be well designed if they do their job with the most efficiency," said one youth confidently. (The faith of functionalism blazes in every mind under thirty over here.) "It's all a question of price. A mass-production plant that got at the problem with its eye on cost the whole time could put up a great house. The pre-fabricated house in metal and minerals is not yet cheaper than the wooden frame house that the local contractor puts up. The wood industry is getting ready for a fight—it'll have a pre-fabricated wooden house on the market soon. But it can't beat the metal story. Metal says: speed of construction *and no wet materials*. When the motor trade can put out a house at $500, delivered free, and all the kitchen equipment and plumbing, it'll go. Nothing the building trade can do can stop that."

"How long has this sparring between the motor trade and the building industry been going on?" I asked. It had started years ago. Somebody dug out some back numbers of an exciting magazine called *Shelter*, and we found an article by Peter Stone in May, 1932, which was a survey of all the efforts being made to provide "Industrialized shelter" in America and elsewhere.

"It'll come all right," was the confident chorus, "and when it does people who town plan will have twice as much work." All those young men were repeating that the architect ought to turn his back on individual housing jobs, and get after social housing. Somebody said: "The architect must get the engineer and the real estate man together. Without the architect those two can destroy society: with the architect, they can remodel it without any politician knowing that anything's happened."

Meanwhile the job of the young generation is to break up the idea that the architect is only an artist, and a costly luxury. The young generation knows exactly what it wants; it has identified all the obstacles, and has a programme for getting around them; it has put professionalism based on social charm and æsthetics away as a childish thing, and has replaced it with professionalism based upon business knowledge and competent salesmanship. And no school ever taught those things to young architects—the depression has provided that part of their education.

* The author described this scheme in his first article, published in the JOURNAL for November 22.

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Housing and Town and Country Planning

In view of the general importance of housing and town and country planning, the part of the Annual Report of the Ministry of Health for 1933-34, which deals with these subjects, has been published separately.

A brief summary is given of present housing policy, which is directed to the increase of the supply of houses and the elimination of the slums and the proper rehousing of their inhabitants, and reference is made to plans for dealing with overcrowding. Particulars are given of the number of houses inspected and of the number made fit. A section of the report deals with the provision of new houses.

The report contains a statement of the planning schemes throughout the country and of the progress of regional planning. Notes of decisions on appeals relating to proposed building or other development are also included, together with suggestions as to how local authorities may prevent bad and encourage good development.

Copies of the publication may be purchased (price 1s.) directly from H.M. Stationery Office.

D

HOUSE AT JORDANS, BUCKS.

GROUND FLOOR PLAN

FIRST FLOOR PLAN

This house stands on a site of about an acre, part of which is a well-wooded dell—originally a chalk pit. It was placed on the site so as to command the view to the west. The object of the internal planning was to obtain as open a character as possible; with this in view the dining recess, entrance hall and staircase were placed en suite *and the kitchen and scullery were planned as one unit with an opening 6 ft. 3 in. wide between them. The old field path from the lane in front was paved with concrete stepping stones to give access to the entrance.*

The house is constructed with 11 in. cavity walls of stock bricks, limewashed externally a broken white colour; and the roof is covered with pantiles removed from another building where they had weathered to a brownish tone. The weather boarding on the west walls is of selected elm with the waney edges slightly trimmed. The elm boarding is fixed to studs set in 9 in. brickwork. The total cost of the house was £1,410.

The photograph reproduced above shows the entrance front.

DESIGNED BY PAUL V. MAUGER

HOUSING SUPPLEMENT : 6

This HOUSING SUPPLEMENT *analyses the contents of the latest publication of the industries group of P.E.P. (political and economic planning). This publication is entitled* HOUSING ENGLAND, *being "a guide to housing problems and the building industry," and was published last Friday. It is reviewed below by two contributors : Mr. Philip Massey discusses its findings from the economic and sociological aspects, and Mr. J. K. Winser from the point of view of industry and organization. Quotations from the data presented in the report are given. The full report is obtainable (price 5s.) from P.E.P., 16, Queen Anne's Gate, London.*

HOUSING ENGLAND

P. E. P. REPORT

1: ECONOMIC AND SOCIOLOGICAL ASPECTS

[*By PHILIP H. MASSEY, B.Sc. (Econ.), F.R.Econ.S.*]

ACCORDING to the authors of this report there are three separate factors involved in the problem of working-class housing :—

(1) The housing problem proper, which involves the questions of shortage, of reconditioning and of unfitness, the last of these terms covering cases of dense and inconvenient arrangement as well as cases of structural decay ;

(2) The rent problem, "which is essentially the problem of establishing a system whereby all working-class houses in the country will return to their owners neither more nor less than a reasonable economic rent" ;

(3) The problem of rent-paying capacity, which is a problem of poverty. This should be solved "by giving rent relief to all tenants requiring it according to their needs, irrespective of whether the landlords are local authorities, private owners, or housing associations."

The division of the problem into three, that is to say, the separation of (2) and (3) above, seems to me to be of the greatest value. At the present time there are in this country several millions of people who pay too high a rent, judged by their incomes, and, if they are at present living in accommodation that is in itself unsatisfactory, they know that a move to a better house would, *in general*, mean a still larger drain on the family income through higher rent and/or increased travelling expenses.

Too many people have, at this point, jumped to a conclusion that so many houses are wanted at such and such a rent, that the Government (or the local authorities, or private enterprise, or a "National Housing Corporation") must supply these houses at that rent and that the Government must grant an adequate subsidy. The Group responsible for this report insists on considering the problems of minimum economic rent and of rent-paying capacity, or poverty, apart. The rent problem is a housing problem. A very considerable proportion of the working people cannot afford to pay the rents which at present they have in fact to pay for decent, or for bad, accommodation. That is not to say that it is impossible to provide any of them with decent houses, the rents of which they can afford to pay, unless a subsidy is provided.

NATIONAL ORGANIZATION

The first chapter (if I may so describe the main headings) of the Report is devoted to the national organization of working-class housing and the present organization of building. Problems of working-class housing are divided into slum rehousing, reconditioning (including the abatement of overcrowding in property to be reconditioned), agricultural and rural workers' housing, the main mass of existing houses and new housing. In reference to the last the Report classifies, according to rentals, the typical four-roomed house.

Class 1. Inclusive rent in provinces over 12s. 6d. per week, "usually considerably over" ; and also houses bought by instalments.

Class 2. Inclusive rent in provinces 10s. to 12s. 6d.

Class 3. Inclusive rent in provinces under 10s.

It is stated that corresponding London figures are about 25 per cent. higher. It should be noted that this classification is a very broad and rough one, and it should not be confused with the A, B, C classification of the Marley Committee, which is based on rateable value, and also produces results which are only broad and rough.

In the opinion of the Group, Class 1 (inclusive rent over 12s. 6d. in provinces and, therefore, say over 15s. 6d. in London) requires no subsidy. The Government expects that needs in this field will be satisfied by the work of speculative builders and building societies. The Group considers that there are signs that demand, in this field, is "becoming saturated."

Under existing conditions it is considered that private enterprise will not satisfy demand for Class 2 houses. It is proposed, therefore, to establish the "E.H.C." — English Housing Company. The essential purpose of the E.H.C. would be the erection of these Class 2 houses. The E.H.C. would not be concerned with slum clearance and rehousing, nor with reconditioning, nor with rural housing, nor with existing property, nor with the erection of Class 1 houses.

It is considered, then, that Class 1 housing can be undertaken by the existing means and that Class 2 housing, unsubsidized, could be achieved by an English Housing Company, but not by the existing forms of private enterprise. "Class 3, with rents below 10s." (N.B.—12s. 6d. in London) "is not ruled out, but, at the present level of prices and costs, it does not seem possible to provide it under average circumstances without a subsidy."

LEGISLATION

The next part of the Report which falls within the scope of this review is the second section of Chapter 11, on "Financial and Subsidy Legislation." In this section post-war housing legislation is summarzied under the heads of "General Housing," "Slum Clearance" and "Rural Housing."

Regarding "Standards and Requirements"—Chapter III, the Group states that "as to number of rooms, an

acceptable minimum standard has already been laid down in essentials by THE ARCHITECTS' JOURNAL." The standard referred to regards 1½ per room as the highest tolerable density. It was on this basis that the statistical findings of the Slum Survey which I conducted for the JOURNAL (see issues from June 22 to October 26, 1933) were calculated, but it must not be taken that the basis was intended to serve much more than an immediate statistical purpose. As I stated in the issue of June 22 " It has been decided to use a standard which considers as overcrowded all families living at over 1½ per room. It is a perfectly just criticism of the adoption of such a standard to say that it makes no provision for individual differences in the age and sex composition of families or in their use of living rooms as bedrooms. But it is necessary to use a standard which can be applied to every town. This one can."

MINIMUM STANDARDS

On " Design and Amenities," the text of the P. E. P. Report on "Minimum Standards for Housing," which appeared in the *Week-End Review* for December 16, 1933, under the title, " Uncomfortable England," has been followed closely. The Group is apparently satisfied that these standards will, in general, serve as a working basis under present conditions. The description of these standards is too lengthy for reproduction here, though not in the least long-winded, and readers must, therefore, refer to pages 39-42 of the Report under review.

The standards laid down are well related to one another, and the number of considerations, frequently ignored, which are there taken into account should be of the greatest assistance to those concerned with housing matters, professionally or otherwise. One small point, which is only a matter of drafting, but which I had hoped to see amended in this Report, occurred to me when the original report was published. If the standards laid down were to be used for conducting a housing investigation, it would be desirable for each criterion to appear under a separate head. Storing of fuel, food storage and proper facilities for drying clothes need to be scheduled separately ; the same applies to the heading " Vermin," under which appears " Damp, rats, bugs, cockroaches and fleas must not be present." This heading needs division into three, viz. (1) dampness, (ii) rats (and mice), (iii) bugs, etc.

Furthermore, in view of the fact that a very large number of houses in this country will fail to satisfy one or more of the criteria, it would be very desirable to have some indication of interim standards, a set or sets of criteria which would make it possible for an investigator to divide the cases failing to satisfy all the requirements of the standard into degress of urgency. The construction of such a further set (or sets) of criteria would be difficult, because considerations which would not be of great importance in connection with certain types of families would be of paramount importance in connection with others. The point is raised here in order that, in any survey made on the basis of this section of the Report, an investigator would be able to present a return showing houses classified by " degree of urgency." The present criteria in official use are vague, and the criteria put forward in the Report are certainly ambitious, in that a considerable number of houses which we cannot contemplate demolishing for many years would undoubtedly be returned as unsatisfactory under one or another head. It is to be hoped that a survey will be made in the near future of a small town or a part of a large town, on the basis of this Report, as it now stands, or with small modifications. If the standard is proved of simple application it would be possible for groups of persons not possessing much specialist knowledge of building technique, etc., to perform, fairly rapidly, a series of social surveys.

PRESENT DEFICIENCY OF HOUSES

In the second part of this chapter the authors of the Report consider the problem of number. They say :—

" Calculation of the present deficiency of working-class houses and the amount of building necessary to eliminate it and to prevent its recurrence in the future involves the consideration of a number of factors. The ideal objective is the housing of the population, present and future, in dwellings of at least the minimum standard as regards density of occupation and amenities, which will provide separate accommodation for each family, within certain limits to be discussed later. The attainment of this ideal would involve :—

" (*a*) The rehousing of a certain number of families at present living in conditions amounting to overcrowding, but in dwellings which are structurally habitable.

" (*b*) The rehousing of families at present living in dwellings not structurally fit for habitation.

" (*c*) The provision of new houses to provide for the increase in the number of separate families, so long as such increase is to be expected.

" (*d*) The provision of new houses to replace dwellings at present fit for habitation but which will become unfit in the future, through deterioration or a rise in the standard of requirements.

With regard to (*a*), it will obviously not be necessary to displace all the inhabitants in areas at present overcrowded, provided that the accommodation remains suitable if less densely occupied ; or, where the difficulty is not one of overcrowding per house but excessive density per acre, provided that part of the existing accommodation is evacuated and destroyed.

" With regard to (*b*) nothing less than complete demolition or, in some few cases, reconditioning will suffice.

" Under (*c*) future requirements must be adequately anticipated if the recurrence of the present problem is to be avoided.

" The provision of replacement dwellings, under (*d*), in so far as it is necessitated by rising standards, will naturally be governed mainly by the progress achieved under the first three heads, and may, therefore, be given only secondary consideration."

This section contains a review of post-war estimates of housing requirements, including the recent estimates of Sir Ernest Simon, the *Economist*, the Council for Research on Housing Construction, the National Housing Committee, and those of the author of this review, published last year in this JOURNAL. The summaries of the different authors' bases and methods of investigation must have been difficult to compile, but seem to be a fair representation, but the Group has gone too far in attempting still further condensation of estimates and programmes of so essentially different types into a half-page table under heads. A blank under the heading " Slum Clearance " in reference to a survey mainly devoted to estimating the extent of the slum problem, and a figure which relates to Great Britain under a table headed " England and Wales " caught my eye. Apart from these points, and after careful consideration, I have come to the conclusion that the table would anyway be misleading because it endeavours to classify under fixed heads the results of estimates in which all those heads were not always used. As a result, the essential purpose of the table, which is to show the substantial measure of agreement between the different authors' final conclusions as to houses per year required, may tend to be missed by readers who feel that the results of some of the surveys have been rather " garbled."

That, anyway, was my reaction. The essential purpose of the table is the last column. It would have been better to have summarized the already summarized statements about previous estimates of housing needs merely by printing a table showing the totals of houses per year required, according to these respective statements.

The Group states that it does not propose to add to these numerous estimates, most of which agree in placing needs

roughly around 200,000 houses per year for ten years.

POPULATION

A section on population forecasting follows. Large parts of this section are on matters extremely controversial and the argument in places is difficult to follow. It is stated that one of the principal points of divergence between other people's views is in the allowance made for present deficiency of accommodation. It is suggested that families of less than two persons (i.e., of one person) should be omitted from the calculations since they will not normally require separate houses, and that only adults of between 20 and 75 will require separate dwellings. Later, the Report states: "We find the excess of private families of *more than two* persons over the separate accommodation existing in 1931 to be 144,000, compared with an estimate of 1,110,000 on the 'Census family' basis . . ." (My italics.)

There appear to be two errors in this sentence. First, "more than two" should presumably read "more than one" or "two or more." Secondly, while the excess of 144,000 is obtained by comparing the number of such families with the total of structurally separate dwellings, inhabited and uninhabited, the figure of 1,110,000 represents the excess of all "Census families" over the number of structurally separate dwellings *occupied only*.

A little lower down appears the statement that "Unfortunately, no information is yet available as to the number of persons in 1931 living at a density of between 1½ and 2 persons per room." In the first place, since this follows on a statement about the persons living more than two to a room in 1931, presumably "between 1½ and 2" should read "at 2 and over 1½." In the second place, figures are, of course, available and have appeared in this JOURNAL.

This section needs overhauling, both as to the facts and figures quoted, and as to the assumptions made. In view of the errors in the former it is difficult to test the validity of the latter, but some of these seem to be rather hazardous.

The conclusion reached is that the minimum requirements of the years 1934-41 are 1,150,000 to 1,255,000 houses: "There should be no danger of exceeding either the needs or the potential demand if the rate of building amounted to 200,000 annually, provided that at least half were built to let at rents averaging 10s. per week and not less than 50,000 dwellings were destroyed annually."

THE RENT PROBLEM

The fourth chapter considers the second problem mentioned at the beginning of the Report—the rent problem, which is not to be confused with the rent-paying capacity problem.

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Capital Costs—		
Building		260
Land and Development		60
		320
Economic Return—		
Interest at 4 per cent.		12 16 0
Sinking Fund at 2 per cent. (redemption period 30-35 years) on building cost only		5 4 0
Running Costs—		
Repairs, about	3 10 0	
Insurance, about	4 0	
Vacancies and defaults (1 per cent. of rent)	6 0	
Management (4 per cent. of rent)	1 4 0	
		5 4 0
Rates—		
Allowed at 11s. in £ on £12 rateable value	6 12 0	
Water Rate at 5 per cent. of rateable value	12 0	
		7 4 0
Inclusive Rent, per year		30 8 0
" " per week		11 8

FIGURE 1.

Inclusive rent is composed of a number of different items of widely differing importance. Interest charges on capital cost are by far the most important. Examples of the effect of small reductions in interest rates are, indeed, very striking. One per cent. off the rate of interest on a £350 house means nearly eighteenpence off the weekly rent. The Group considers that since one of the primary conditions necessary to enable rents to be reduced is ability to borrow at the lowest possible rate "the speculative element, as understood at present, must be removed from building." It continues: "The return at present expected on speculative houses appears to be about 10 per cent. at the least. With building costs at their present level of £290–£300, capital charges alone at this rate would demand a weekly exclusive rent of about 11s., bringing the inclusive rent far above the maximum aimed at before allowing anything at all for rates or running costs."

A strong organization, on the other hand, it is considered, might be able to borrow in the neighbourhood of 3½ per cent. for house-building purposes.

BUILDING COSTS

A good survey of building costs of workers' dwellings recently erected is followed by a rates survey, on which fuller information is presented in a later chapter. This gives ground for taking a general average of 2s. 9d. per week as a normal inclusive rate charge. The special problems of the depressed areas, where rates are very high (and rent-paying capacity very low), are discussed in that chapter (VIII).

For running costs—management, repairs and insurance—suitable allowances are made. The average cost of land and development is taken at £60 per house.

It is considered that under conditions prevailing recently, a building cost of £260 is the minimum possible for a three-bedroom, non-parlour cottage of 760 square feet, assumed to be part of a scheme of some size.

The table (fig. 1, reproduced above) which appears on page 63 of the Report, represents a summary of the narrative preceding.

The Report then passes on to consider how this can be lowered still further. It will have been noted that 4 per cent. interest has been allowed for in the above table, although 3½ per cent. was suggested earlier. The one-half per cent. reduction would reduce rent about 7d. per week.

It is considered, too, that cottage building at 16 to the acre would not be detrimental in certain places, and that some further economies in "running costs" may be possible. Neglecting these, but considering the cumulative effect of a smaller type of house, lower building costs, at 3½ per cent. rate of interest, and longer amortization period, partly offset by making a 3 per cent. allowance for vacancies and defaults, instead of 1 per cent. The table (fig. 2, reproduced overleaf) appears on page 65 of the Report.

Following these calculations, in reference to which I would say that I see both more scope and of course more desirability in a reduction in the rate of interest than in a reduction in the size of the house, there are notes on Bungalow versus Cottage and Tenement versus Cottage, which are of value, but on which I have not space for adequate comment. The Report then considers "Housing Development by Subsidy," unassisted building, building society finance, borrowing by local authorities, public utility societies and private borrowing. This analysis supports the view that although money can now be raised at rates sufficiently low to reduce inclusive rents to the 10s. level, the bodies which can raise this cheap capital cannot, by reason of their small scale and local field of operations,

realize the other savings which are viewed as a concurrent necessity.

Some notes on land charges and costs and on the effects (and defects) of certain town and country planning schemes, contained in the first part of Chapter V, are worthy of attention.

Included in Chapter VI on "Management, Upkeep and Repair" is a summary of house maintenance regulations, reproduced from a publication of the Ministry of Health, and Chapter VIII, to which I have referred above, is devoted to the question of rates.

Chapter VII emphasizes the pressing need for a central statistical service and clearing house for information, somewhat on the lines of those of the Society of Motor Manufacturers and Traders and the Incorporated Association of Retail Distributors. The existing statistical services are briefly commented on and the just conclusion is reached that

> "In the main, the obtaining of information in the industry depends upon the kindness of individuals, many acting in a private and unofficial capacity, who give freely of their own knowledge and experience. The building industry is sufficiently large and wealthy not to have to depend upon such chance organization and the private generosity of its members. The wastage of time, labour and effort is considerable and the results of any research undertaken under existing conditions must always be inconclusive and unnecessarily inaccurate. Some centralization and co-operation seems essential."

It is considered that the technique evolved by the Incorporated Association of Retail Distributors, in collecting and analysing data supplied by firms, might well be followed. It is regarded as "essential that such an organization should be wholly divorced from any propaganda or publicity work, and that it should be staffed by men having knowledge not only of the building trade, but of the services required by other industries and of the technique of collecting, analysing and presenting information." The S.M.M.T. and the I.A.R.D. have, according to the Report, cost about £5,000 per year for the first two or three years, and about half that amount after. The Group has drawn up eighteen points that have occurred to it as requiring consideration by such an Information Centre. Those engaged in the industry and others with some knowledge of it will undoubtedly be able to find many more.

A scheme for 75 per cent. derating of working-class houses at present letting at up to 12s. per week inclusive, which satisfy minimum standards to be laid down by the Ministry of Health, is put forward for discussion in Chapter VIII of the Report, and a brief outline of the scope, powers and operations of the proposed "English Housing Company" will be found on pages 17-20.

	£ s. d.	£ s. d.
Building Costs—		£
700 square feet floor space at present minimum price		245
Less Economies		15
		230
Land and development at density of 12 houses to the acre		60
All-in Capital Cost		£290
Economic Return—		
Interest at 3½ per cent. on £290	10 3 0	
Sinking Fund at 1½ per cent. on £230	3 9 0	
		13 12 0
Running Costs—		
Repairs	3 10 0	
Insurance	4 0	
Vacancies, etc. (raise from 1 per cent. to 3 per cent. to allow for longer amortization period)	15 7	
Management (4 per cent. of rent)	1 0 9	
		5 10 4
Rates—		
Allowed at 11s. in £ on £12 rateable value	6 12 0	
Water Rate at 5 per cent. on rateable value	12 0	
		7 4 0
Inclusive Rent, per year		26 6 4
,, ,, per week		10 1½

FIGURE 2, referred to on page 895.

2: INDUSTRY AND ORGANIZATION

[*By J. K. WINSER*]

THIS Report (which seems to be about twice the length of a normal novel) is the first of the many post-war reports on housing which has sought to deal with the building industry as a whole. It does not, of course, cover every detail of the situation and economics of the industry, but it does present a thoroughly sound and well-balanced picture entirely free from political bias. Obviously all the suggestions thrown out in it will not be universally acceptable but few, if any, of them appear to be wholly impracticable to one who has had some little experience of various sections of both the building trade and of architecture. Probably the authors do not expect it to be put into practice either in whole or in part, but if only it is read by the leaders of our industry it is bound to create a more scientific and more constructively critical attitude towards the problems of housing and building generally.

Of the 150,000 words in the Report about one-third refer to purely technical building, and these are considered in this section of the review. A fair review of a report of this length is not made easier by the fact that the Report is presented in a highly condensed form, the result of some two years of regular meetings and discussions by a group of technical men obviously having more or less intimate knowledge of every section of the industry touched upon. Luckily the Report is furnished with a summary of conclusions—itself running to about nine pages—and an excellent index for which one is duly grateful.

ORGANIZATION

So far as is known there is no book or report in existence that deals in any way with the structure or organization of the building industry as a whole, and indeed its scope and complexity is hardly recognized even by those who have been employed in it for the best part of a lifetime. It employs, directly and indirectly, more men than almost any other industry with the exception of agriculture, and touches at some point every other industry and every human being in the land. Ever since the introduction of the first of the Public Health Acts in the middle of the nineteenth century it has been the subject of more and more legislation, and is now controlled in detail by an extraordinary network of Statute and bye-law. In face of this it is quite extraordinary that no attempt has previously been made to produce a general survey on these lines, and this is perhaps the real importance of the present work. Some measure of reorganization, of rationalization and of planning in the industry is inevitable, whether those of us who are affected by it like it or not, and it is well that we should take stock of our position and, as far as possible, decide on the lines which we wish to take before external forces compel us to move against our will. We can only do this

in the light of surveys of this nature. Whether we agree with the detail suggestions thrown out and whether they go too far or not far enough is relatively unimportant, so long as our attention is directed to the cardinal point—the need for planning our future development not as a political stunt or as a party policy, but as a piece of pure economic reasoning based on objective research and enquiry.

Let there be no mistake about it, the nation as a whole has decided that the slums must be swept away and that there must be an adequate supply of healthy accommodation to let at rents within the capacity to pay of even the lowest paid workers. It would appear that private enterprise is likely to have, during the next few years, its last great chance of supplying this need. Whatever political parties may come into power, whether they are modelled on those we have known for so many years or whether they follow the Continental fashion, housing of the workers will be a main point in their policy, and none of them are likely to be overlavish in the provision of State funds to help us in our difficulty, or tolerant of our failures. A very real effort will have to be made by the industry to provide the accommodation required at the price required.

TRADITIONAL METHODS SUPERSEDED

For the architect perhaps the leading point in the Report is the attention drawn to the inevitable change in the whole basis of the industry from that of a traditional craft, to that of an applied science. Until the beginning of the present century almost the whole of building was based on tradition. There is evidence of this not only in the methods of building, but also in the training of new entrants, and in the laws governing the type of work permitted. Since then, through contact with other industries, steel, cement, ceramics, to name but a few, we have been forced to change our outlook, and it is certain that in the course of the next decade this change will become more and more pronounced and must profoundly affect those employed in the industry. It is still the custom to recruit the majority of architects and most of the executive class from among those who have little or no scientific training, not even in many cases a public school elementary science course. As a result there is considerable difficulty in getting the industry to accept the results of the admirable research carried on by the B.R.S. at Watford. One often hears men of standing complain that the exceedingly simple and straightforward reports published by the Station are " quite beyond them and, anyway, what a pity it is that these chaps don't publish something really practical." There is no possibility of going back to the good old traditional ways; science has produced too many new and useful materials. If the architect refuses to use them, and to use them correctly with a full understanding of their possibilities, then another class of man will arise and take our job. To find an architect with a good science degree is quite exceptional, but go into any large works, even in what are thought to be backward trades, and it will be found that the majority of men doing the same type of executive work for their industry that the architect does for ours, have at least an ordinary science degree. Unless there is a change in the coming generation the architect will tend to become more and more the decorator ; the man who applies the " pretties " and perhaps does the designs for temporary exhibitions.

This perhaps goes further than the Report on this subject, but throughout the pages are repeated comments on the difficulty of getting new ideas accepted, of " getting across " the results of research, and these all eventually come back again to this fundamental change from tradition to the application of the results of scientific research.

RULES AND REGULATIONS

A considerable section of the Report is given over to consideration of the great complexity of rules and regulations governing the detail structure of building throughout the country, and there is no doubt that, quite apart from the evidence here produced, an overwhelming case can be made out for consolidation of the present mass of uncoordinated regulation, statute law and bye-law. A sound explanation can be given for the existence of the present day muddle, but this is no excuse for its continuation. This country was the first to lay down building regulations, and did so at a time when it was only possible to legislate in terms of the materials then available rather than in terms of the function of the component in which those materials were to be used. Thus a wall of a certain size must be of a certain thickness of " well burnt brick " and no account is normally taken of the strength of the bonding mortar used, nor is it possible to utilize thinner walls, although they may be of greater strength. In a traditional industry this is not unreasonable, but with the change referred to above it becomes intolerable. There has been some improvement in the basis of recent legislation, but at present this change is too slow and there is a real need for the proposed statutory authority outlined in the Report. It is surely stupid that certain types of construction are not only impossible under existing rules but cannot even be tried out as a full scale but limited experiment. The safeguards suggested in the Report would seem to be adequate to prevent abuse, but it must be admitted that it may be found exceedingly difficult to obtain the right personnel on the committee. The members must be able to approach each scheme submitted with a very open mind, without being carried away by the wilder claims which will undoubtedly be made, and without ever damning novelty because it is not accepted practice. Probably much reliance will in fact be placed on the judgment of the members appointed by B.R.S., and a further strengthening of their representation might not be unwise.

The review of the present structure of the contracting industry is extremely interesting, although it is probable that it will provoke bitter dissent in some quarters. The objections to the present system of open tender and the present forms of contract are fairly well known. A good deal of business has undoubtedly been lost since the war by the more orthodox contractors to the speculative builder who operates on a totally different basis. As a result of this and of the general shortage of work during the normal and slump periods, cut-throat competition has been severe. The firms at the bottom of the tender list may have got there by genuine close pricing, but it is quite often the case that they have made a pure clerical error, or are expecting to be able to get away with a lower class of workmanship than their competitors. As a result a feeling of distrust is engendered, both sides watching for a slip on the part of the other, and there is then no real community of purpose. The worst type of cut-throat competition of this sort can be good for neither party. It is also equally certain that considerable savings could be obtained and a more constant load given to the materials industries if some scheme could be devised to allow of long term bulk purchasing of materials. The difficulty arises, however, in devising a suitable alternative, and this is where there is likely to be much disagreement over the proposals. The simplest scheme of all, and the report does not deal very fully with this, is for the building owner, who alone can budget for a long term building programme with any certainty, to purchase materials in bulk, and to supply the contractor himself, entering the items in the contract as P.C. sums. The increase in the use of P.C. sums and provisional items has been a feature of post-war contracting, and may be an inevitable necessity. It is, however, bitterly resented by most contractors, and in my view this is justified. It prevents him exercising one of his chief functions, that of skilled purchasing, and puts him in the position of having to use, and to some extent be responsible for, the success of materials of which he may know nothing.

If this scheme is not adopted, and if the value of long-term purchasing and continuity of contract is accepted, as it

must be, then there is but little alternative to one or other of the schemes based on the cost fee bonus system. It must be recognised that many of the most successful and up-to-date industrial concerns who have a large and regular building load have either set up their own building department or made some arrangement for continuity of contract. How far these schemes are really economical is impossible to say, but there is a certain amount of *prima facie* evidence that they cannot be wholly wasteful. The firms who have attempted them are generally well known for their sound management and have no reputation for paying more than they need for their requirements.

To provide working class housing to let at economic rents with subsidies at the rates likely to be available necessitates careful consideration of every detail, and the economies of large scale purchase will certainly be appreciable. Those who cannot accept the suggestions held out in the report in this respect seem morally bound to make alternative suggestions which will take advantage of these potential economies. If they cannot, then they must not complain if succeeding governments start experiments in direct labour or control such as obtained over the production of munitions during the war. The experiments may fail, but there is little doubt but that they would be made, and made on a fairly large scale if an adequate supply of accommodation at the right price is not forthcoming.

EXISTING LABOUR POSITION

The report presents a detailed and, on the whole, adequate survey of the existing labour position in the industry, and here again the work is particularly valuable as there appears to be no other recent report on the subject. It is important to note that nowhere are there any suggestions of reduction in wage rates or conditions, and in fact there seems to be an underlying suggestion that increases would not be unreasonable. Perhaps undue stress is laid on the "official" wage rates—there are at the moment far too many employers in backward districts who do not recognize the agreed terms, and seek to escape from the results of cut-throat competition by cutting their wage rates. The folly of this is shown by the fact that the cost of building per foot cube for comparable buildings was roughly the same in America in pre-slump days as it was in England, despite hourly wage rates several times those common in England. That fatigue might be reduced on some of the more laborious tasks is probably reasonable, one still sees far too many men acting as beasts of burden, carrying great weights up many storeys. Ultimately development on these lines will lead to the displacement of men now employed, but the report suggests that this need not be serious for the industry or for the individual, provided that the trade pursues an active policy. The speculative builder has learnt that it is not enough for him just to build houses, he must go out actively and sell them, he must make the buyer want a new house. The orthodox contractor, however, has done practically nothing—he has never even tried to make people want new equipment in their old houses. For years the educationists have been trying to focus public attention on the need for improvement in a large proportion of the school buildings in the country, but we have yet to see the organized contractors backing this in any noticeable way—the need has hardly yet been mentioned in the technical press. Even the propaganda for slum clearance has been mainly carried on by social workers and political parties. True, B.I.N.C. has initiated considerable propaganda, but that appears to have been organized and backed more by the materials manufacturers than by the contractors. So long as there is an expanding market there is no fear that the introduction of mechanical aids will decrease employment. The market has as yet been barely tapped outside the speculative housing end, but it exists without any shadow of doubt.

UNEMPLOYMENT

The risks of serious unemployment depend upon the possibility of planning and carrying out a reasonable long term programme—to proceed in a succession of booms and slumps will always be fatal—and on the regulation of new entrants under a clearly defined scheme. Such regulation as there is now is based on local committees regulating single crafts or groups of crafts, and having no real power to prevent their craft being flooded by partially trained men, at any rate in those sections where organization is weak. It is essential that a National Committee should be set up to review the present situation, to estimate the needs in the next generation and to prepare a single system to cover the whole country. It is quite useless for, say, South Hampshire to set up a complete recruiting and training system, and then so soon as there is a rumour of work, for the scheme to be swamped with badly trained men at cut rates from the less busy areas.

It is particularly good to see that the report has taken a reasonable view of the argument that bricklayers now lay less than one quarter as many bricks as they did twenty years ago. This hoary annual has always been based on false assumptions. Men working on engineering jobs for a 10 or 12 hour day always did and still do put away a vast number of bricks in a day, but this figure is always compared with the output of a man working an 8-hour day on 11 in. domestic cavity walls. Surely the risk of losing a job during the recent slump has provided sufficient incentive to make any man work up to capacity.

MATERIALS TRADES

A considerable section of the report is given over to consideration of the materials trades, and shows their relation with the industry as a whole—a relationship too often overlooked. The report draws attention to the comparatively complete organization of the materials industry, but few trades have no trade associations, whereas the consumers (the contractors) have set up no comparably strong group buying organizations. As a result, the ordinary balance of free competition can hardly be said to exist. Whether in fact the manufacturers are and will obtain unreasonably high prices seems to depend upon the good will and public spirit shown by the leaders of the various trades. The necessary organization to make it possible for a trade to profiteer certainly appears to exist. Should this position arise, there are various lines of action which might be taken by the consumers, but how far in fact they would be undertaken is another matter. At the same time it is probable that the public as a whole may well take a hand in the affair. They are unlikely to allow the whole scheme for the provision of working-class houses to be wrecked by a single industry which decided to take a wholly selfish and excessive profit.

The brick, cement and timber industries are dealt with in detail and at some length, and from a valuable contribution to the knowledge of the structure of these trades available to architects and builders. In the case of bricks the work is not wholly new since the publication by the Building Research station of *The Economic Aspects of the Building Brick Industry*, but there has been no previous published survey of cement and timber. It is to be hoped that these surveys may be extended to other of the more important trades, notably the light castings industry, about the economics of which very little is known.

Among the many suggestions thrown up by the report, mainly on the social and economic side, the scheme of a licensed life for buildings merits close consideration. Most of these schemes are dealt with in the previous section of this review; but this really concerns the technical aspect of the industry as much as the economic, and may therefore be mentioned here. Present

building regulations seem to imply that it is the intention to build for a perpetual life, but they fail in so far as they do not ensure that buildings are regularly maintained in an up-to-date condition. Provided a building is not actually a public nuisance and is neither dangerous nor grossly insanitary it may continue to be occupied however out of date it may be.

In other fields we are beginning to insist that our equipment be kept up to date, 'buses, aeroplanes and, more recently, London taxi-cabs, must be regularly inspected and passed as fit for use, and it is only logical that the same procedure should apply to houses. Until we know for how long we are building, any balancing of economies in capital cost, and consequent higher maintenance costs, with higher first costs and reduced maintenance, becomes a farce. It is, however, a balance that must be struck before one can prepare a really logical specification. The difficulties of such a scheme are well dealt with in the Report.

ECONOMIES IN CONSTRUCTION

Throughout the Report mention is made of the possibilities of economies in construction and lines of inquiry which should be pursued. At the end of the Report, very wisely, a number of examples are given of the type of economy which the Group had in mind when the matter was being discussed. They are interesting as they do not follow the usual lines. Almost every young reformer who has read *Le Corbusier*, or taken a hurried tour on the Continent, draws the attention of those who will listen to him to the marvellous state of the motor car industry, and to the extraordinary fall in prices there due to mass production. If only the building industry would go in for mass production all would be well, and we are offered entrancing pictures of mass-produced standard houses delivered in plain vans and erected anywhere in the country on deferred payments. Inside, the factory consists of a vast conveyor belt, and outside we presumably see the operatives fishing happily in the river Trent or Irwell for all the world like a *René Clair* film.

The motor industry has got a lot to teach us, but those who have a practical knowledge of building are hard to convince that the future lies quite on these lines. There is no doubt that the increase of factory work at the expense of site work is generally desirable. The Mopin system, for instance, makes it possible to carry on work equally in summer and winter, in fair weather and foul, and so abolishes wet-time delays and winter unemployment, hated by both employer and employed alike. The real object lesson of the engineering trade, however, lies in the engineers' approach to the problem. No one new material and no one new system of construction will solve our problems and enable us to provide economic accommodation, but a series of advances, each relatively unimportant, may well do all that is needed. There the engineer can help us. When he is faced with the problem of producing a cheaper and better wireless set or vacuum cleaner he knows that it is useless to turn to sheet steel, or hot pressings, or plastics, or any other new material as a sort of cure-all, but he sets out to see how each component can be simplified. One screw and a set pin are made to do the work of six, one casting the work of two. Hope lies only in this adjustment of design in the light of production technique. The building industry offers a virgin field for this type of research: each step will appear insignificant, but the aggregate results will be well worth the trouble and cost. The examples in the Report are quite adequate to prove the point, and it now only remains for some organization to put them into practice. It is not impossible—and the Report recognizes this—that the difficulty of setting up the organization and getting the industry as a whole to accept the results of the investigations may well be more serious than the actual difficulty of producing useful suggestions. Probably the only sure way of getting over the difficulty would be for the work to be done by some such organization as the English building company there envisaged. If, of course, the industry as a whole and as now organized fails, and the public insist on the State taking a larger share in the actual production of houses, then such reseach will naturally have to be done by the State. Whether one expects this to be done successfully, of course, depends on one's political faith in the ability of the State to carry out work which has until recently always been the function of the private firm.

The building industry is about the only industry in the country which has a certain and almost unlimited untapped market close at hand, and that market permanently protected against foreign competition so far as the contracting end is concerned. Under these conditions there is no excuse possible for a static or reactionary policy, but before any advance can be made it is necessary that full and regular surveys of the existing conditions and proper planning of the lines of progress shall be undertaken. This Report is the first survey which has yet appeared on these lines, and is therefore of the utmost importance. Obviously every suggestion in it will not be accepted by every reader, but if only it makes people view the problem objectively, and consider the industry as a whole, it will have been of real value.

QUESTIONS THAT ARISE

DAMP WALLS OF BUNGALOW

¶ F. W. N. writes: "*I would be glad if I could have your advice in the case of a bungalow which has been constructed with external walls of solid brickwork, 9 in. thick, the walls being faced and pointed externally. Complaints have been received that the bungalow is damp and it appears, upon inspection, that the west and possibly the south walls have been penetrated by driving rain. The penetration is severe, but it is noteworthy that the walls dry out with astonishing rapidity as soon as conditions are favourable.*

"*The complaints extend to other rooms, not on the west side, where direct penetration does not seem to have occurred. The trouble there appears to be due to condensation, and I have put forward the suggestion that the 9 in. solid walls contribute to this by offering a cold surface, particularly at night, on which moisture readily condenses. I would like your advice on the following questions:—*

"*1. Whether you think my suggestion as to the cause of the condensation is a likely one.*

"*2. Whether there is a reasonable chance of curing the condensation, as well as the penetration, by waterproofing measures.*

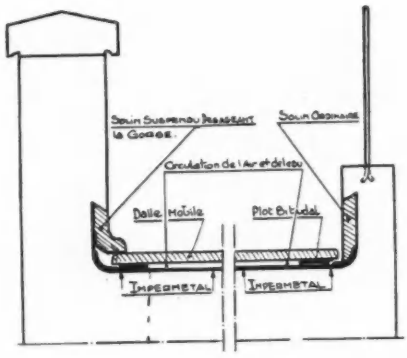
"*3. Whether a waterproofed cement rendering is the best treatment to adopt, or whether a dressing of some such material as stone paint covering offers better promise of success.*"

1: It seems probable that the theory as to cause of moist condition of unexposed walls is a likely one. If the exposed and saturated walls dry as rapidly as described, no doubt a good deal of the moisture evaporates *inside* and is condensed on cold surfaces as suggested.

2: If, by waterproofing externally, walls can be kept dry, they will be less cold in consequence, both conditions promising some improvement, though not the certainty of a complete cure. If the walls dry out with such astonishing rapidity, they are probably very porous, which, given a waterproof coating, should help, once they are thoroughly dry.

3: The uses of waterproofed cement rendering have been discussed in several bulletins issued recently by the Building Research Station.

E. G.



TRADE NOTES

[BY F. R. S. YORKE, A.R.I.B.A.]

Roof Terraces

IN order to obtain a quite level walking surface, whilst making adequate provision for the draining of rainwater by means of falls and gullies, the architects, Jean Ginsberg and François Heep, have constructed a flat roof, to a new block of flats in Paris, with a cavity between the structural slabs and the paved surface.

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The slab is screeded to falls and covered by a waterproofing compound, and on this surface small plates of bitumen compound are placed at regular intervals, so that each plate supports the covings of four paving slabs. These plates are of varying heights, and are so arranged that the slabs they support form a level surface. Rainwater penetrates through open joints between the slabs, and falling on the sloping surface of the slab below finds its way to the outlets.

Flush Valves

In the early days of modern sanitation, flush valves, as a means of cleansing water closets, were used freely, and the convenience and efficiency of these appliances as compared with flushing cisterns, was generally appreciated. Nowadays, however, owing to the vastly increased number of consumers, it has been found necessary by water engineers throughout the country to make some provision against the wastage of water, and for flushing apparatus and the like, provision for the detection of overflow or waste has been demanded.

•

Flushing valves of the type known today are in use to a limited extent, but their universal adoption has been delayed by the somewhat hesitant attitude of the various water authorities. The water cistern with its attendant fittings does not improve the appearance of a sanitary installation and tends to obstruct cleaning operations. The flush valve is easier to instal and to operate, and, if properly designed, is more efficient and more silent in operation.

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But there has hitherto been no provision for detecting overflow in a flush valve ; such as is provided by the overflow or warning pipe of the ordinary siphonic flushing cistern. This factor may have had some bearing on the water authorities' attitude. Now, however, with the Quantum flush valve, introduced by Dent and Hellyer, a device known as the Watchman is said to reveal instantly the most minute leakage.

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The Quantum valve, introduced into the down service pipe, eliminates the flushing cistern. It discharges a pre-determined amount of water when slight pressure is exerted on a press knob. The shutting off of the water is controlled automatically, regardless of the position of the knob.

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The inlet to the valve A is connected by a full-way pipe to the main supply or storage tank. (See drawing reproduced overleaf.) An equal pressure is established on both sides of the main valve by reason of the water leaking through the small bleed hole B in the body of this main valve.

•

Pressure of the push knob A tilts the stem of an auxiliary valve D (which is free to move within the main valve) and disturbs this equilibrium by allowing the water in the top chamber E to escape quickly down past the seating of the auxiliary valve to the outlet.

•

Pressure on the top of the main valve being suddenly relieved, this valve is allowed to rise off the main seating F and water passes through the free passage thus made between inlet and outlet.

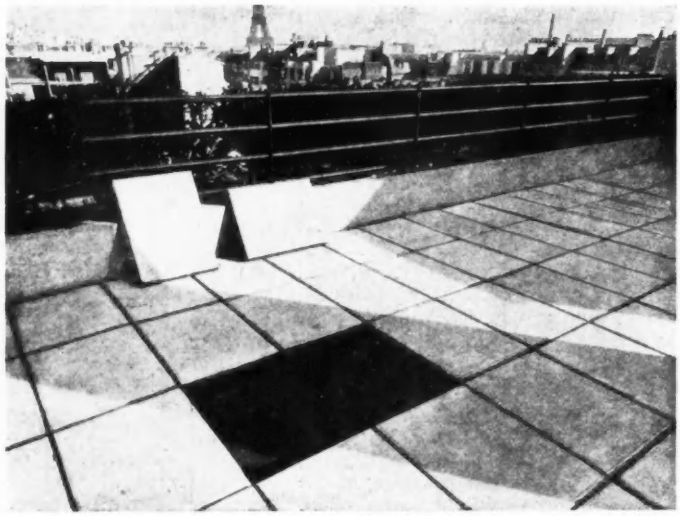
•

Meanwhile, water is slowly passing through the bleed hole again, and as soon as the top chamber is full, the valve closes completely.

•

The Watchman leakage indicator operates in the same manner as an overflow or warning pipe of a water waste preventer. It has no moving parts, and water cannot overflow when the valve is operated. It is fixed by connecting the outlet of the flush valve to the inlet of the leakage indicator, and the outlet of the latter to the inlet arm of the fitting to be flushed.

•



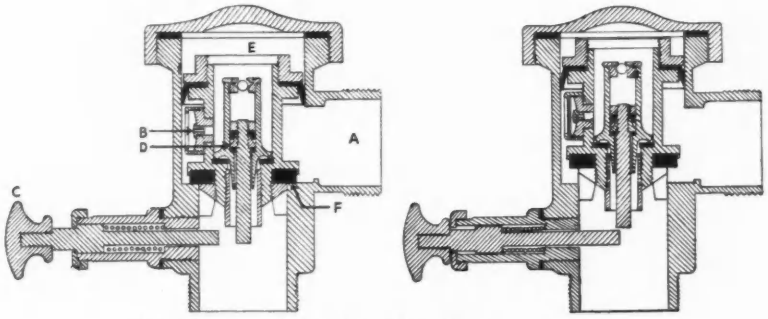
Roof terrace, block of flats in Paris. Architects : Jean Ginsberg and François Heep. See note on this page.

IN PARLIAMENT

[BY OUR SPECIAL REPRESENTATIVE]

Highway Development

Sir Henry Jackson asked the Minister of Transport whether he contemplated taking any steps to ensure the preparation of a



The Quantum flush valve. *See note on preceding page.*

systematic plan of highway development for the area of Greater London.

Mr. Hore-Belisha said he did. He was sending to all highway authorities in the London traffic area a circular letter informing them of his decision to put in hand a comprehensive and systematic survey of the highway developments required in the area of Greater London to keep pace with the expansion of traffic. He had formed the conclusion that if this work was to be done expeditiously and effectively it should be undertaken under a single direction and within a time limit. Accordingly he had appointed Mr. C. H. Bressey, who will vacate his present appointment as the chief engineer of the roads department of the Ministry of Transport, to be responsible for the survey and for the preparation of a highway development plan for the area. The general character and lay-out of roads had an important bearing upon amenities, and he had therefore also appointed Sir Edwin Lutyens to act as consultant.

Housing

In reply to Sir P. Harris, Sir Hilton Young gave the following statement showing the number of houses provided in the County of London and in the Metropolitan Police District during the years ending September 30, 1933, and September 30, 1934, respectively, with certain other relevant particulars.

	County of London		Metropolitan Police District (including the County of London)	
	Year ending September 30		Year ending September 30	
	1933	1934	1933	1934
Provided by local authorities ..	4,433*	4,317*	6,386	7,317
Provided by private enterprise ..	4,063	6,541	51,823	70,146
Totals	8,496	10,858	58,209	77,463
Number of houses under construction by local authorities at September 30, 1934	2,591*		3,227*	

* Including the number of houses on L.C.C. estates outside the county.

It might be assumed that houses provided by local authorities during the years mentioned were to let. Of the figures of 6,541 and 70,146 provided by private enterprise during the year ending September 30, 1934, 1,736 and 7,499 respectively represented houses of a rateable value not exceeding £35 which were occupied by persons other than the owners.

LAW REPORTS

DILAPIDATION CLAIM

Braithwaite v. *Mosley.—Johnstone* v. *Mosley. —Official Referee's Court. Before Mr. C. M. Pitman, K.C.*

THESE two actions were in respect of dilapidations at the Great George Street, Westminster, premises occupied by Sir Oswald Mosley as offices of the British Union of Fascists under leases which came to an end in March, 1933. The plaintiffs were the lessors of the basement, and first, second, third and fourth floors, which were let at £1,100 a year. The amount claimed for dilapidations in both cases was £900.

It appeared that the Institute of Civil Engineers were the owners of the building, which was sub-let by Major Albert Braithwaite as to the basement and first and second floors to defendant at £800, and by Mr. Harcourt Johnstone as to the third and fourth floors at £300 a year, for use as offices. The ground floor was occupied by the Women's National Liberal Federation.

For the plaintiffs, Mr. J. E. Watts, architect and surveyor, of George Street, Portman Square, gave evidence, and in cross-examination said he agreed that the premises had been subjected to more than ordinary fair wear and tear. The premises he admitted were old, but not worn out.

Mr. John Howard Gibbs, incorporated surveyor, of Queen Anne's Gate, S.W.1, and Mr. G. F. Dean, designer and contractor, of Baker Street, W., also gave evidence in support of plaintiffs' case.

Mr. W. M. Bax, P.A.S.I., of Messrs. Hampton, and others, were called for the defence.

Mr. Beresford, for the defence, urged that as the house was 200 years old, the defendant was not liable for fair wear and tear.

The Official Referee, in giving judgment, said the house in question was built probably in the reign of Queen Anne. The whole of it, except the ground floor, was let to the defendant. The premises were to be used as offices or for residential purposes, and the defendant was required to keep them in tenantable repair, fair wear and tear excepted.

Dealing with the plaintiffs' claim for fittings and fixtures, the Official Referee awarded Mr. Johnstone £14 10s. and Major Braithwaite £316, as when the defendant gave up possession of the premises to the head lessors he calmly abandoned the Major's fixtures and fittings.

With regard to the dilapidations claim, the Official Referee pointed out that before being let to the defendant the premises had been expensively decorated. Defendant appeared to have resided on the second floor, but the rest of the premises were used as the headquarters of a semi-military organization. The carpets had been stained and torn. He had no hesitation in saying that most of the premises were reduced to just that condition one would expect to find when such an organization of healthy and hearty young men had used them for business and recreation. The damage done was not fair wear and tear. On this head he entered judgment for Mr. Johnstone for £11 8s. and for Major Braithwaite for £37 16s., with costs.

LIGHT AND AIR DISPUTE

Franklin and Others v. *Brass and Another —Court of Appeal. Before the Master of the Rolls, and Lords Justices Romer and Maugham.*

THIS appeal came before the Court on an appeal by the plaintiffs, Sir Leonard B. Franklin, and others, from a judgment of Mr. Justice Clauson, sitting in the Chancery Division, in favour of the defendants, Sir Wm. Brass and Sir Roland T. Nugent.

In the Court below the plaintiffs, who have premises at 31 and 33 Throgmorton Street, E.C., sought an injunction against the defendants, whose premises were 5 and 6, Throgmorton Street—opposite the plaintiffs—to restrain them from altering their buildings in such a way as to interfere with the light to plaintiffs' premises to any further extent than was permitted in an agreement of December, 1899.

The plaintiffs' case was that in breach of that agreement, the defendants had added to the upper floor of the building, which they said was a breach of that agreement.

The defence was a contention that the plaintiffs had suffered no damage by what the defendants had done.

Mr. Justice Clauson held that there had been no breach of agreement and that the addition to defendants' building did not interfere with the light to the plaintiffs' premises. If it was held that damage had resulted he assessed the damages at 40s.

Mr. Christie, K.C., appeared for plaintiffs and Mr. Spens, K.C., for the defendants.

The Master of the Rolls, in giving judgment, said he thought that the construction placed in the agreement between the parties by the judge was inaccurate and therefore the Court held that plaintiffs were entitled to bring the action to enforce the agreement. The agreement was an attempt to put an end to a controversy which had arisen in respect of buildings contemplated in 1899 and it defined the rights and duties of the parties. The heights and projections of the buildings were shown on plans and the agreement provided that there should be no interference with light and air to any further extent. It was now plain that there had been an alteration in the plans which in some measure had caused a difference to the access of light to the plaintiffs' premises. Under the circumstances the Court would accept the Judge's estimate of the damage and the appeal would be allowed with costs. In the action there would be judgment for the plaintiffs for 40s. and costs.

The Lords Justices concurred.

A photograph showing the application of tubular heaters, in banks, to a large bow window. See note on this page.

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

Following are the names of the general contractors and some of the sub-contractors for the buildings illustrated in this issue :—

Cumberland Garage and Car Park (pages 879-883). General contractors, W. J. Cearns, Ltd. Sub-contractors : Stuart's Granolithic Co., Ltd., adamantine flooring ; Haskins, rolling shutters ; Helliwell & Co., Ltd., lantern lights ; Crittall Manufacturing Co., Ltd., glazing sashes and metal doors ; Pilkington Bros., Ltd., glass ; John Booth and Sons (Bolton), Ltd., fire doors ; John Bolding and Sons, Ltd., sanitary appliances ; J. Starkie Gardner, Ltd., canopy and shop-front ; Adrian Stokes & Co., Ltd., grilles ; Limmer and Trinidad Lake Asphalt Co., Ltd., asphalting ; Luxfer, Ltd., pavement lights ; Golding and Truelove, staircase hand railing ; Hampton and Son, decorations ; Magneta Time Co., Ltd., clocks and time stampers ; General Electric Co., Ltd., photo electric cell ; Franco-Signs, Ltd. and Electrolumination (Abadic Process), Ltd., neon signs ; Linealux, Ltd., lamp signs ; Mather and Platt, Ltd., sprinkler installation ; Matthew Keenan & Co., Ltd., pipe covering ; Crosby Valve and Engineering Co., thermo regulators ; James Keith and Blackman Co., Ltd., fans ; Carrier Engineering Co., Ltd., air heaters ; Visco Engineering Co., Ltd., air filters ; Waygood-Otis, Ltd., lifts ; S. F. Bowser & Co. (London), Ltd., petrol station installation ; Tecalemit, Ltd., lubrication plant and tyre grooving machines ; Laycock Engineering Co., car washing plant ; Bristol Pneumatic Tool Co., Ltd., air compressors, air and water control towers and portable tyre inflation units ; Rotax, Ltd., and Westinghouse Brake and Saxby Signal Co., Ltd., battery charging plant ; Sturtevant Engineering Co., Ltd., vacuum cleaners ; J. Bradbury & Co., Ltd., brake testing machine ; Harvey Frost & Co., Ltd., tyre changer.

Marlon House, Mark Lane, E. (pages 884-885). General contractors, W. H. Lorden and Son, Ltd. S. Bylander, consulting engineer. Sub-contractors : Redpath Brown & Co., structural steelwork ; Diespeker, Ltd., hollow tile floor ; Express Lift Co., lift ; Doodson and Bain, lift enclosure and metal windows ; Empire Stone Co., stonework ; A. and F. Manuelle, granite ; Art Pavements and Decorations, Ltd., terrazzo ; Abbey Heating Co., heating ; H. Page and Sons, electrical installation ; W. N. Froy and Sons, sanitary fittings.

Manufacturers' Items

Heating by Electricity in the Modern Building is the title of a booklet recently issued by Richard Crittall & Co., Ltd., of 43 Bloomsbury Square, W.C.1. In a chapter devoted to tubular heaters it is pointed out that " this form of electric heater is largely used on account of its compact form and easy erection. The elements consist of a series of resistance coils suitably supported inside a steel tube of circular or oval section. They are supplied with fittings for mounting either to the floor or to a wall. They can be supplied in lengths from 2 to 17 ft. The loading for use in accessible positions is 60 watts per ft. run. At this loading the surface temperature is of the order of 180° F. For large rooms they can be mounted in banks.

" These tubes are specially convenient for mounting in ceiling lights to offset the losses through the glass and to correct the down-draughts from such points.

" Tubular heaters are suitable for use in most premises. They must be shielded where there is a chance of damage from any cause.

" They can be used under thermostatic control with or without time-clock switching ; or they may be arranged for hand switching.

" When laying out an installation it is usual to combine tubular heaters with other forms of radiant and convection heating appliances."

The photograph reproduced on this page shows the application of tubular heaters, in banks, to a large bow window. The thermostat controlling the room temperature can be seen on the right-hand side of the picture.

*

The Rugby Portland Cement Co., Ltd., manufacturers of Crown and Crowncrete brands of Portland Cement, have acquired the assets and goodwill of Kaye & Co., Ltd., Southam Works, near Rugby. The works of both companies have been in existence for over 80 years.

Operating in the same district, the raw materials from which Rugby Portland Cement and Kaye's Portland Cement are made are of the same character, and produced from the same strata of blue lias rock.

Extensions and alterations to the works at New Bilton, Rugby, and also to those at Southam, have been made We understand that this has been necessitated by the increasing demand for Crown brand (normal setting), Crowncrete (rapid hardening), Kaye's Portland Cement (normal setting) and OKayecrete Rapid Hardening Cement.

A fleet of fast lorries for immediate delivery is maintained by the company, whose works at New Bilton and Southam also have their own railway sidings.

The head office will remain at New Bilton, Rugby, and it is here that all correspondence should be addressed.

*

Messrs. W. T. Henley's Telegraph Works Co., Ltd., of Holborn Viaduct, E.C., have recently issued a useful contractor aid leaflet, prepared specially to appeal to the consumer, to support their campaign for Henleflex flexible cord. They have also published a Henleflex folder for distribution to the trade.

*

A Mazda Mercra lamp suitable for operation on 100-110 volt a.c. circuits has now been developed by the British Thomson-Houston Co., Ltd. The original Mazda Mercra lamp could only be used on voltages from 200-250.

The external appearance and operation of the new low-voltage Mazda Mercra lamps are the same as those of the standard 200-250 volt lamp, and there are no extra circuit complications of any kind. Low-voltage Mazda Mercra lamps will be made in both 400 watt and 250 watt sizes.

*

We regret that an error occurred in the note published in our issue for November 29 on the switches supplied by Messrs. J. H. Tucker & Co., Ltd., for the new R.I.B.A. building. Messrs. Tucker inform us that the switches supplied were their C.2,000 flush type quick make and quick break, and not the C.200 type, as given in the note.

Obituary

We regret to record the death of Mr. Cecil J. Bennett, general manager of Wm. Harland and Son. He was 78 years of age. Mr. Bennett joined the firm in July, 1877.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILES RADIUS).

CROYDON. *Factory, Swimming Pool, Houses, etc.* Plans passed by the Corporation: Factory, Cherry Orchard Road, for Mr. S. Ogden Smith; garage and showroom, Addiscombe Road, for Messrs. L. F. Dove, Ltd.; store and showroom, Church Street, for Mr. M. Crook; swimming pool, offices, two sports pavilions, etc., Purley Way playing fields, for Croydon Corporation; four flats, Beulah Hill, for Messrs. Wilbrows, Ltd.; additions, London Road, for West Croydon Motors, Ltd.; dance hall, "The Red Knight," Gravel Hill, for Mr. C. E. Stevens; two houses, Waddon Way, for Messrs. Crutcher and Robinson; 13 houses, Woodside Green and Cloister Gardens, for Elmers Building Estates, Ltd.; two houses, Addison's Close, for Messrs. Turner and Tunmore; two houses, Kimberley Road, for Mr. J. G. Cooper; four blocks of flats, Bramley Croft, Haling Park Road, for Messrs. Burt Lee Rhoads; two houses, Temple Avenue, for Gower Builders, Ltd.; two houses, Senaca Road, for Mr. H. S. Griffiths; 12 flats, Beulah Hill, for Messrs. R. R. Costain, Ltd.; four houses, Violet Lane, for Mr. E. Welstead; 25 houses, Norhyrst Avenue and Sundial Avenue, for Central Estates Co., Ltd. Plans submitted: 16 houses, Graham Close, for Mr. H. Miller.

CROYDON. *Extensions to Sewage Works.* The Beddington Farm Committee of the Corporation recommends the Council to proceed with the scheme for extending the sewage works, at an estimated cost of £210,000, at the earliest possible date.

EALING. *Schools.* The Education Committee has instructed the Borough Engineer to negotiate for the purchase of a site for the erection of a junior school north of Western Avenue, Northolt, and the purchase of two sites for the erection of three department schools south of Western Avenue.

ENFIELD. *School.* The U.D.C. is negotiating for the purchase of approximately 15 acres north of King Edward's Road, Ponders End, as a site for the erection of a school.

FULHAM. *Flats.* Mr. Andrew Mather proposes to erect four blocks of flats in Gliddon Road and Gwendwr Road. The proposed flats are to be five and six storeys in height.

HAMMERSMITH. *School.* The L.C.C. Education Committee has further considered the question of the future of the Burlington secondary school, Old Burlington Street, Piccadilly, London, and now recommends that such school be transferred to a site in Ducane Road, Hammersmith. It is estimated that the cost of erecting the new buildings would not exceed £50,000.

LAMBETH. *Tenements.* The L.C.C. is to erect 75 tenements on the Tyers Street area, at a cost of £82,000.

ST. HELIER. *Shops.* The L.C.C. has sold sites in London Road, on the St. Helier estate, to Messrs. Prior and Wallace for the erection of shops.

ST. PANCRAS. *Housing.* St. Pancras B.C. recommends a scheme for the housing development of the Ferdinand Place clearance area at an estimated cost of £74,000.

SOUTHGATE. *Flats.* The Corporation has approved plans by the Borough Engineer for the erection of 44 flats at Reservoir Road and Green Road.

SOUTHGATE. *Houses.* Plans passed by the Corporation: 196 houses, Oak Lodge estate, for Messrs. Geo. Reed and Sons; two houses, Chase Road, for Bunting Construction Co., Ltd.; 20 flats, Upper Park Road, for Mr. J. R. Scarborough. Plans submitted: three shops and 14 flats, Bowes Road, for Mr. T. Jarrett; development, Thankerton estate, Cockfosters, for Messrs. Hamilton, Son and Campoin; 28 shops and flats, Heddon Court estate, Cockfosters Road, for Mr. Francis W. Walter.

SOUTH-WESTERN COUNTIES

HEREFORD. *Houses, Cinemas.* Plans passed by the Corporation: Two houses, Elms Estate, Aylestone Hill, for Mr. Wm. F. Morris; two houses, Garden City, for Messrs. Bettington and Son, on behalf of Hereford Co-operative Housing, Ltd.; two houses, School Lane, for Messrs. Bettington and Son. Plans submitted: Houses, Ross Road, for Mr. J. Hallwood; cinema and shops, Eign Street, for Mr. P. R. Satchwell, on behalf of Odeon Cinema (Hereford) Ltd.; cinema and café, Commercial Street, for Mr. A. H. Jones, on behalf of Mr. R. Maddox; showroom, North Villa Road, for Messrs. Jeffrey Tiles, Ltd.

PAIGNTON. *School.* The Devon Education Committee is in negotiation for the purchase of a site on the Oldway estate, for the erection thereon of an elementary school.

EASTERN COUNTIES

ROCHFORD. *School.* The Essex Education Committee has approved plans for the erection of a senior school at a cost of £23,500.

NORTHERN COUNTIES

ACCRINGTON. *Houses.* The Corporation has instructed the Borough Engineer to prepare alternative plans for the erection of 26 houses at the Laneside Estate, Ribblesdale Avenue, and 28 houses at Charter Street, Chester Street and Craven Street.

BIRKENHEAD. *Tenements and Cottages.* The Corporation is to obtain tenders for the erection of a further 16 tenements at the Church Street area.

HULL. *Dwellings.* The Corporation is to erect 676 dwellings for rehousing persons displaced by clearances, and the City Architect is to prepare the plans for as many dwellings as possible on the available sites.

KEIGHLEY. *Houses.* The Corporation has approved plans by the Borough Engineer for the erection of 80 houses on the Woodhouse Estate.

LEEDS. *School.* The Education Committee has acquired a site at the junction of King Lane and Nursery Lane, on the Moortown Estate, for the erection of a school and the provision of playing fields.

LEEDS. *Demolition, etc.* The Corporation has authorised an expenditure of £200,000 for the acquisition of property and the demolition of buildings in connection with unhealthy area orders.

LEEDS. *Housing.* The Corporation is to purchase nearly 10 acres off Oakwood Lane and Foundry Lane, at the price of £3,000, and approximately 11¼ acres off Oakwood Lane, adjoining the Gipton Estate, at the price of £3,375, for housing purposes.

MANCHESTER. *Rehousing.* The Corporation Housing Committee recommends an expenditure of £43,750 for the purchase of land for rehousing purposes at Bennett Street, Ardwick, and Pink Bank Lane, Gorton.

MANCHESTER. *Buildings.* The Corporation Housing Committee recommends an expenditure of £50,000 for the erection of utility buildings ancillary to the assisted housing estates.

MORECAMBE. *Swimming Baths.* The Corporation is desirous that the new swimming baths shall be completed for use by the public not later than August, 1935, and has instructed the architects, Messrs. Cross, Cross and Sutton, to expedite the completion of the specifications, etc., with a view to that end. The consulting engineers for the scheme are Messrs. Mouchel and Partners, Ltd.

MORECAMBE. *Houses.* Plans passed by the Corporation: Two bungalows, Tranmere Crescent, for Messrs. F. and H. Obank; eight houses, Great Wood building estate, for Mr. J. H. Atkinson; two houses, Stanhope Avenue, for Mr. H. Allen; two houses, Clifton Drive, for Mr. W. Turner; two houses, Elm Grove, for Mr. A. Relph; new streets, off Burlington Avenue, for Messrs. Edmondson Bros. (Morecambe), Ltd.; four houses, Victoria Parade, for Mr. J. Westwell; two houses, Heysham Road, for Mr. G. Jackson; two houses, Ridge Grove, for Mr. H. Blake; two bungalows, Branksome Drive, for Mr. N. L. Procter; two houses, Knowlys Road, for Strawberry Gardens, Ltd.; estate lay-out (proposed 24 houses) Dallam Avenue, for Messrs. H. Hillman and Sons; two houses, Elkin Road, for Messrs. Bell and Isaac; street, Mardale Avenue, for Messrs. Harrison and Moore.

SCARBOROUGH. *Estate Lay-out and Houses.* Plans passed by the Corporation: Two houses, Cornelian Drive, for Messrs. Rennard and Marsden; six houses, Mount Park Avenue, for Mr. C. J. Wilson, on behalf of Mr. W. Harland; two houses, Peasholm Gardens, for Messrs. F. Mitchell and Sons; estate lay-out and two houses, Sandybed Lane Estate, for Messrs. Jones and Rickaby, on behalf of Mr. and Mrs. F. W. Plaxton.

SHEFFIELD. *Houses, Flats, etc.* Plans passed by the Corporation: Two houses and shops, Barnsley Road, for Mr. G. W. Knight; six houses, Low Road, for Mr. W. H. Taylor; 52 houses, Crimicar Lane and Hallamshire Road, for Messrs. J. W. Sivil, Ltd.; two shops, Hastilar Road South, for Mr. J. C. Mason; 28 flats and four shops, Meadow Street and Burnt Tree Lane, for Mr. W. A. Waldenberg; houses, Merton Lane, for Mr. F. S. Bush; two houses, Greenhill Avenue, for Mr. A. G. Redmile; four houses, Halmgate Road, for Mr. C. B. M. Wilson; two houses, Hadfield Street, for Mrs. K. Wibberley; two houses, Hollinsend Road, for Mr. E. Burkett; 16 houses, Headland Road, for Messrs. T. V. and W. L. Simpson; four houses, Hallam Grange Rise, for Mr. H. Newton; four houses, Lyminster Road, for Mr. D. A. Hurrell; two houses, Dewar Drive, for Mr. T. H. Bailey; six houses, Stradbroke Road, for Mr. H. C. Hornbuckle; two flats, Parkers Road, for Mr. A. T. Hardcastle; 38 houses, Prince of Wales Road and Halsall Road, for Messrs. E. and E. Sadler, Ltd.; two houses, Castlewood Crescent, for Mr. J. W. Sivil; two houses, Causeway Head Road, for Mr. C. Hatton; two flats, Baslow Road, for Mr. Ownsworth; two houses, Manchester Road, for Mr. E. Green; two houses, Muskoka Avenue, for Messrs. G. Taylor and G. Ashforth; two houses, Fulwood Road, for Messrs. Dyson & Co.; two houses, Bradway Lane, for Messrs. Winton Hayes, Ltd.; two houses, Alison Road, for Mr. S. Clark; two houses, Dewar Drive, for Mr. J. W. Bailey; 12 houses, Gleadless Common and Hurlfield Avenue, for Messrs. Brownhill & Co.; 12 houses, Highcliffe Place, for Mr. G. Thompson; eight houses, Springfield Road, for Messrs. F. Ridal and Sons; two houses, Barnsley Road, for Mr. J. W. Broadhead; five houses, Crookesmoor Road and Springhill Road, for Mrs. M. K. Wilson and others; two houses, Barnsley Road, for Mr. C. B. M. Wilson; two houses, Carterknowle Road, for Mr. W. Croft; two houses, Pingle Road, for Mr. J. Bailey; two houses, Herries Road, for Mr. F. W. Franklin; two flats, Carterknowle Road, for Mr. J. R. Jubb; 14 houses, Old Park Avenue, for Mr. A. G. Redmile; 12 houses, Beaver Hill Road, for Mr. H. B. Blythe; four flats, Grimesthorpe Road, for Dr. J. Adams; 16 houses, Cartmell Road, for Mr. W. Redmile; 10 houses, Hastilar Road South, for Suted, Ltd.; six houses, Herries Road, for South Yorkshire Estate Co.; 14 houses, off Norton Lees Crescent, for Mr. H. Hammett; six houses, Low Road, for Mr. W. H. Taylor; two houses, Gleadless Road, for Mr. H. Patnick; two houses, Crimicar Lane, for Messrs. J. W. Sivil, Ltd.; four houses, Wood Lane and Butler Road, for Mrs. C. E. and Miss J. Sales; two houses and shops, Barnsley Road, for Mr. G. W. Knight; 58 flats and seven shops, Duke Street, for Mr. A. Krausz.

SCOTLAND

GLASGOW. *Houses.* The Corporation is to purchase about 100 acres at Balornock from the Duke of Montrose for housing purposes. The Corporation Finance Committee has approved an expenditure of £15,000 for the purchase of the land. The Corporation Housing Committee has approved new lay-out plans by the Directors for the erection of 32 houses in Montrave Street.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A	Aberdeen ..	Scotland	1 6	1 1½
A_1	Abergavenny ..	S. Wales & M.	1 5	1 0½
A	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie ..	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_3	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham ..	Mid. Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton	N.W. Counties	1 5½	1 1½
A_2	Boston	Mid. Counties	1 4	1 0
A	Bournemouth ..	S. Counties	1 4	1 0
B_3	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A	Brighton ..	S. Counties	1 4	1 0
A	Bristol	S.W. Counties	1 5½	1 1½
B	Brixham ..	S.W. Counties	1 2½	11
A	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
A	Burslem ..	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury	N.W. Counties	1 5½	1 1½
A	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE ..	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Caruforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A	Chelmsford ..	E. Counties	1 4	1 0
A	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester ..	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley ..	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A	Colchester ..	E. Counties	1 4	1 0
A	Colne	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorches ..	S.W. Counties	1 2½	11
A	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley	Mid. Counties	1 5½	1 1½
A_2	Dumfries ..	Scotland	1 5	1 0½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N E. Coast	1 5½	1 1½
A_2	FASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE	E. Counties	1 4	1 0
A	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S. W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A	Glasgow ..	Scotland	1 6	1 1½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	Gosport ..	S. Counties	1 4½	1 0½
A_2	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln ..	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12–15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A	Luton	E. Counties	1 4	1 0
A	Lytham	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_2	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middlesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid. Counties	1 5½	1 1½
A	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth	Scotland	*1 5½	1 1½
A_2	Peterborough	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	Slough ..	S. Counties	1 4½	1 0½
A_1	Solihull ..	Mid. Counties	1 5	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stirling ..	Scotland	1 6	1 1½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud ..	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist. ..	N.E. Counties	1 5½	1 1½
A_2	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay ..	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall ..	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick ..	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby ..	Yorkshire	1 4½	1 0½
A	Widnes ..	N.W. Counties	1 5½	1 1½
A	Wigan ..	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor ..	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A	Wycombe ..	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil ..	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given

The rates for every trade in any given area will be sent on request

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

		s.	d.
Bricklayer	per hour	1	7
Carpenter	"	1	7
Joiner	"	1	7
Machinist	"	1	8
Mason (Banker)	"	1	7
" (Fixer)	"	1	8
Plumber	"	1	7
Painter	"	1	6
Paperhanger	"	1	6
Glazier	"	1	7
Slater	"	1	7
Scaffolder	"	1	3
Timberman	"	1	3
Navvy	"	1	2½
General Labourer	"	1	2½
Lorryman	"	1	5
Crane Driver	"	1	6
Watchman	per week	2	10	0

MATERIALS

EXCAVATOR AND CONCRETOR

		£	s.	d.
Grey Stone Lime	per ton	2	2	0
Blue Lias Lime	"	1	16	6
Hydrated Lime	"	3	0	9
Portland Cement, in 4-ton lots (d/d site, including Paper Bags)	"	1	18	0
Rapid Hardening Cement, in 4-ton lots (d/d site, including Paper Bags)	"	2	4	0
White Portland Cement, in 1-ton lots	"	8	15	0
Thames Ballast	per Y.C.		6	3
¾" Crushed Ballast	"		6	9
Building Sand	"		7	3
Washed Sand	"		8	3
2" Broken Brick	"		8	0
¾" " "	"		10	3
Pan Breeze	"		6	6
Coke Breeze	"		8	9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

		4" s.	4" d.	6" s.	6" d.
Straight Pipes	per F.R.	0	9	1	1
Bends	each	1	9	2	6
Taper Bends	"	3	6	5	3
Rest Bends	"	4	3	6	3
Single junctions	"	3	6	5	3
Double "	"	4	9	6	6
Straight channels	per F.R.	1	6	2	6
¼" Channel bends	each	2	9	4	0
Channel junctions	"	4	6	6	6
Channel tapers	"	2	9	4	0
Yard gullies	"	6	9	8	9
Interceptors	"	16	0	19	6
IRON DRAINS:					
Iron drain pipe	per F.R.	1	6	2	6
Bends	each	5	0	10	6
Inspection bends	"	9	0	15	0
Single junctions	"	8	9	18	0
Double junctions	"	13	6	30	0
Lead wool	lb.		6		—
Gaskin	"		5		—

BRICKLAYER

		£	s.	d.
Flettons	Per M.	2	18	0
Grooved do.	"	3	0	0
Phorpres bricks	"	2	17	3
" Cellular bricks	"	2	17	3
Stocks, 1st quality	"	4	11	0
" 2nd "	"	4	2	6
Blue Bricks, Pressed	"	8	17	6
" Wirecuts	"	7	17	6
" Brindles	"	7	0	0
" Bullnose	"	9	0	0
Red Sand-faced Facings	"	6	18	6
Red Rubbers for Arches	"	12	0	0
Multicoloured Facings	"	7	10	0
Luton Facings	"	7	10	0
Phorpres White Facings	"	3	17	3
" Rustic Facings	"	3	12	3
Midhurst White Facings	"	5	0	0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:				
Stretchers	"	21	0	0
Headers	"	20	10	0
Bullnose	"	27	10	0
Double Stretchers	"	29	10	0
Double Headers	"	26	10	0
Glazed Second Quality, *Less*	"	1	0	0
" Buffs and Creams, *Add*	"	2	0	0
" Other Colours	"	5	10	0
2" Breeze Partition Blocks	per Y.S.		1	7
2½" " " "	"		1	10
3" " " "	"		2	1
4" " " "	"		2	6

MASON

The following d/d F.O.R. at Nine Elms:		s.	d.
Portland stone, Whitbed	F.C.	4	4½
" " Basebed	"	4	7½
Bath stone	"	2	10
York stone	"	6	6
" " Sawn templates	"	7	6
" " Paving, 2"	F.S.	1	8
" " " 3"	"	2	6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

		£	s.	d.
24" × 12" Duchesses	per M.	28	17	6
22" × 12" Marchionesses	"	24	10	0
20" × 10" Countesses	"	19	5	0
18" × 10" Viscountesses	"	15	10	0
18" × 9" Ladies	"	13	17	6
Westmorland green (random sizes)	per ton	8	10	0
Old Delabole slates d/d in full truck loads to Nine Elms Station:				
20" × 10" medium grey	per 1,000 (actual)	21	11	6
" " green	"	24	7	4
Best machine roofing tiles	"	4	10	0
Best hand-made do.	"	5	0	0
Hips and valleys	each			9½
" hand-made	"			10
Nails, compo	lb.		1	4
" copper	"		1	6

CARPENTER AND JOINER

		s.	d.
Good carcassing timber	F.C.	2	2
Birch	as 1" F.S.		9
Deal, Joiner's	" "		5
" " 2nds	" "		4
Mahogany, Honduras	" "	1	3
" African	" "	1	1
" Cuban	" "	2	6
Oak, plain American	" "	1	0
" Figured "	" "	1	3
" Plain Japanese	" "	1	2
" Figured "	" "	1	5
" Austrian wainscot	" "	1	6
" English	" "	1	11
Pine, Yellow	" "	1	0
" Oregon	" "		4
" British Columbian	" "		4
Teak, Moulmein	" "	1	3
" Burma	" "	1	2
Walnut, American	" "	2	3
" French	" "	2	3
Whitewood, American	" "	1	1
Deal floorings, ¾"	Sq.	18	6
" ⅞"	"	1	1	6
" 1"	"	1	2	0
" 1¼"	"	1	5	0
" 1½"	"	1	10	0
Deal matchings ¾"	"		14	0
" ⅞"	"		15	6
" 1"	"	1	4	0
Rough boarding ¾"	"		16	0
" 1"	"		18	0
" 1¼"	"	1	6	0

Plywood, per ft. sup.

—Thickness	⅜"	½"	¾"	1"
Qualities	AA.A.B.	AA.A.B.	AA.A.B.	AA.A.B.
	d. d. d.	d. d. d.	d. d. d.	d. d. d.
Birch	4 3 2	5 4 3	7½ 6 4½	8½ 7 6
Alder	3½ 3 2	5 4 3	6½ 5½ 4½	8 7 6
Gaboon Mahogany	4 3 3	6½ 5½ 4½	9½ 7½ –	1/0½ 10 –
Figured Oak 1 side	8½ 7 –	10 8 –	11½ – –	1/6 – –
Plain Oak 1 side	6½ 6 –	7½ 7 –	9½ – –	1/– – –
Oregon P.ne	5 4 –	5½ 5 –	6 – –	– – –

	d.
Scotch glue	lb. 8

SMITH AND FOUNDER

Tubes and Fittings:
(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	¼"	⅜"	½"	¾"	1"	1¼"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10		
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9		
" 3"-11½" long "	7	9	1/3	1/8	3/–		
Long screws, 12"-23½" long "	11	1/3	2/2	2/10	5/3		
" " 3"M-½" long "	8	10	1/5	1/11	3/6		
Bends "	8	11	1/7½	2/7½	5/2		
Springs not socketed "	5	7	1/1½	1/11½	3/11		
Socket unions "	2/–	3/–	5/6	6/9	10/–		
Elbows, square "	10	1/1	1/6	2/2	4/3		
Tees "	1/–	1/3	1/10	2/6	5/1		
Crosses "	2/2	2/9	4/1	5/6	10/6		
Plain Sockets and nipples "	3	4	6	8	1/3		
Diminished sockets "	4	6	9	1/–	2/–		
Flanges "	9	1/–	1/4	1/9	2/9		
Caps "	3½	5	8	1/–	2/–		
Backnuts "	2	3	5	6	1/1		
Iron main cocks "	1/6	2/3	4/2	5/4	11/6		
" " with brass plugs "	—	4/–	7/6	10/–	21/–		

Discounts:

TUBES.	Per cent.		Per cent.
Gas	65	Galvanized gas	52½
Water	61½	" water	47½
Steam	57½	" steam	42½
FITTINGS.			
Gas	57½	Galvanized gas	47½
Water	52½	" water	42½
Steam	47½	steam	37½

SMITH AND FOUNDER—*continued*

		s.	d.
Rolled steel joists cut to length	cwt.	10	9
Mild steel reinforcing rods, ⅜"	"	8	6
" " ½"	"	8	3
" " ⅝"	"	8	0
" " ¾"	"	7	6
" " ⅞"	"	7	6
" " 1"	"	7	6
" " 1¼"	"	7	6
" " 1½"	"	7	6

		3" s.	3" d.	4" s.	4" d.
Cast-iron rain-water pipes of ordinary thickness metal	F.R.		8		10
Shoes	each	2	0	3	0
Anti-splash shoes	"	4	6	8	0
Boots	"	3	0	4	0
Bends	"	2	7	3	9
" with access door	"		—	6	3
Heads	"	4	0	5	0
Swan-necks up to 9" offsets	"	3	9	6	0
Plinth bends, 4½" to 6"	"	3	9	5	3
Half-round rain-water gutters of ordinary thickness metal	F.R.		5		6
Stop ends	each		6		6
Angles	"	1	7	1	11
Obtuse angles	"	2	0	2	6
Outlets	"	1	9	2	3

PLUMBER

		£	s.	d.
Lead, milled sheets	cwt.		18	6
" drawn pipes	"		17	0
" soil pipe	"		18	6
" scrap	"		10	6
Solder, plumbers'	lb.			9½
" fine do.	"		1	0
Copper, sheet	"			8½
" tubes	"			11

L.C.C. soil and waste pipes:	3"	4"	6"
Plain cast	F.R. 1 0	1 2	2 6
Coated	" 1 1	1 3	2 8
Galvanized	" 2 0	2 6	4 6
Holderbats	each 3 10	4 0	4 9
Bends	" 3 9	5 3	10 3
Shoes	" 2 10	4 4	9 6
Heads	" 4 8	8 5	12 9

PLASTERER

		£	s.	d.
Lime, chalk	per ton	2	5	0
Plaster, coarse	"	2	10	0
" fine	"	4	15	9
Hydrated lime	"	3	0	9
Sirapite	"	3	6	0
Keene's cement	"	5	0	0
Gothite Plaster	"	3	6	0
Thistle Plaster	"	3	6	0
Sand, washed	Y.C.		11	6
Hair	lb.			6
Laths, sawn	bundle		2	4
" rent	"		3	9
Lath nails	lb.			3½

GLAZIER

	s.	d.
Sheet glass, 21 oz., squares n/e 2 ft.	s. F.S.	2½
" " 26 oz. " " "	"	3
Flemish, Arctic, Figured (white)*	"	7
Blazoned glasses	"	2 6
Reeded; Cross Reeded	"	11
Cathedral glass, white, double-rolled, plain, hammered, rimpled, waterwite		6½
Crown sheet glass (n/e 12 in. x 10 in.)	"	2 0
Flashed opals (white and coloured)	" 1 0 and	2 0
¼" rough cast; rolled plate	"	5½
¼" wired cast; wired rolled	"	9½
¼" Georgian wired cast	"	11
¾" Polished plate, n/e 1 ft.	† 10 to ‡1	1
" " 2	†1 2 " ‡1	4
" " 4	†2 3 " ‡2	6
" " 8	†2 9 " ‡3	2
" " 20	†3 7 " ‡4	2
" " 45	†3 11 " ‡4	7
" " 100	†5 0 " ‡5	7
Vita glass, sheet, n/e 1 ft.		1 0
" " " 2 ft.		1 3
" " " over 2 ft.		1 9
" " plate, n/e 1 ft.		1 6
" " " 2 ft.		3 0
" " " 5 ft.		4 0
" " " 15		5 0
" " " over 15		6 0
"Calorex" sheet 21 oz., and 32 oz.	" 2 6 and	7 6
" rough cast ¼" and ½"	" 8½ "	3 0
Putty, linseed oil	lb.			3

* *Colours*, 1d. *F.S. extra.*
†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

		£	s.	d.
White lead in 1 cwt. casks	cwt.	2	6	0
Linseed oil	gall.		2	2½
Boiled oil	"		2	4½
Turpentine	"		4	1½
Patent knotting	"		14	0
Distemper, washable	cwt.	2	6	0
" ordinary	"	2	0	0
Whitening	"		4	0
Size, double	firkin		3	0
Copal varnish	gall.		13	9
Flat varnish	"		14	0
Outside varnish	"		16	9
White enamel	"	1	15	9
Ready mixed paint	"		13	6
Brunswick black	"		7	6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR

		£	s.	d.
Digging over surface n/e 12" deep and cart away	Y.S.		2	9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.		8	6
" to form basement n/e 5' 0" deep and cart away	"		9	0
" " 10' 0" deep and cart away	"		9	6
" " 15' 0" deep and cart away	"		10	0
If in stiff clay add	"			6
If in underpinning "			4	0
Planking and strutting to sides of excavation	F.S.		1	0
" " to pier holes	"			5
" " to trenches	"			5
" " extra, only if left in	"			3
Hardcore, filled in and rammed	Y.C.		10	0
Portland cement concrete in foundations (6-1)	"	1	6	0
" " (4-2-1)	"	1	12	6
" " underpinning	"	1	16	0
Finishing surface of concrete, spade face	Y.S.			7

DRAINLAYER

		4" s.	d.	6" s.	d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R:	1	6	2	3
Extra, only for bends	Each	2	8	3	9
" junctions	"	3	9	4	6
Gullies and gratings	"	16	6	18	0
Cast iron drains, and laying and jointing	F.R.	4	9	6	9
Extra, only for bends	Each	10	6	15	6

BRICKLAYER

		£	s.	d.
Brickwork, Flettons n lime mortar	Per Rod	27	10	0
" " in cement	"	28	15	0
" Stocks in cement	"	35	0	0
" Blues in cement	"	52	0	0
Extra only for circular on plan	"	2	0	0
" backing to masonry	"	1	10	0
" raising on old walls	"	2	0	0
" underpinning	"	5	10	0½
Fair Face and pointing internally	F.S.			1½
Extra over fletton brickwork for nicked stock facings and pointing	"			8
" " " red brick facings and pointing	"			11
" " " blue brick facing and pointing	"		1	4
" " " glazed brick facings and pointing	"		3	6
Tuck pointing	"			7½
Weather pointing in cement	"			3
Slate dampcourse	"			10
Vertical dampcourse	"		1	1

ASPHALTER

		s.	d.
½" Horizontal dampcourse	Y.S.	4	6
½" Vertical dampcourse	"	6	9
½" paving or flat	"	4	0
1" paving or flat	"	5	6
1" × 6" skirting	F.R.	1	0
Angle fillet	"		2
Rounded angle	"		2
Cesspools	Each	5	0

MASON

		s.	d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17	9
Bath stone and do., all as last	"	13	6
Artificial stone and do.	"	13	0
York stone templates, fixed complete	"	10	6
" thresholds	"	13	6
sills	"	1	0	6

SLATER AND TILER

		£	s.	d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr.	3	10	0
Do., 18" × 9"	"	3	7	0
Do., 24" × 12"	"	3	17	0
Westmorland slating, laid with diminished courses	"	6	0	0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3	0	0
Do., all as last, but of machine-made tiles	"	2	16	0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	"	4	6	0
" " " " " " (green)	"	4	15	0

CARPENTER AND JOINER

		£	s.	d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2	5	0
Shuttering to sides and soffits of beams	F.S.			8
" to stanchions	"			8
" to staircases	"		1	8
Fir and fixing in wall plates, lintols, etc.	F.C.		3	9
Fir framed in floors	"		4	6
" " roofs	"		6	6
" " trusses	"		7	6
" " partitions	"		8	6
½" deal sawn boarding and fixing to joists	Sqr.	1	14	6
1" " " " " "	"	1	17	6
1½" " " " " "	"	2	3	0
3" × 2" fir battening for Countess slating	"		9	6
Do. for 4" gauge tiling	"		12	0
Stout feather-edged tilting fillet	F.R.			4½
Patent inodorous felt, 1 ply	Y.S.		2	3
" " " 2 "	"		2	9
" " " 3 "	"		3	3
Stout herringbone strutting to 9" joists	F.R.			10½
1" deal gutter boards and bearers	F.S.		1	2
1½" " " " "	"		1	6
2" deal wrought rounded roll	F.R.			8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2	1	0
1½" do.	"	2	10	0
1¾" do.	"	2	17	0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S.		1	6
1½" do.	"		1	9

CARPENTER AND JOINER—*continued*

		s.	d.
1½" deal moulded sashes of average size	F.S.	1	9½
2" " " " "	"	1	11½
1½" deal cased frames double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ½" parting beads, and with brass faced axle pulleys, etc., fixed complete	"	3	7
2" " " " "	"	3	10
Extra only for moulded horns	Each		6
1½" deal four-panel square, both sides, door	F.S.	2	0
2" " " " "	"	2	8
1½" " but moulded both sides	"	2	4
2" " " " "	"	3	0
4" × 3" deal, rebated and moulded frames	F.R.	1	0
4½" × 3½" " " "	"	1	4
1½" deal tongued and moulded window board, on and including deal bearers	F.S.	1	9
1½" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2	6
1½" deal moulded wall strings	"	2	2
1½" " outer strings	"	2	4
Ends of treads and risers housed to string	Each	1	9
3" × 2" deal moulded handrail	F.R.	1	3
1" × 1" deal balusters and housing each end	Each	2	0
1½" × 1½" " "	"	2	9
3" × 3" deal wrought framed newels	F.R.	1	3
Extra only for newel caps	Each	6	0
Do., pendants	"	6	0

SMITH AND FOUNDER

		£	s.	d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.		15	6
Riveted plate or compound girders, and hoisting and fixing in position	"		19	6
Do. stanchions with riveted caps and bases and do.	"		19	0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	"		17	6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.			11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1	10	0

PLUMBER

		£	s.	d.
Milled lead and labour in flats	cwt.	1	12	0
Do. in flashings	"	1	15	6
Do. in covering to turrets	"	2	3	0
Do. in soakers	"	1	7	6
Labour to welted edge	F.R.			3½
Open copper nailing	"			3
Close " "	"			4

		½" s.	d.	¾" s.	d.	1" s.	d.	1½" s.	d.	2" s.	d.	4" s.	d.
Lead service pipe and fixing with pipe hooks	F.R.	10		1	0	1	3	2	0	2	10	—	
Do. soil pipe and fixing with cast lead tacks	"	—		—		—		—		—		5	6
Extra, only to bends	Each	—		—		—		—		2	0	6	9
Do. to stop ends	"	6½		8		9		11		1	0	—	
Boiler screws and unions	"	3	3	3	9	5	0	8	0	—		—	
Lead traps	"	—		—		—		6	3	8	9	—	
Screw down bib valves	"	6	9	9	6	11	0	—		—		—	
Do. stop cocks	"	7	0	9	6	12	6	—		—		—	

		£	s.	d.
4" cast-iron ½-rd. gutter and fixing	F.R.		1	0
Extra, only stop ends	Each		1	0
Do. angles	"		1	6
Do. outlets	"		2	9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.		1	2
Extra, only for shoes	Each		1	3
Do. for plain heads	"		5	6

PLASTERER AND TILING

		s.	d.
Expanded metal lathing, small mesh	Y.S.	2	0
Do. in n/w to beams, stanchions, etc.	"	2	9
Lathing with sawn laths to ceilings	"	1	3
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	"	1	5
Do. vertical	"	1	7
Rough render on walls	"	1	2½
Render, float and set in lime and hair	"	1	9
Render and set in Sirapite	"	1	11
Render, backing in cement and sand, and set in Keene's cement	"	2	9
Extra, only if on lathing	"		4
Keene's cement, angle and arris	F.R.		6
Arris	"		1½
Rounded angle, small	"		3
Plain cornices in plaster, including dubbing out, per 1' girth	"		1½
1" granolithic pavings	Y.S.	3	6
1½" " "	"	4	6
6" × 6" white glazed wall tiling and fixing on prepared screed	"	17	6
9" × 3" " " "	"	1	2	6
Extra, only for small quadrant angle	F.R.			8

GLAZIER

		s.	d.
21 oz. sheet glass and glazing with putty	F.S.		7½
26 oz. do. and do.	"		8½
Flemish, Arctic Figured (white) and glazing with putty	"	1	1
Cathedral glass and do.	"	1	2
Glazing only, British polished plate	"		7
Extra, only if in beads	"		2
Washleather	F.R.		4

PAINTER

		s.	d.
Clearcolle and whiten ceilings	Y.S.		6
Do. and distemper walls	"		9
Do. with washable distemper	"	1	1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	"	3	3
Do. on woodwork	"	3	6
Do. on steelwork	"	3	0
Do. and brush grain and twice varnish	"	5	6
Stain and twice varnish woodwork	"	1	11
Stain and wax-polish woodwork	"	4	6
French polishing	F.S.	1	2
Stripping off old paper	Piece	2	0
Hanging ordinary paper from	"	2	9

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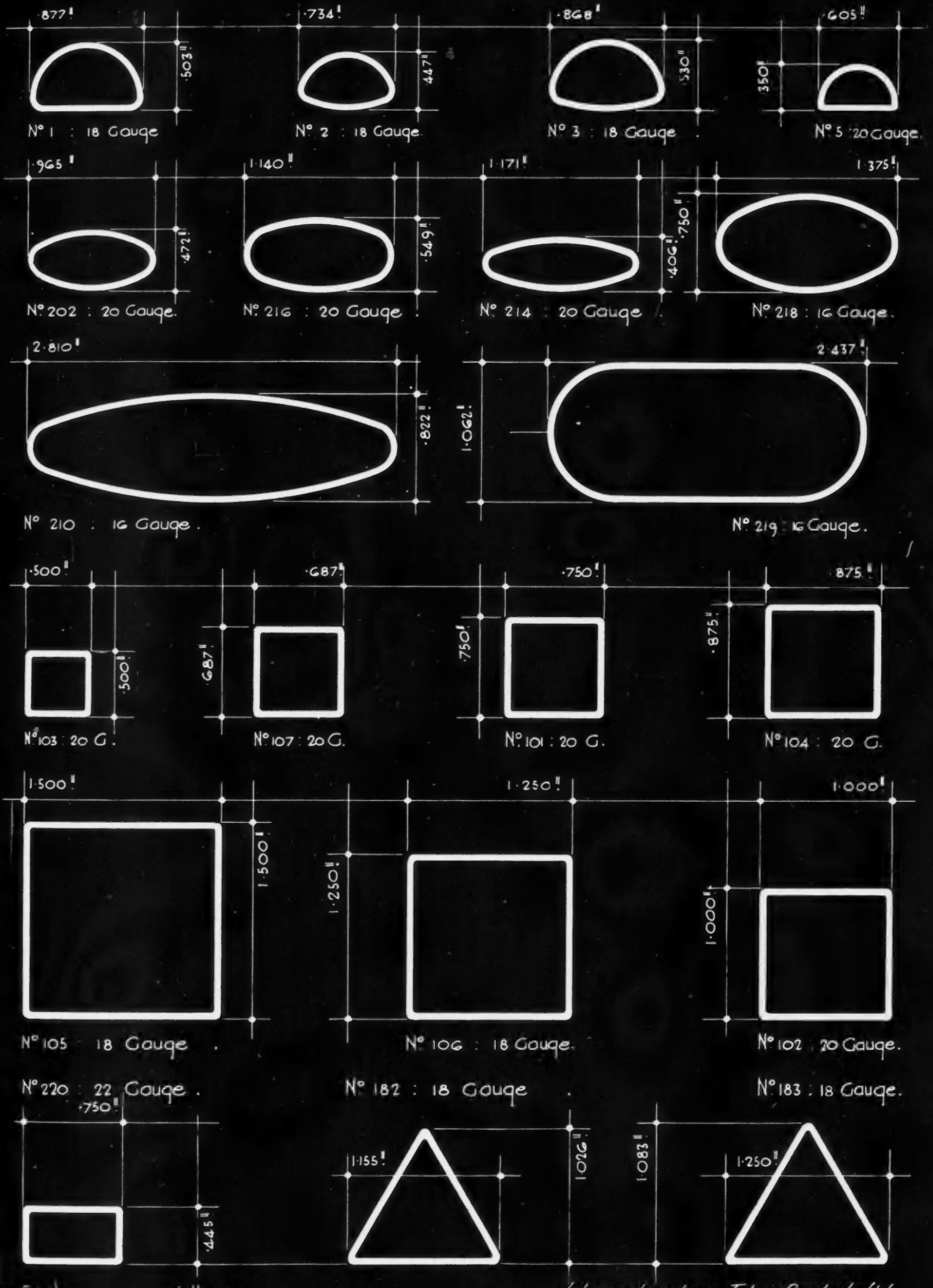
Electrically welded tube sections. Other shapes are made to order.



Scale : full size

Information from Tube Products Ltd.

INFORMATION SHEET : STEEL TUBING 1 · STANDARD TUBE SECTIONS.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 171 •

STEEL TUBING

Name of Product : Electrically Welded Steel Tubing

Standard Sections.

This Sheet shows a series of stock tube shapes and sizes, drawn to full size. The manufacturers are prepared to investigate the possibility of producing sections other than those shown in this list on receipt of full particulars.

Special Sections.

Welded tubing lends itself readily to the manufacture of special sections, which can be made to detail for decorative or other purposes. For instance, where it is necessary to increase the resistance to bending in one direction, or to increase the radiating capacity, oval or other shapes may be required.

Strength of Weld.

By suitably controlling the welding technique, the correct heat treatment is given to the weld metal during and after welding to bring it into the very best condition metallurgically. In other words, the weld is stronger than the parent metal itself. This is supported by the investigations made by the U.S. Bureau of Standards, which came to the following conclusion :

" This investigation shows that the properties of the base metal (the metal not affected by the welding) can be used in determining the working stresses for different structural uses of tubing made by this process, no allowance being necessary for the altered structure in and adjacent to the weld."

Tolerances for Circular Sections.

Tolerance on dimensions is that adopted by the British Standards Institution, given below :

Outside diameter of Tubes	Tolerance on inside and outside diameters
Inches	Inch.
Up to and including $1\frac{1}{4}$ in. ..	± .004
Over $1\frac{1}{4}$ in. and up to $2\frac{1}{4}$ in. ..	± .005

Note.—The above tolerances (with certain exceptions) take into account any ovalling of the tubes.

Tolerance on Thickness.

No tube shall have a mean thickness which departs from the nominal thickness by more than the following amounts, or by more then 10 per cent. of the nominal thickness, whichever is the smaller :

± 0.003 in. for Tubes up to and $1\frac{1}{4}$ in. outside diameter.

± 0.0035 in. for Tubes over $1\frac{1}{4}$ in. and up to $2\frac{1}{4}$ in. outside diameter.

Tolerance on Eccentricity.

In addition to the above tolerances, difference in thickness due to eccentricity shall not exceed ± $7\frac{1}{2}$ per cent.

(Abstracted by permission of the British Standards Institution from B.S.S. No. 5009-1924, Steel Tubes for Automobiles.)

Length.

Any length of tube can be produced, the only limits being those imposed by transport facilities.

Jointing of Tubes.

Tubes can be mitred and welded, either electrically or by the acetylene process, or jointed in other ways as shown on another Information Sheet.

Bending of Tubes.

See Information Sheet on Bending of Tubes. Other Sheets, Nos. 156 and 165, were presented in The Architects' Journal for October 25 and November 22, 1934.

Name of Manufacturers : Tube Products, Ltd.
Address : Oldbury, Birmingham
Telephone : Broadwell 1651-6
London Office : 66 Victoria Street, S.W.1
Telephone : Victoria 5359

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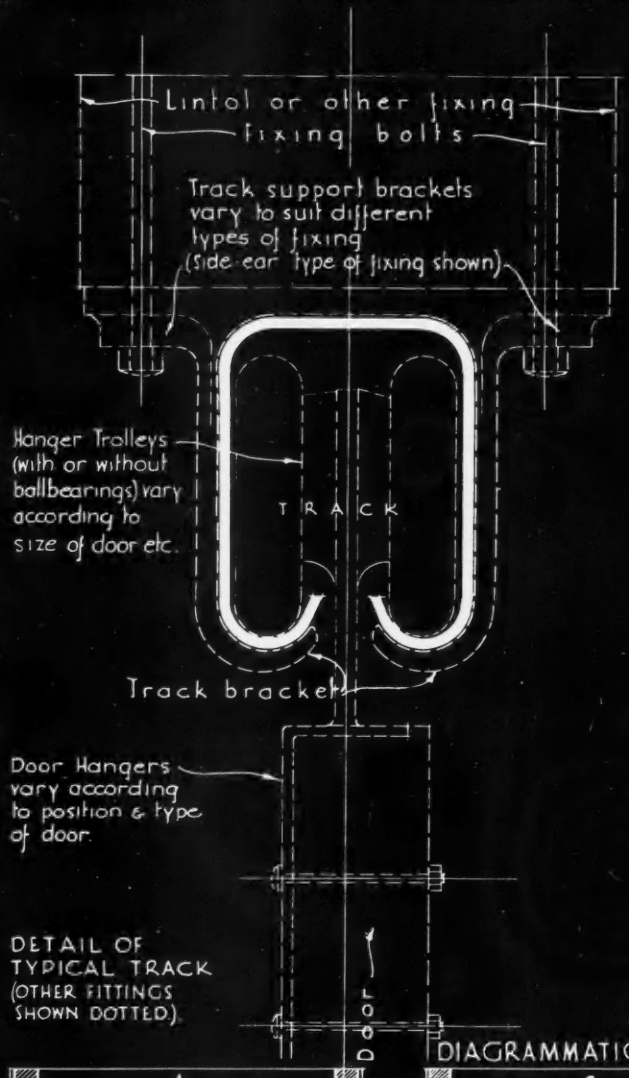


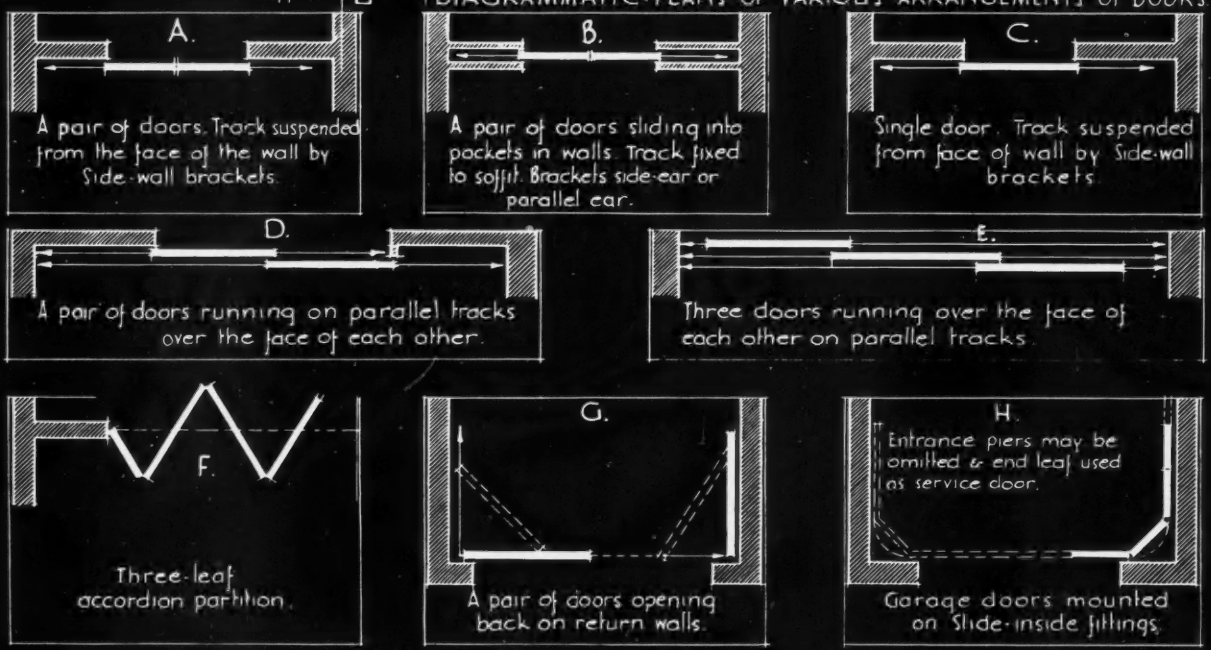
THE COBURN (SYSTEM) SLIDING, FOLDING, & SLIDE-INSIDE GARAGE DOOR FITTINGS

TABLE OF SIZES, DOOR WEIGHTS ETC. for all types of door & opening arrangement.

TYPE OF DOOR.	Maximum WEIGHT of door (lbs)	TRACK REQUIRED.		
		TRACK Nº	GAUGE	Standard lengths (ft)
Light Cupboard, Showcase, etc.	40.	0.	17.	2' 2½' 3' 4' 5'
Light Service.	100.	00.	16.	3' 4' 5' 6' 7' 8'
Warehouses, Garages.	300.	1.	16. 14.	3' 4' 5' 6' 7' 8' 9' 10'
Medium Service.	400	2½.	16. 14.	3' 4' 5' 6' 7' 8'
Heavy Service.	600.	3A.	13.	3' 4' 5' 6' 7' 8' 9' 10'
Large garage, store,	15 cwt.	4.	13.	3' 4' 5' 6' 7' 8'
Goods shed, Hangar,	30 cwt.	5.	1/8" plate.	3' 4' 5' 6'

TRACK SUPPORT BRACKETS: for details of types, various methods of fixing, special-purpose brackets & wall stops, see Manufacturer's Catalogue.
TROLLEYS & DOOR HANGERS: for various types of hangers & methods of fixing, see Manuf's Catalogue.
STANDARD FLOOR CHANNELS & GUIDES: for details of plate, angle & roller guides & for SLIDE-INSIDE GARAGE DOOR FITTINGS, see Manufacturer's Catalogue.

DIAGRAMMATIC PLANS OF VARIOUS ARRANGEMENTS OF DOORS



Information from O'Brien Thomas & Co. Ltd.

INFORMATION SHEET: COBURN (SYSTEM) SLIDING & FOLDING DOOR FITTINGS.
SIR JOHN BURNET TAIT AND LORNE. ARCHITECTS. ONE MONTAGUE PLACE BEDFORD SQUARE. LONDON WC1.

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 172 •

SLIDING AND FOLDING DOOR FITTINGS

Name of Product : Coburn (System) Track

Description :

The Coburn (System) track shown on this Sheet is typical of the full range of seven types of track which are manufactured, each for a particular purpose.

All types of track have the fully rounded running troughs for the trolleys, these troughs giving the track a maximum of rigidity, and a maximum of bearing surface for the trolleys.

The tracks are made of various gauges of British sheet steel, and the standard finish is in black enamel. If extra protection is required the manufacturers recommend heavy galvanizing.

Fixing :

Support Brackets for all tracks are made in three types :

(a) For side wall fixing.
(b) Parallel ear fixing.
(c) Side ear fixing.

Special-purpose brackets and stops are also made in various sizes.

Trolleys and Door Hangers :

Trolleys are made with

(a) Standard roller bearing, or
(b) Ball bearing,

in a variety of sizes each for a particular purpose and for use with a particular track.

All trolleys and components are heavily Cadmium plated and rustproof.

Door Hangers are made in various shapes and sizes to provide for all types of doors and conditions of hanging.

Floor Channels and Guides :

Sliding doors running on an overhead track require a channel or similar floor guide to stop them "flapping." Suitable guides are made to meet practically every arrangement of doors and special guides for occasions when no floor channels can be used.

Name of Manufacturers : O'Brien Thomas & Co., Ltd.

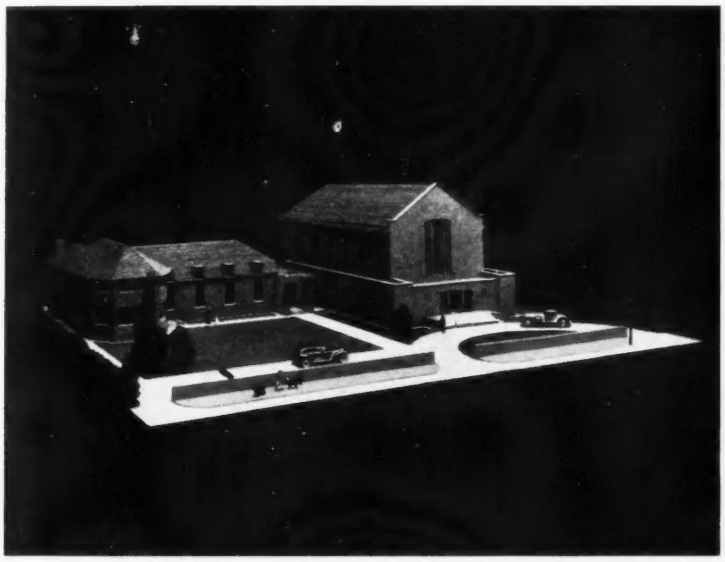
Address : 17-18 Upper Thames Street, E.C.4

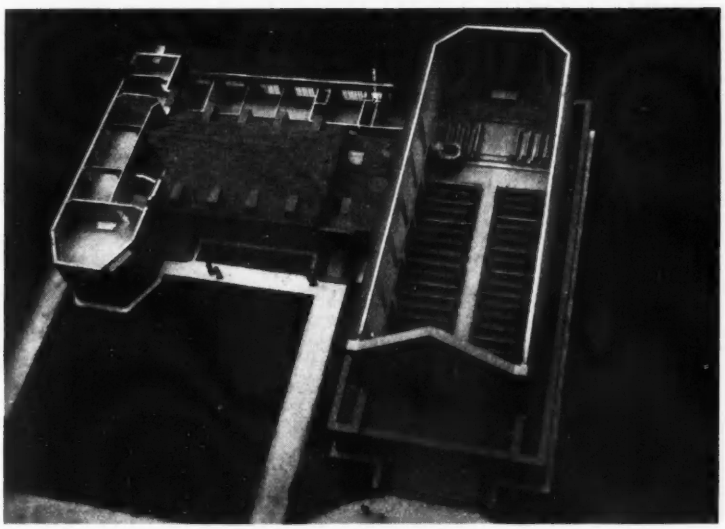
Telephone : Central 5171

Works : Effingham Works, Rotherham

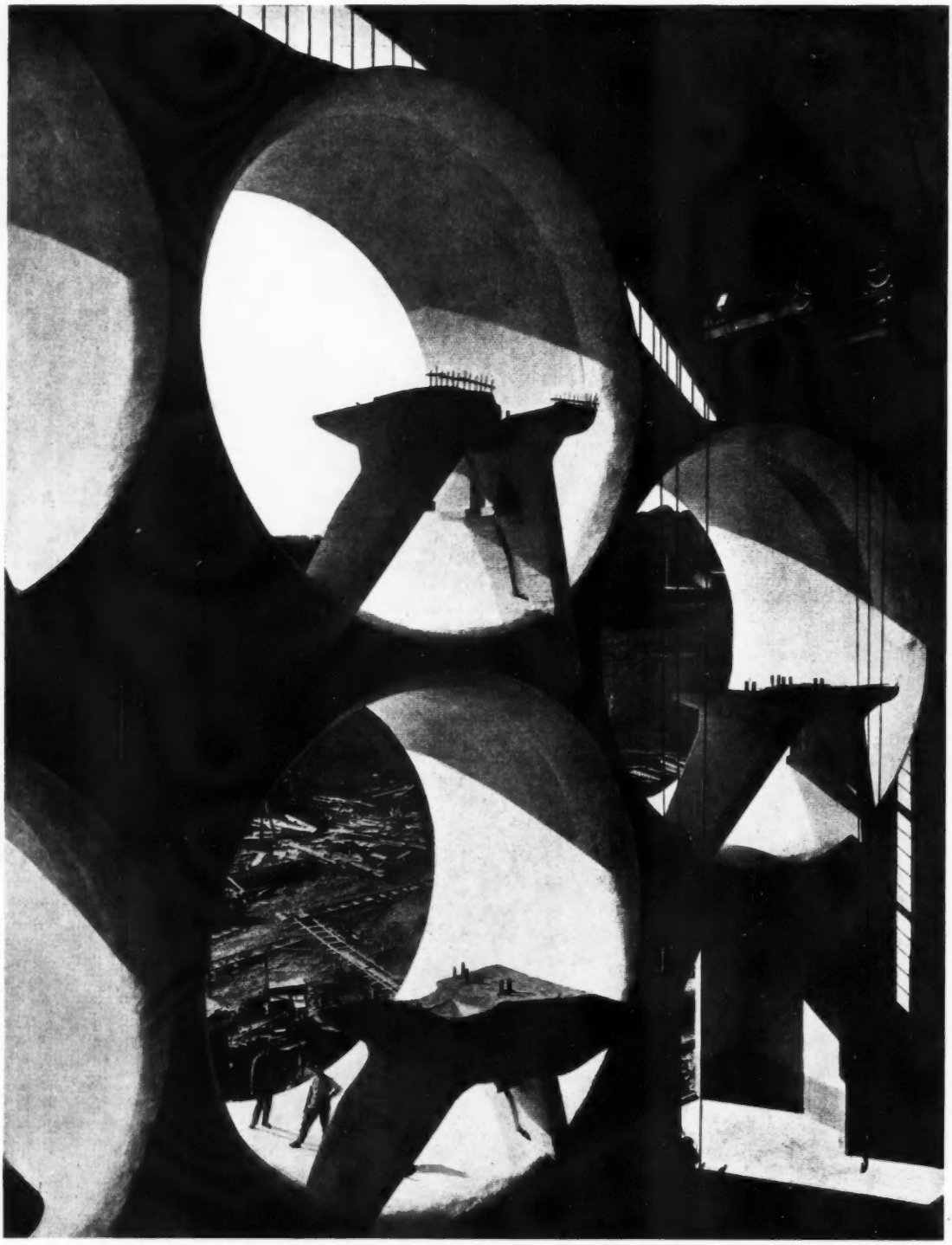
MODEL BY THE MINISTER

PROPOSED NEW CHURCH AT TIMPERLEY

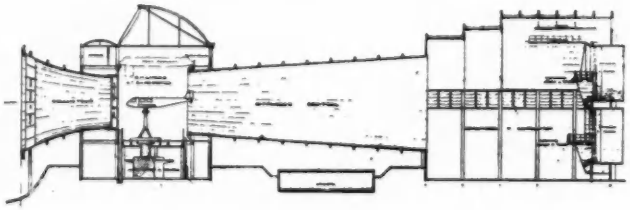




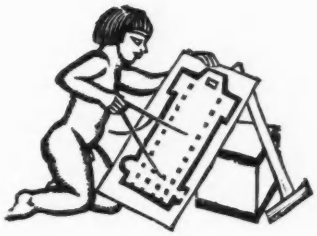
THE Rev. Donald Brook, minister of Timperley Methodist Church, Manchester, has completed a scale model of the new church which it is proposed to build in the new year, hoping that exhibition of the model will rouse interest in the church fund. The model is in plywood, and takes to pieces to show the inside. The minister has had the assistance of Mr. Chippendale, architect of the building, who, with his partner, Mr. Needham, was the winner in a limited competition for the church held earlier this year. Mr. Chippendale is head of the department of architecture in the Manchester Municipal School of Art. The church, which will hold 400, will be in brick with stone dressings and a green slate roof. The photographs show a general view of the model, and a view from above with the roofs removed.



WIND-TUNNEL



The new aero-dynamic experimental buildings at Chalais-Meudon, France, contain this gigantic wind-tunnel for testing aeroplanes. The photograph shows some of the six air-intake apertures which appear on the extreme left of the section. These are in reinforced concrete. The fan-mountings are seen in each aperture, which carry fans producing an artificial air current of 180 km. per hour velocity. The illustrations are taken from the current issue of "L'Architecture d'Aujourd'hui."



HOUSING ENGLAND

THE important aspect of the P.E.P. Report, *Housing England*, which was reviewed in the Housing Supplement in our last issue, is not the detailed results of the Group's researches into current needs and conditions so much as the Group's approach to the housing question generally. It recognizes from the beginning (indeed, it is the basis of P.E.P. organization that all its members do recognize) that planning on a national scale is the essential first step towards solution of most current problems—and one of the most urgent of current problems is housing.

P.E.P. is a non-political body ; and this explains its determination to look at conditions as they are, not as they might be, and its policy of suggesting the immediately practicable next step rather than the Utopian one after next. The Report is prevented, that is to say, by its terms of reference, from making, for example, in its "systematic attack on all contributory cost factors," such revolutionary suggestions as elimination by socialization of private ownership of land and the means of production. Instead, it concentrates on economies in organization and execution that might be practised without too radical a change in the economic order. This strictly pragmatic attitude must be unique in a disinterested research body, and P.E.P. has the advantage of including among its members experienced technicians of many kinds who can indicate reforms of more than theoretical value.

The limitations inherent in P.E.P.'s deliberate avoidance of political theorizing—the limitations, that is to say, of a Reformist as compared with a revolutionary solution, are largely offset by the greater immediate applicability of their suggestions. Their method of correlating building enterprise takes the form of a Housing Company (having some of the characteristics of a Public Utility Society) organized on a national scale, together with a parallel Building Company to carry out the Housing Company's plans with the economies that mass purchase of materials and mass organization of labour would make possible.

The real purpose of the Report is to demonstrate that, despite the hitherto discouraging experience of private housing enterprise, it is possible by means of thorough organization to provide, even under the present system, housing of a civilized standard without either exploitation of the tenant, reduction of his standard of living in other directions or the necessity of official subsidies. Whether this is indeed possible could only be discovered by actual experiment, but the Report recognizes that, to bring it about, improved organization within several of the contributing parties to this solution is absolutely essential ; and within the building industry before any.

However well thought-out the method of providing better housing, with unsatisfactory means of carrying it out, much of its value is wasted. Not only does an unplanned industry make for uneconomic building costs, but unplanned industry makes (as a series of recent articles in this JOURNAL showed) for increased unemployment and instability in the labour market, thereby depreciating the economic condition of the working class and making adequate housing even more a charge on public resources. Again, to take the case for reorganization to its ultimate conclusion would demand the rationalization of all industry, not only of the building industry ; for national planning of industry is necessary before such advantages are possible as proper localization of industry ; and on localization of industrial development depends the distribution of the demand for housing. Planning of housing, that is to say, is dependent on national planning. P.E.P., however, in concentrating in this report on planning the building industry, have at least concentrated on the industry in which planning will be of the greatest benefit. The building industry forms a kind of barometer of economic conditions, and well-planned productive activity in the building industry over a long period would make one of the most useful possible contributions to renewed economic stability.

The building industry is faced with the undoubted prospect of immense activity. This is promised in the programmes of housing, official and unofficial, already announced. Whether the industry can turn this promised activity to the best account, both for its own benefit and for the benefit of all the others that would react to its prosperity, depends on its ability to prepare itself, on far-sighted rational principles, for the carrying-out of the responsibilities that have been thrust upon it. The building industry must plan. It must analyse the demands that the future is going to make on it, and prepare to meet them intelligently. *Housing England* suggests valuable reforms. It rests with the building industry at least to consider them seriously, and if they offer the opportunities for improvement they appear to, to put them into practice.

The Architects' Journal
Westminster, S.W.1
Telephones: Victoria
0212-7
Telegrams:
Buildable
Parl
London

NOTES & TOPICS

THE LONDON ARCHITECTURE MEDAL

LAST Monday the London Architecture Medal was presented to Messrs. Welch, Cachemaille-Day and Lander for the design of Saint Saviour's Church, Eltham.

*

It is one of the most interesting of many good churches by this firm. It shows what may be achieved by the deft use of brick and concrete in a decorative way; but it shows too, what is more important, that modern materials and modern constructional methods do, properly used, lend themselves to the achievement of the "religious atmosphere" which is the first requirement of orthodox church buildings.

FLAT ROOFS

A firm of Doncaster builders, who declared that they had built flat-roofed houses in various parts of the country that could be sold "before the foundations were laid," have been refused permission to build them in York. "Monstrosities," says the Town Clerk: "flat-roofed monstrosities." Have you noticed how this word "monstrosity," has found its place in our ever-shifting language? What is a flat-roofed house? A monstrosity. Why? Because it is. Everybody knows it is.

*

Now for all I know to the contrary these particular houses *may* be monstrosities. A lot of flat-roofed houses by the eager speculator are monstrous to a degree, but only because they are clumsy, and tangled with compromise and as generally excruciating as the brand of Tudorbethan they replace.

*

The fact that they have flat roofs is a minor factor of criticism, and what is so tiresome in the average councillor when he sets up to criticize is his entire lack of the critical faculty that should enable him to decide between good architecture and bad. Hence the comfort of a good strong word like "monstrosity."

MODERNISMUS

Sir Reginald Blomfield's debating methods are a trifle rough and tumble. I often wonder whether he likes fighting better than the architecture he fights for, and whether, indeed, he has not carried with him through his vigorous life the combative repartee of earlier schooldays.

*

How otherwise to explain his broadcast reference to two unfavourable reviewers of his counter-blast *Modernismus*, Messrs. Baty and Boumphrey, which took the form of a less than respectable pun intended to throw ridicule without expense of the critical faculty.

*

Will there be found others among his peers to carry on this now all too unequal fight?

REHOUSING

Sir Ernest Simon is contributing a series of articles to the *Manchester Guardian* on the problem of rehousing. He fights hard for the small house in the garden suburb as being the ideal method of rehousing the slum dweller, but I find his arguments confused.

*

When last I visited Manchester I looked from the carriage window over a rolling sea of two-storeyed cottages, all belching smoke to vie with the gaunt mills that rose from among them. There are miles and miles of this sort of thing, interspersed with waste space and general disorder.

*

How can Manchester people close their eyes to the problem that lies waiting to be solved at their doors. It is possible to create a form of urban life that combines the "line of light" with the "belt of green;" the grandeur of the finely conceived block of communal dwellings with the tenants' garden and the children's playground. When will this illogical flight from the town end?

*

When will we learn that there is no reason why we should repeat the failure of the nineteenth century to create urbanism, when we have now all the means of the twentieth century to help us?

BURYING ST. PAUL'S

The report on obstructions of the view of St. Paul's made by Mr. Godfrey Allen, F.R.I.B.A., to the Dean and Chapter is timely. We have been mean and silly about St. Paul's ever since Wren completed it. It has a shoddy approach. It has shoddy surroundings. And now there is nothing to prevent it from being shut off from the river by a higher building line.

*

Only if the building is actually in danger of falling down do Londoners bestir themselves on its behalf; but they reject its beauty as woodenly as their ancestors rejected Wren's plan for making their city the finest in the world.

*

The City authorities could use their special powers under the Town and Country Planning Act of 1932, to

Views of St. Paul's Cathedral: Present and Future. A report on the danger to famous views of St. Paul's if buildings are erected to the height allowed under the London Building Act, 1930, has been submitted by Mr. W. Godfrey Allen, F.R.I.B.A., (Surveyor of the Fabric of St. Paul's) to the Dean and Chapter. Above are reproduced two photographs, issued with the report, of the view from Bankside. The lower one shows the effect on the view of the Cathedral if buildings 100 ft. high were erected on the cathedral side of the river.

plan the locality of the cathedral so that it would remain, as at present, partly visible. A civilized community would have cleared the vicinity of the great church years ago, and allowed Ludgate Hill to be crowned with a park as the proper setting for Sir Christopher's masterpiece. But perhaps the Dean and Chapter, armed with Mr. Allen's report, may be able to overcome the vast inertia of the City fathers.

THE ARCHITECTURE OF ADVERTISING

The exhibition of "Advertising of today and to-morrow" which opened last week at Dorland Hall, London, includes a model of a block of flats by Joseph Emberton, and one of the new Olympia extension.

*

"Furniture of the Future," is shown in a series of drawings of Betty Joel's designs. Her capacity for design has grown since the days of her first rather crude essays in teak and oak, but I doubt whether many people will see eye to eye with the writer of the catalogue who says "Within the last five years Betty Joel has done much to influence the design of the present day."

*

The infelicities of catalogue writers are proverbial, but after the statement quoted, the following occurs: "It is impossible to forecast accurately such a development as there are many forces which influence the trend of design; but the ideas of this modern Chippendale merit the attention of all interested in decoration." That sort of drivel only harms a competent designer, and I hope Betty Joel has protested.

*

The best thing in the show is the collection of international posters. Of these the anti-war posters by Tom Purvis and Austin Cooper are outstanding; but I'm not sure that the promoters of the Exhibition aren't sailing very near the wind, the Incitement to Disaffection Act now being on the Statute Book. Surely recruiting posters and anti-war posters brought together in one building must start illegal trains of thought?

RETROSPECT

For two whole months Architecture has appeared very prominently in all this country's papers. I admit that there has been a very adequate "news value" (or, as we journalists say, "story") to back it, but the sustained interest of even the most unlikely papers has been remarkable. It is apparent that the world at large must be interested, because, as everybody knows, newspapers "only give the public what it wants."

*

Let us draw a conclusion:—*The public has no rooted aversion to architecture, so long as it be properly presented.*

*

This is Christmas—very nearly. Let us forget that we are "professional men;" let us consider whether or not the attention paid to our own architectural affairs by the papers of this country has not been stimulated by a reasonably planned and properly carried out consideration of—(well, come on, it's Xmas!) PUBLICITY by the R.I.B.A.

*

I hope I am not making too many people nervous. What I mean is that, as a profession, we haven't done too badly. Never, I imagine, has a body been so graciously and in such quick succession patronized by Royalty. Rarely have celebrated people been so consistent in their advocacy (one after another) of the expressed ideals of any association.

*

That, obviously, means a very great deal. But we cannot afford, as a profession, to sit back and applaud the publicity value of the Centenary Year. We have been pushed out into mid-stream and (at Christmas metaphors may be mixed) the pot has to be kept boiling.

*

The great thing is, of course, to have something interesting to say to the world. Then the world will listen.

THE TRUSCON DANCE

A case-hardened grumbler determined to find fault could, perhaps, discover two complaints about this successful entertainment at the Wharncliffe Rooms on Saturday evening—the first was that its title was hard to live up to: a guest having done justice to the excellent dinner provided would be in no condition to attempt what is usually described as supper.

*

The second was that, so thoroughly was the entertainment organized, it was extremely difficult to find time to do much dancing. Though well over 400 people were there, the gathering was surprisingly intimate, encouraged from the start by the communication individually addressed to each guest and awaiting him at his table. This is really worth reproducing in full.* One thing more; there were no speeches—apart from the loyal toast. Other companies might copy.

ASTRAGAL

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* See illustration on page 912.

NEWS

POINTS FROM THIS ISSUE

" *There is nothing to prevent it (St. Paul's Cathedral) from being shut off from the river by a higher building line* " 910

" *One of the worst places for the city's most important buildings is a traffic junction* " 913

" *The great danger to modern design evolving in a sound and sane manner is not from copies of the past but from ignorant exaggerations and travesties of the best of the modern spirit* " 914

" *I was recently informed by the Minister of Health that the L.C.C. have now scheduled 20,108 underground rooms that are unhealthy within the meaning of Section 18 of the Housing Act, 1925* " 918

COUNTY HALL EXTENSIONS

New office buildings on a site of over three acres opposite the County Hall are to be built for the L.C.C. Sir Giles Gilbert Scott will be invited to act in a consultative capacity with the Council's own architect for a fee of £4,000. He will share the responsibility for the exterior design and advise on the interior work and general planning. The site has frontages to York Road and Belvedere Road—between which a new street will have to be made—and Westminster Bridge Road. The scheme is estimated to cost about £885,000: half a million for the building itself and the rest for the purchase of land and the rehousing of 200 people.

OBSTRUCTING ST. PAUL'S

Many of the best known views of St. Paul's will be largely blocked if buildings in the vicinity are erected to the maximum height authorized by the London Building Act, 1930, states Mr. Godfrey Allen, Surveyor to the Fabric of St. Paul's Cathedral, in a report to the Dean and Chapter. He says that if this height is exceeded, as it has been recently, these views will be finally lost, and he suggests that the attention of the authorities concerned should be drawn to this growing menace to the City's civic development.

The report is accompanied by a volume of photographs of familiar near and distant views of St. Paul's, and on these have been projected the outlines of possible reconstruction to show how disastrous the new effect would be if buildings were put up to the 100 ft. to roof ridge level which the Act allows. Mr. Allen states that the London County Council has power to permit the erection of buildings even higher, and the tendency is for modern buildings to exceed the normal level, especially when they face the river or an open space. The Cathedral authorities have a right of appeal against an L.C.C. consent only when an intended building is within 100 yards of St. Paul's.

In conclusion, Mr. Allen states that the City authorities, as the owners of extensive property near St. Paul's, could do much to help, and adds the hope that they will use their special powers under the Town and Country Planning Act of 1932 to town-plan the locality and try to ensure the preservation of the best views of the Cathedral and of other buildings of beauty and historic interest.

THE ARCHITECTS' DIARY

Thursday, December 20

R.I.B.A. *At 66 Portland Place, W.1. "Exhibition of International Architecture 1924-34." Open until January 3.*

WALKER'S GALLERIES. *At 118 New Bond Street, W.1. Exhibition of Drawings by Robert Byron, illustrating a journey in Persia and Afghanistan. Last day.*

Friday, December 21

THE LONDON SOCIETY. *At the Royal Society of Arts, 18 John Street, Adelphi, W.C.2. "London from the Pavement." By Hanslip Fletcher. 5 p.m.*

THE KING'S HOUSE

The King's House, which has been accepted by His Majesty as a Jubilee gift from the members of the Royal Warrant Holders' Association, will form one of the exhibits at the *Daily Mail* Ideal Home Exhibition at Olympia, W., in March.

The *Daily Mail* has arranged with the association for a full sized replica of the house, occupying an area of 75 ft. by 50 ft., completely equipped and furnished, to be shown at Olympia just as it will be on its permanent site on Lord Iveagh's Burhill estate, Surrey.

FLAT ROOFS

The entire unsuitability of flat roofs for York was urged at a Ministry of Health inquiry at York on December 11.

The City Council had refused to pass plans by Messrs. Pearson and Blackwell (Doncaster), Ltd., builders, for the erection of houses with flat roofs on land at Dringhouses, and against this decision Mr. J. Pearson, a member of the firm, appealed.

The following report appeared in the *Manchester Guardian* for December 12 :—

Mr. Pearson said he was not particularly anxious to have flat roofs, but he was driven to have them to keep down the cost, as he was informed that he must not use blue Welsh slates. This drove him to the use of tiles or grey slates, at greater cost, if he was compelled to put in sloping roofs.

The Town Clerk of York, Mr. R. Anderson, said that the plans were for blocks of working class houses which had been submitted to an advisory committee, set up under the town planning scheme, and this committee had rejected the plans.

" My personal view," he said, " is that there is not a greater monstrosity than a flat-roofed cottage. I have seen examples in the North of England and a more appalling looking erection it is difficult to imagine. Here we have land abutting on the main railway line and one can imagine visitors to this ancient city, renowned for its architectural beauty, looking out from the train as they near York and seeing these erections, which are nothing more than monstrosities. If town planning is to have any effect at all, this is a case in which we are more than justified in not approving. To allow these houses in such a position in the city of York is unthinkable. I cannot imagine any part of York where such houses could be put up. No one would be proud of such a cottage in any position."

Mr. Cecil Lockenby, architect, a member of the Advisory Committee, said that in such a position a design of this class should not be approved. It was a design which would strike a note of inferiority to people coming into York. The proposal for flat roofs was an ill-considered attempt to convey a modern note to a design not otherwise of a modern character. There would not be any objection to a roof of grey slates, but they would not approve of purple Welsh slates.

Mr. C. W. K. Needham, architect, consulting surveyor to the Bishopthorpe Rural District Council, also spoke in opposition to the design of the cottages.

Mr. Pearson said that flat roofs were the coming thing. He agreed with town planning, but after all there was the point of view of those who were developing and were finding the money for the houses which were said to be needed.

A Contract made this fifteenth day of December, nineteen hundred and thirty-four between *Astragal*

(hereinafter called the GUEST) of the one part and the TRUSSED CONCRETE STEEL CO LTD. (hereinafter called the HOST) of the other part.

Whereas the HOST is desirous of providing certain enjoyment and refreshment and has caused a Specification to be prepared with that object and Whereas the GUEST is entitled to a full EVENING'S PLEASURE and AMUSEMENT and to enjoy her/him self according to her/his mood and desire, to eat, drink, and otherwise be merry, and to disport within the LIMITS and PRECINCTS described in this said Contract and upon *certain Terms and Conditions prescribed therein*.

This Contract is valid only for the night of the Fifteenth of December 1934 between the hours of 7 p.m. to midnight wherein there shall be much gaiety as is afforded by the rattling of dishes, the popping of corks, the chinking of glasses, the telling of stories, the laughter of ladies and the lightsome shuffle of many merry feet upon the polished maple.

This Contract imposes upon the HOST the obligation of providing the wherewithal for such jollification as is described above and upon the GUEST the obligation of doing her/him self extremely well in accordance with the Schedule and the Conditions of the Contract as hereinafter defined.

The first page of the " Contract " handed to Astragal at the Truscon dinner and dance, held in London on Saturday last. See page 911.

Why could not he spend money in what he liked so long as it was all right? "I believe in a good building, and I say I am as good a judge as any man who has spoken as to the demand for this type of house. The railway runs below the level of the ground, and if an artificial stone coping does not look as well as slates or tiles, I do not know what else to say."

The inquiry was closed.

GARDEN CITIES AND TOWN PLANNING ASSOCIATION

The following resolution was passed by the Executive Committee of the Garden Cities and Town Planning Association, on December 7: "That the Association welcomes the announcement by the Government that legislation will be introduced to deal with ribbon development, and wishes to emphasize the urgent necessity of such action, in view of the increasing loss of life to which ribbon development is contributing.

"The Association again emphasizes the economic and social waste involved in ribbon development and reiterates its policy to concentrate all forms of development in self-contained planned towns as the best means of meeting the requirements of industry, housing of the population and the safety of traffic.

"The Association urges the Government to provide facilities at the earliest possible moment for the introduction of the necessary Bill."

PUBLIC ASSEMBLY HALLS, WOLVERHAMPTON

The recommendation of the Civic Centre Committee of the Wolverhampton Town Council asking for authority to invite tenders for the new public assembly halls, at a cost of £150,000, to include fees, fittings, furnishings, etc., and for any modifications, was adopted by the Town Council last week.

The architects for the scheme are Messrs. E. D. Lyons and L. Israel, whose design was placed first in an open competition, held a few months ago.

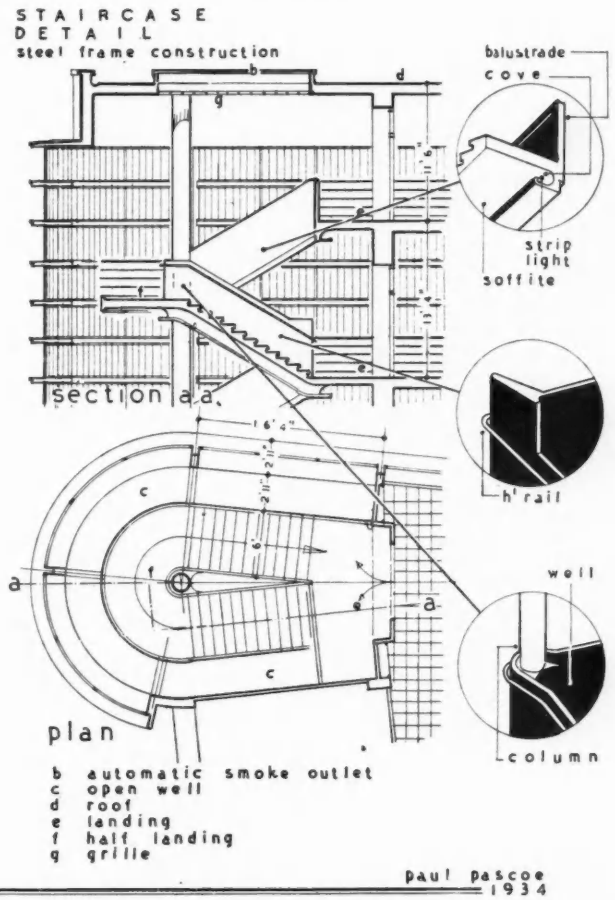
TOWN PLANNING INSTITUTE

The traffic problem was discussed by Professor R. A. Cordingley, A.R.I.B.A., at a meeting of the North of England Branch of the Town Planning Institute, held recently at Manchester.

He said that as it became increasingly clear that the main traffic road of the future would approximate ever more closely to the conditions of the railroad, it would seem that a small number of an existing city's highways should be developed as high-speed traffic routes with every possible obstruction removed from them and with special devices for their intersections.

Observing that no more than on a railway would it be reasonable to use these arteries for building frontages nor sensible even to use main distribution roads for a city's public buildings, he said that the axiom they might extract from the trend of development during the past thirty years was that "the more important the traffic route the less should be the traffic contributed by its adjacent frontages."

By this reasoning a civic centre, while being impressively and importantly visible from certain selected traffic routes, should be administered by subordinate streets operating solely in service of the centre. Traffic should pass about, rather than among, its units, and the frontages should be away from the main traffic routes. One of the worst places for the city's most important buildings was a traffic junction.



From the Schocken Store, Stuttgart. Designer: Erich Mendelsohn.

SOUTHEND'S SWIMMING POOL APPROVED

The Port of London Authority have approved, upon certain conditions, the proposals of the Southend Corporation for a new swimming pool with refreshment rooms, a boating lake, a car park and other amenities, on the Southend foreshore.

ANNOUNCEMENTS

Mr. Michael Dugdale A.R.I.B.A. and Mr. Godfrey Samuel, A.R.I.B.A., will resign their partnerships with Messrs. Tecton, of 57, Haymarket, S.W.1, from January 1, 1935. Mr. Samuel will continue to practise from that address until March 31, 1935. Mr. Dugdale will open an office at 18A, Elizabeth Street, S.W.1.

Waldo Maitland and Partners, Lighting Consultants, have moved their offices to 20 Buckland Crescent, N.W.3 (Telephone, Primrose 1668) and are working in association with D. Winton Thorpe, A.M.I.E.E., Consulting Electrical Engineer.

R. I. B. A.

GENERAL MEETING

On Monday last, at a general meeting of the R.I.B.A., Sir Giles Gilbert Scott, R.A., PP.R.I.B.A., presented the R.I.B.A. Medal and Diploma for a London building completed between 1931 and 1933 to Messrs. Welch, Cachemaille-Day and Lander, F., A. and A.R.I.B.A., the architects for St. Saviour's Church, Eltham, S.E. The presentation was preceded by a paper on "Modern Church Architecture," by Mr. Edward Maufe, F.R.I.B.A.

Extracts from the paper are given below:

In the building of churches I think it is now generally recognized that we must look both to the past and to the present; our churches

should not be merely reproductions in the manner of some previous style which happens to be fashionable. A copy is never the real thing. The conditions dictating the design of one church and another being inevitably different, both in time and space, the result, if it is a true building up from these conditions, must also be different. Even if the physical conditions of one church and another appeared to be the same, the fact that we have suffered experience between the building of the one and the building of the other should cause the results to be different.

Antiquarianism is mainly a modern feeling. As I have said elsewhere, it must be realized that it is traditional to be modern ; that is to say, our forebears built as well as they could to suit their own conditions and did not attempt to copy the past—in fact they thought they could build better than the past. Their urge to good work was largely a very normal, a very human one—a spirit of devotion to the Church, of rivalry with adjoining parishes, and a desire to make their own particular church just as beautiful as they could ; to give it, if possible, better work than had ever been given before. They were the modernists of their day. We should not have our heritage of great architecture if they had been imbued with the antiquarian creed.

However, I realize that the way is narrow ; that it is easy to slip over to the other side. The liberation given to design by the new materials and the new methods of construction is obviously dangerous if not used wisely—in churches we must not merely experiment, we must as far as possible use proved knowledge. Nor must we build merely in revolt from the immediate past, as buildings built from this sort of motive obviously will not live ; they will be too closely dated, and will become tiresome legacies to those who come after.

But the Church cannot stand outside contemporary thought—she is there to point the way of life, and it is obvious that she can gain from, just as she gives to, our new knowledge. Few types of buildings have more to gain from it. The new materials and the new methods of construction readily solve some of the long-standing difficulties of church building, particularly with regard to large spans and fire-resisting construction. Moreover, now that the sermon has to some extent lost its potency, it is realized again how effectively the lessons of the Church can be taught by her buildings if these be but worthy of her.

Architecture in the past has always been a reflection of its age, and since there has never been such a rapid increase of knowledge as in our age, it is only natural that the change in our church buildings should also be rapid—though perhaps it is a little too rapid for some of us. The great danger to modern design evolving in a sound and sane manner is not from copies of the past but from ignorant exaggerations and travesties of the best of the modern spirit.

But if we bury our heads in the sand and refuse to take into account all new conditions, as well as all old ones, there will be the other danger of the Church being dissociated from contemporary thought. However, we tonight need not fear that ; the Church is daring to employ contemporary designers—we indeed meet now to give honour to one of them, and I would here like to be allowed to give my personal congratulations to Messrs. Welch, Cachemaille-Day and Lander on their achievement.

In building we must see to it that we assess all the conditions at their true worth. There is an attempt on the part of some of our designers to limit us solely to the material facts, to say that they are the only facts, but I would say that spiritual and æsthetic conditions are also facts. True functionalism is no new thing—what is new about our latter day functionalists is that they pretend to stop short with the material facts, or seek to deceive themselves and us that they do so.

COUNCIL MEETING

Following are some notes from a recent meeting of the Council of the R.I.B.A. :—

The R.I.B.A. Statutory Examination for District Surveyors, October, 1934 : The Board of Architectural Education reported that at the examination held in October, 12 candidates sat, of whom the following were successful : G. S. Bowers, J. Fogden, H. A. Hesketh, C. Mitchell, and J. I. Padget.

The R.I.B.A. Examination for Building Surveyors, October 1934 : The Board reported that two candidates sat for this examination and that the following was successful : H. E. Pollard.

Competition for the Owen Jones Studentship : On the recommendation of the Board it was resolved that the competition for the Owen Jones Studentship be conducted in two stages as at present, but that a 12 hours' sketch design *en loge* be instituted at the beginning of the second stage. It was further resolved that the subject for the Owen Jones Studentship competition be announced in general terms to the candidates chosen to take part in the Final Competition.

The London Diocesan Fund and the Honorary Advisory Committee of Architects : The Practice Standing Committee reported that their suggestions for the amendment of the London Diocesan Fund Regulations governing the appointment of architects had, after protracted negotiations, been very largely adopted by the London Diocesan Fund.

The Statutory Recognition of Architects : The Executive Committee reported that, upon the recommendation of the Public Relations Committee, they had submitted a considered memorandum to the Minister of Health on the statutory recognition of architects and the need for legislation to ensure the employment of qualified architects for all house building by public authorities, and all house building by private persons and companies which is financed or subsidized from public funds.

Slum Clearance and Town Planning : The Executive Committee reported that they had approved the report of the Joint Meeting of the Slum Clearance Committee and the Town Planning and Housing Committee embodying the following recommendations ;

1 : That the joint meeting, having considered the report of the Slum Clearance Committee, are in agreement with the broad principles embodied in the report, but are of opinion that in town planning respects it requires development and amplification ;

2 : That this development and amplification is the appropriate work of the Town Planning and Housing Committee, in that committee's general consideration of town planning, and it was thought desirable that this work should be undertaken by them assisted by the addition to that committee of members of the Slum Clearance Committee for the last session ; and

3 : That in the opinion of the joint meeting it is advisable to defer the calling of the conference of interested bodies referred to in the report, pending the Town Planning and Housing Committee's development and amplification of the report.

Grant to the North British Architectural Students' Association : The Executive Committee reported that they had approved the recommendation of the Officers of the Board of Architectural Education and the Finance and House Committee to make a grant of £25 a year for three years to the North British Architectural Students' Association.

British Standards Institution Committees on Tiles : The Science Standing Committee reported that Mr. S. Pointon Taylor had been appointed as R.I.B.A. representative on B.S.I. Technical Committee B/18, Concrete Roofing Tiles, and on Sub-Committee B/5/2, Clay Tiles.

British Standards Institution Committees on Pipes : The Science Standing Committee reported that Mr. H. D. Searles-Wood had been appointed as R.I.B.A. representative on B.S.I. Technical Committee ME/28, Pipe Threads, and that Mr. C. J. Morreau (of the Building Research Station) had been appointed as R.I.B.A. representative on B.S.I. Sub-Committee ME/27/3, Pipe Fixings.

Co-option of Additional Member of Science Standing Committee : The Science Standing Committee reported that acting under the terms of Bye-law 52, they had co-opted Dr. R. E. Stradling (HON. A.) as an additional member of the committee.

The Court of Governors of University College of the South West of England (Exeter) : Mr. John Bennett (F.) was re-appointed to represent the R.I.B.A. on the above body for the three years ending July 31, 1937.

R.I.B.A. Architecture Medals : The New South Wales Chapter of the Royal Australian Institute of Architects : The award of the R.I.B.A. Architecture Medal for New South Wales in favour of the British Medical Association Building, Macquarie Street, Sydney, designed by Messrs. Fowell and McConnel (F. and A.) was formally approved.

The Departmental Committee on the Cost of Hospitals and other Public Buildings : The Executive Committee reported that the *ad hoc* committee, of which Mr. Kenneth Cross was chairman and convener, had prepared and submitted a report on the cost of public baths, etc., for consideration by the departmental committee on the Cost of Hospitals and other Public Buildings.

Reinstatement : The following ex-members were reinstated :—

As Fellow, H. B. Challen ; As Associates, W. V. Coates, B. Dangerfield and R. M. McNaught. As Licentiates : P. R. Berry, J. P. Crosby, N. Hampson, C. E. Lawrence and E. G. Wilks.

Resignations : The following resignations were accepted with regret :—W. Hargreaves Bourne (F.) ; L. G. Lunan (A.) ; R. P. Sterling Twizell (A.) ; F. J. Almond (L.) ; A. Black (L.) ; J. A. Black (L.) ; W. Gill (L.) ; R. L. C. Hall (L.) ; C. A. G. Mandel (L.) ; A. W. Newman (L.) ; J. C. H. Sandbach (L.) ; and T. W. M. Thornton (L.).

Transfer to the Retired Members Class : The following members were transferred to the Retired Members Class :—*As Retired Fellows.* Sir George Washington Browne, P. Morris and J. Murray (Edinburgh). *As Retired Associates :* W. Hemingway, A. H. Heron, C. Roche, and H. Trimnell. *As Retired Licentiates :* J. Anderson, W. A. Baynes, C. McArthur Butler, B. R. Irvin, and J. W. Smith.

Transfer to Associateship : The following architect was transferred to the Associate-

ship under the provisions of the Supplemental Charter of 1925: John Charles Harry Bawcutt.

COMPETITION NEWS

LIBRARY BLOCK, SWANSEA

As announced in last week's issue, Professor W. G. Newton, F.R.I.B.A., the assessor in the competition for a new library block for the University College of Swansea, has made his award as follows:

Design Placed First (£100): Verner O. Rees, F.R.I.B.A., of 30 Upper Mall, Hammersmith, W.6.

Design Placed Second (£75): W. Curtis Green, R.A., and Partners, of 5 Pickering Place, St. James's Street, S.W.1.

Design Placed Third (£75): F. R. Bates and Son, A.R.I.B.A., of 78 Bridge Street, Newport, Mon.

Following are some extracts from the report submitted by the author of the winning design:

The exterior walling is entirely in 13½ in. brickwork, except for coping, strings and cills. The walls would be built with hydrated lime mortar. A certain amount of patterning would be introduced to give interest to the brickwork in the different parts.

Where metal windows are used they would in all cases be sheradized. The French windows giving from the reading-room to the terrace would be in bronze metal. Roofs and terrace would be covered with patented bitumastic roofing with pre-cast asbestos-cement or granolithic tiles to reflect back the heat of the sun. Stone, where used, would be selected Whitebed Portland.

A method of construction has been sought for the main reading-room that will provide high clerestory lighting and be sufficiently interesting in itself to be the main feature of the room. The principal concrete frames shown on the sections, it is hoped, suggest the great possibilities of modern ways of construction. The clerestory windows were adopted, as they seem traditional for this kind of room. From an exterior point of view they could be eased out with advantage and a good deal of thought would have to be given to their design and construction in any further stage. It is intended that they should be made of cast concrete bars, partly as the stout sections would tend to obviate any undue feeling of void, and partly as being more resistant to the weather than metal windows. Opening louvres would be necessarily in metal.

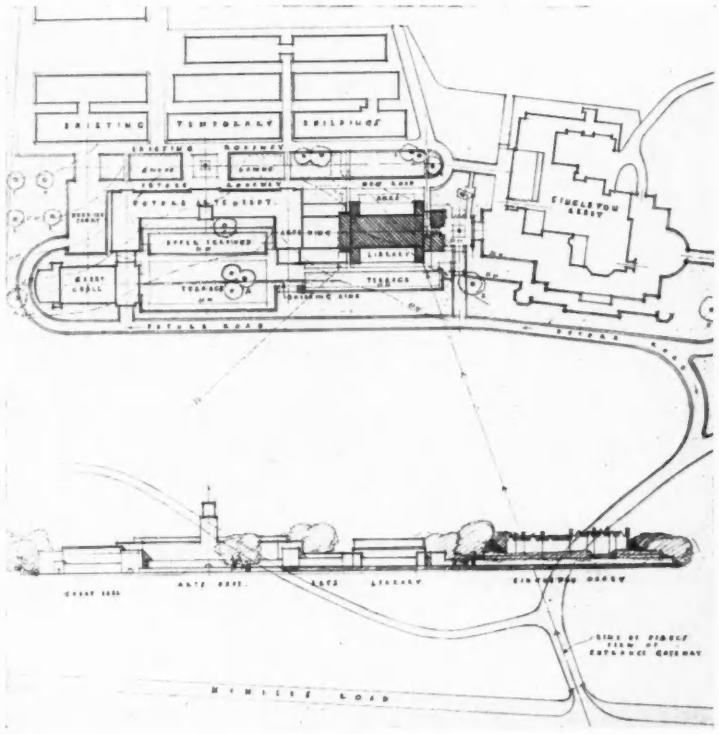
Not only would the adoption of reinforced concrete frames give interior effects of much interest, but reinforced concrete retaining walls would be necessary in any case on the north-west and south-east sides, so that the whole structure has been designed as a reinforced concrete tank standing on the clay.

The estimated approximate cost is as follows: (a) Proposed new buildings, £31,447; (b) proposed external works, £1,950; estimated total approximate cost, £33,397.

The estimate of cost is based on an average rate of 1s. 8d. per foot cube. The adoption of a reinforced concrete design makes it possible to erect the structure for an approximate sum of £15,000, providing an adequate balance of £16,500 for services, finishings and fittings.

A NEW LIMITED COMPETITION

The Gloucester Corporation invite architects practising on their own account within the area covered by the Wessex Society of Architects to submit designs for a cemetery chapel and auxiliary buildings at Coney Hill. Mr. Edward Maufe, F.R.I.B.A., has been appointed assessor; and premiums of 125 guineas and 100 guineas are offered for the designs placed first and second, respectively. Applications for the conditions of the competition and site plan should be made to Mr. C. J. Scudmore, City Surveyor, 21, Eastgate Street, Gloucester, not later than Monday, December 31. Designs must be submitted to the City Surveyor on or before March 27.



Site plan and elevations of the winning design in the Swansea Competition.

Competitions Open

Dec. 22.—Proposed Public Offices, Bridge Road, Welwyn Garden City, for the Welwyn Garden City U.D.C. (open to architects of British nationality). Assessor: C. H. James, F.R.I.B.A. Premiums: £75, £35 and £25, for designs placed first, second and third, respectively. Conditions, etc., obtainable from B. H. Deamer, Clerk to the Council, Council Offices, Bridge Road, Welwyn Garden City (deposit £1 1s.).

Dec. 31.—Proposed Council Offices, Wirral, for the Wirral U.D.C. Open to architects in practice in Birkenhead, Chester, Liverpool and Wirral. Assessor: Gilbert Fraser, F.R.I.B.A. Premiums: £40, £30 and £20, for the designs placed first, second and third respectively. Conditions are obtainable from Mr. W. F. Roberts, Clerk to the Council, Council Offices, Wirral. (Deposit £1 1s.)

January 19.—Designs for five-storey blocks of working-men's flats suitable for construction in reinforced concrete for the Cement Marketing Company. Assessors: Joseph Emberton, F.R.I.B.A., Burnard Geen, M.INST.C.E., and L. H. Keay, O.B.E., F.R.I.B.A. Premiums: £300, £200 and £100 for designs placed first, second and third, respectively. Copies of the conditions will be forwarded on application to the Publicity Department, the Cement Marketing Co., Portland House, Tothill Street, S.W.1. Latest date for submission of designs: January 19.

April 30.—The Croydon Corporation invite the submission of designs for laying out an area in Central Croydon which is to provide an extension of the Civic Centre of the Borough and to improve central means of communication. Assessor: Dr. Thomas Adams, F.R.I.B.A., F.S.I., M.T.I. Premiums: £500 for the design placed first; £350 to be divided (in proportions to be determined by the Assessor) for not more than three designs placed next in order of merit. A copy of the conditions is obtainable on application to the Town Clerk, Town Hall, Croydon (deposit of one guinea). Designs are to be submitted not later than April 30.

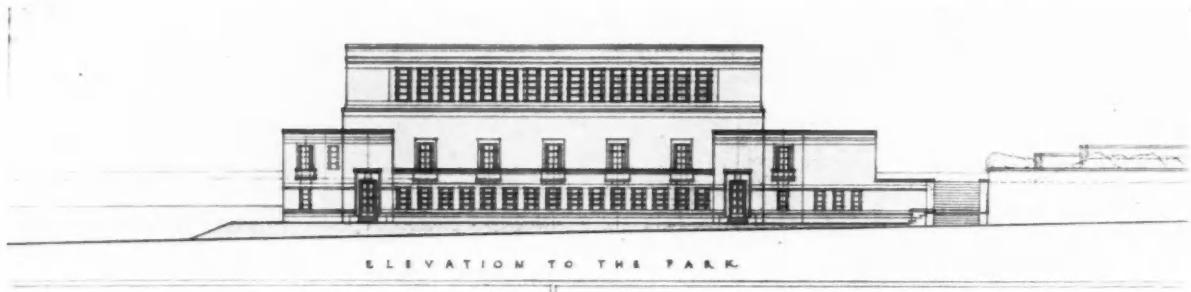
THIS ARSHETECTURE

WARNING

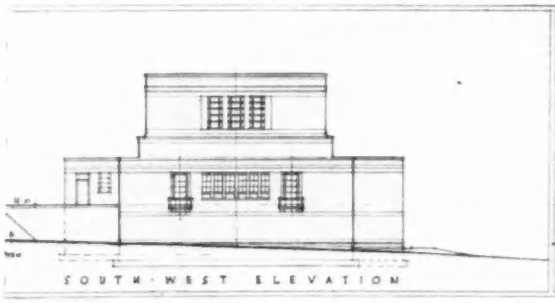
A man who said he was a bloodstock breeder called recently upon a member saying that he wanted to build a house for his daughter and that she and her mother would call later about particulars. Before leaving he sold the member an Irish Sweep ticket, for which no receipt was ever received, and on further enquiry it was found that he was not a breeder, and that he did not live at the address given. This notice is being published because it is thought that he might call upon other architects with the same tale.

From the *R.I.B.A. Journal.*

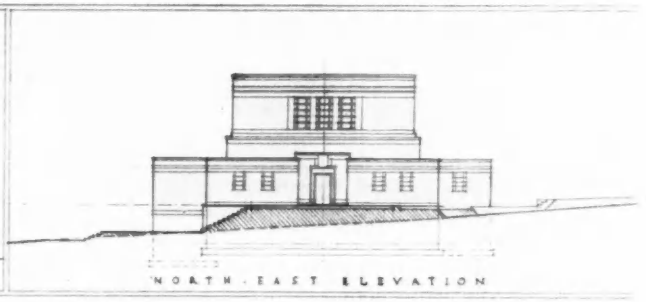
COMPETITION FOR PROPOSED NEW



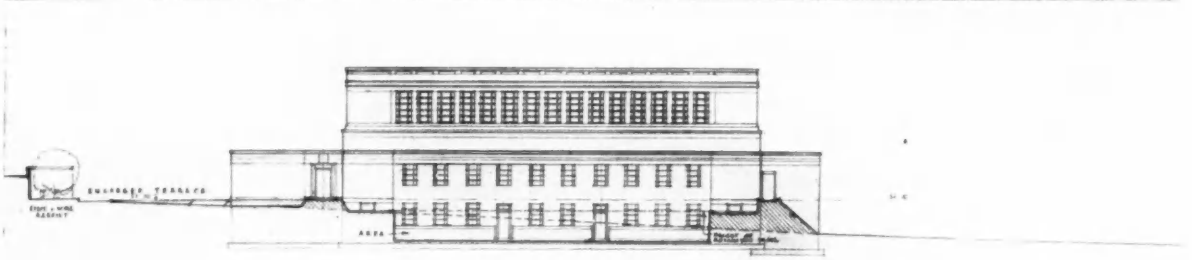
ELEVATION TO THE PARK



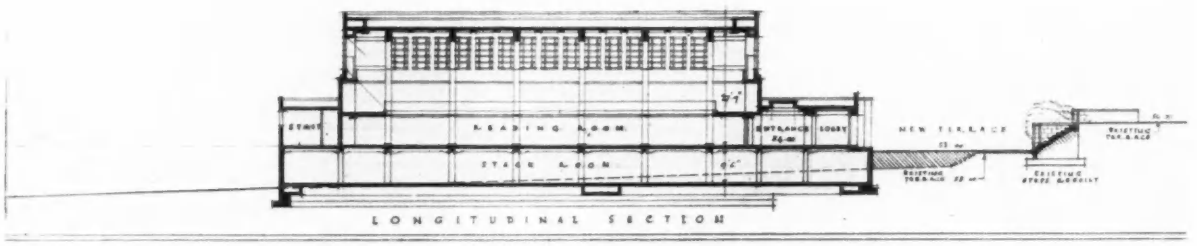
SOUTH-WEST ELEVATION



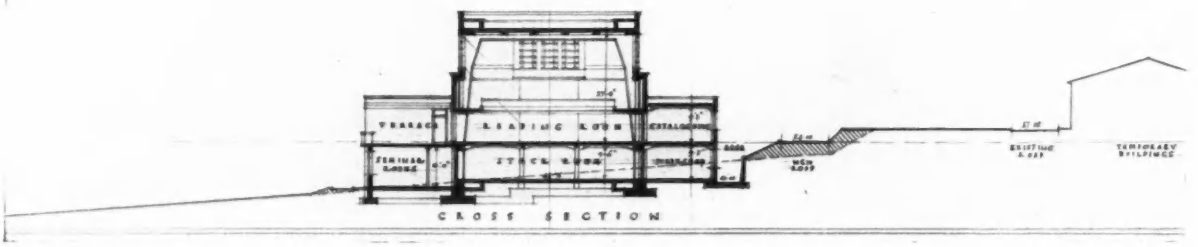
NORTH-EAST ELEVATION



ELEVATION TO ROADWAY



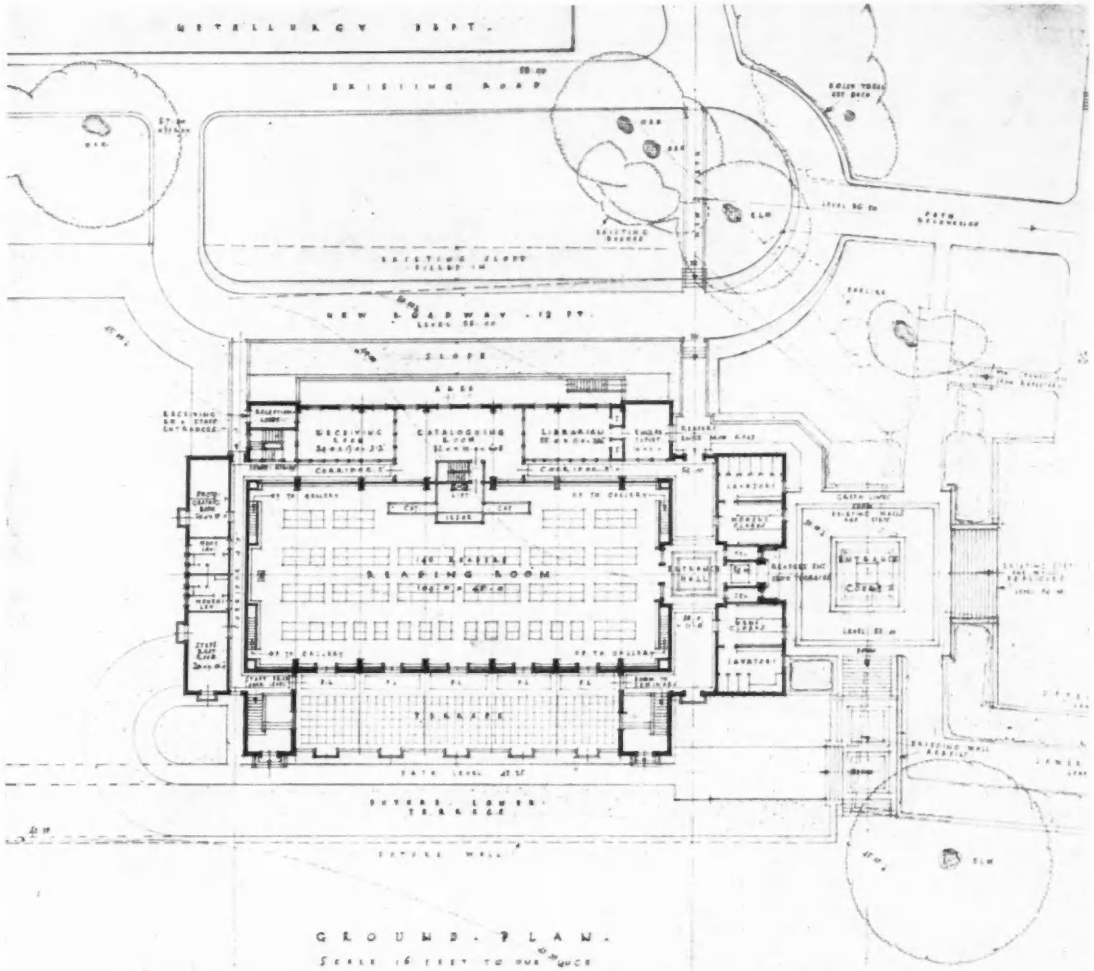
LONGITUDINAL SECTION

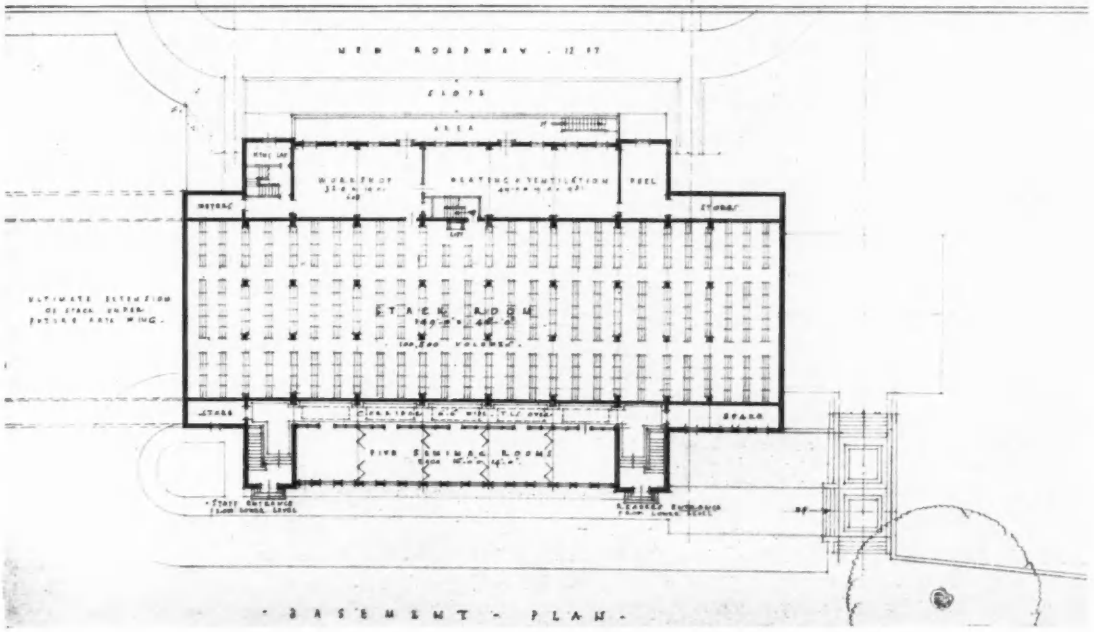


CROSS SECTION

THE WINNING DESIGN:

LIBRARY, SWANSEA UNIVERSITY





BY VERNER O. REES

LETTERS FROM READERS

MAJOR H. L. NATHAN, M.P.
H. G. GRIFFIN
(Secretary, C.P.R.E.)
G. M. BURT
(Director, John Mowlem & Co., Ltd.)
C. E. T. CRIDLAND
(Hawkes & Snow, Ltd.)
SCOT-CUM-SURREY

London's Underground Dwellings

SIR,—In view of the serious overcrowding which at present exists among the poorer classes in almost every part of London, it is satisfactory to learn that the Housing (Abatement of Overcrowding) Bill, which is shortly to be introduced in Parliament by the Minister of Health, will grant substantial Exchequer assistance to Local Authorities for combating this grave evil.

May I call attention to the paramount need for taking immediate action to close for human habitation the thousands of unhealthy underground dwellings that are still occupied despite the provisions contained in Section 18 of the Housing Act, 1925? Up to the present, Medical Officers of Health have been reluctant to use their powers in this respect because of the lack of alternative accommodation. I was recently informed by the Minister of Health that the London County Council have now scheduled 20,108 underground rooms that are unhealthy within the meaning of the abovementioned Section. The existence of these dwellings, which inevitably cause disease and increased mortality as well as much misery and unrest, is surely a national scandal, and it is therefore incumbent on the Government to ensure that the situation is remedied by the provision of suitable alternative accommodation at cheap rentals without further delay.

H. L. NATHAN
House of Commons

Building in Lancashire

SIR,—My attention has been drawn to the reference made in the ARCHITECTS' JOURNAL for November 29 to the sub-committee appointed by the Lancashire Branch of the C.P.R.E., whose duty it is to prepare a publication on Building in Lancashire. This sub-committee consists of two well-known Lancashire architects, Mr. C. Gustave Agate of Manchester and Mr. E. H. Honeyburne of Liverpool, and two prominent Lancashire builders, Mr. Thomas Howarth of Rochdale and Mr. W. Matthews of Manchester. Both are Fellows of the Institute of Builders, and nominated by that body. Professor Patrick Abercrombie is acting as Planning Consultant.

It is the desire of the Lancashire Branch of the C.P.R.E. and of the architect members of the sub-committee to stress the value of this co-operation between representatives of the architectural profession and of the building profession in matters of this kind.

H. G. GRIFFIN
(Secretary, C.P.R.E.)

The King's House

SIR,—With reference to the paragraph under Notes and Topics in your issue for December 13, we would point out that this company holds the Royal Warrant as Builders and Contractors to His Majesty King George V. The Appointment, dated October 31, 1902, was originally granted by H.R.H. Edward, Prince of Wales.

GEORGE M. BURT
(Director, John Mowlem & Co., Ltd.)

[*Astragal's paragraph which Mr. Burt refers to remarked that there appeared to be no general contractor in the list of Royal Warrant holders. We are asked by Astragal to apologise to Messrs. Mowlem for his having passed over their name.*—ED., *A.J.*]

Manufacturers and their Products

SIR,—I was extremely interested in Mr. Soley's letter. As one who, at the present moment, is attempting to market an entirely new idea, I can sympathize with your contributor's remarks. I have found in actual practice that the difficulty is divided into two classes—first there is a class of architects, now happily in the minority and usually of the older school, who, to put it bluntly, look upon representatives as a nuisance instead of realizing the fact that they can often be of great assistance. Secondly—the architect's managing clerk, who perhaps does not always realize that amongst the host of literature which necessarily daily arrives at the office, there may be a few grains of wheat amongst the chaff which it would be well to sort out and consider.

The solution to the problem is obviously consistent trade paper advertising which in itself generally brings no actual business, but which does definitely arouse interest when followed up by either a personal call or one of your contributor's despised leaflets. Further to that if one has something out of the ordinary, it is always possible to approach the architect through the actual client, and the combination of these two methods will undoubtedly bring the success which your contributor desires.

I might mention in passing that outside my own works, I have a large enamel notice: "representatives are welcome here. We may miss something," and I can assure any architect or other interested person whose eye may happen to catch this page, that although the carrying out of this precept is sometimes a little harassing, it has been the best investment which my company has yet made.

C. E. T. CRIDLAND
(Hawkes and Snow, Ltd.)
Birmingham

The Institute: Defects and Remedies

SIR,—The articles by "Iconoclast" have come at an opportune moment, and will, I think, arouse many members to take a little more active interest in the Institute. It is not my intention to discuss his first article, but to devote some little criticism to the Centenary Celebrations, the International Architecture Exhibition, and even to the Building Centre in Bond Street and the R.I.B.A. Library.

I put forward two views: (1) of a provincial member, and (2) of one living within a 25-30 miles radius of London.

As to the first, whilst both the lay and the technical press have devoted much space to the new building, what real chance has been afforded the provincial or the immediate London area member of actually studying the building itself when the closing hours have been limited to 8 p.m. and 5 p.m. on Saturdays? Many provincial members, 200 miles or more away from London, may not see their own headquarters for many years to come; whilst those who are in a position to afford the time by taking a week-end (commencing on Saturday morning), may just arrive in time to walk through the building before the lights begin to be switched off. Again, for members in the immediate London area, and I include young associates and students, who are in both private and public offices, what real opportunity has been afforded to them to *see* the building with all its interesting features, either in the evening or on a

Saturday afternoon, without asking for leave?

"A few hours off" is not always easily obtained. For those who do not get leave, and work the official hours, finishing in some cases at 5.30 and 6 o'clock, it is a mad scamper when slow and inconvenient trains and traffic jams are taken into account. It is doubtful if they can spend more than a half-hour in their own H.Q., and this in the midst of the centenary "celebrations"!

The same limitation of hours has been imposed on the International Architecture Exhibition, whilst the Building Centre in Bond Street is closed at 6 p.m. and 1 p.m. on Saturdays. What interest the R.I.B.A. have officially in the latter I do not know.

The R.I.B.A. Library has been heralded both officially and in the lay press as the finest in the world, and the same hours apply in this case. The *R.I.B.A. Journal* records in all its issues the additions to the Library together with weekly and monthly foreign journals, and yet how many of these latter are scanned except by London architects or students? Even when there is a general meeting, the Library is closed at 8 o'clock.

Well might the provincial member, whether a fellow, an associate or a student, ask himself what actual benefit does he get for his annual subscription beyond the letters he appends behind his own name? Outside a 7-8 mile radius from Charing Cross, the Institute and the Building Centre is practically closed to him, unless he is a practising architect or a public official.

The International Architecture Exhibition is no doubt being held to educate the public as to an architect's work, but are the hours of this exhibition calculated to attract "the man in the street" to it, when he has just the same difficulty in attending it as a member or a student of the R.I.B.A. has in using the building? Perhaps provincial society secretaries will bear this in mind when they have this exhibition in their own centres.

Criticism is never useful unless constructive. Mine, so far, has been destructive for a purpose: the Institute's defects. The remedies I respectfully submit for the R.I.B.A. Council's consideration:

(1) When a General Meeting is held, the Library to be open to 9.30 p.m.

(2) On two evenings per week, to open at 2 p.m. and close at 9.30 p.m. Saturdays close at 7 or 7.30 p.m.

Alternatively.—On three evenings per week to close at 7 p.m. and on the other two evenings, remain open until 9.30.

(3) If adopted, to revise the hours of the staff duties, and a clear half-day from 1 o'clock p.m. to be given to those members of the staff concerned.

(4) The issue of a catalogue of the Loan Library (at a small charge).

The suggestions (1) and (2) will be of advantage to members and students in the immediate London area, and (4) will be helpful to students whose studies are sometimes confined in towns and villages too far away from a good technical school.

"Functionalism" is a word beloved by architects. It can be applied to a library as well as a building. Does the R.I.B.A. Library "function" to its capacity or only to purely London members?

If in this criticism a Council member who reads it may detect a note of asperity, let me confess that on no less than five occasions have I travelled some 28 miles to wander through the new building. My actual time in the building has been three-and-a-half minutes, a uniformed attendant politely informing me: "We close at 8, Sir." Perhaps during the Christmas holidays I may be more successful. I wonder. But, on January 1st, the annual subscription falls due!

SCOT-CUM-SURREY

IN PARLIAMENT

[BY OUR SPECIAL REPRESENTATIVE]

Sir Frank Sanderson asked the Minister of Transport, if, pending the introduction of a Bill dealing with building by ribbon development, he would take some action to prevent the spread of this evil, in view of the fact that, as legislation dealing therewith was foreshadowed in the Government programme, there was likely to be an immediate and rapid extension of building until such time as the Bill was introduced.

Mr. Hore-Belisha said that the erection of buildings along the existing roads of the country was not a matter which came under his control, but in approving schemes for new roads he would do his best to discourage the unsuitable use of frontage lands.

Sir P. Harris asked if the right hon. gentleman would make arrangements with the Ministry of Health for a joint committee so that the Ministry of Health could co-operate with him, by the use of town planning powers, to prevent urban development when new roads were constructed.

Mr. Hore-Belisha said that he was in close touch with them at that moment.

Sir Waldron Smithers asked the Lord President of the Council whether it would not be possible for the Government to make some announcement in connection with ribbon development which would show that the legislation, which had not yet been introduced owing to congestion, would be retrospective in order to stop advantage being taken of ribbon development in anticipation of any restrictions that might be in the Bill.

Mr. Baldwin said it was quite impossible for him to answer that now, but he would take it into consideration.

The Housing (Scotland) Bill

Mr. Baldwin told Mr. N. Maclean that it was hoped that the Housing (Scotland) Bill will be circulated during the Christmas recess in ample time for its consideration before a date was fixed for the second reading.

•

R.I.B.A. EXHIBITION ON TOUR

More visitors are going to the R.I.B.A. Exhibition of International Architecture than to any the Institute has ever organized. On week-days the average exceeds 300 and on Saturdays it is over 400. The Exhibition is expected to start on a provincial tour some time in the spring. Cities like Liverpool and Manchester will probably receive all the exhibits, but for smaller towns with less accommodation, the Exhibition will be split up into sections, one going to one place and another to another.

CHARTERED SURVEYORS' INSTITUTION

The annual dinner of the Quantity Surveyor Members of the Chartered Surveyors' Institution was held at the Café Royal, London, on December 12. Mr. Horace W. Langdon presided.

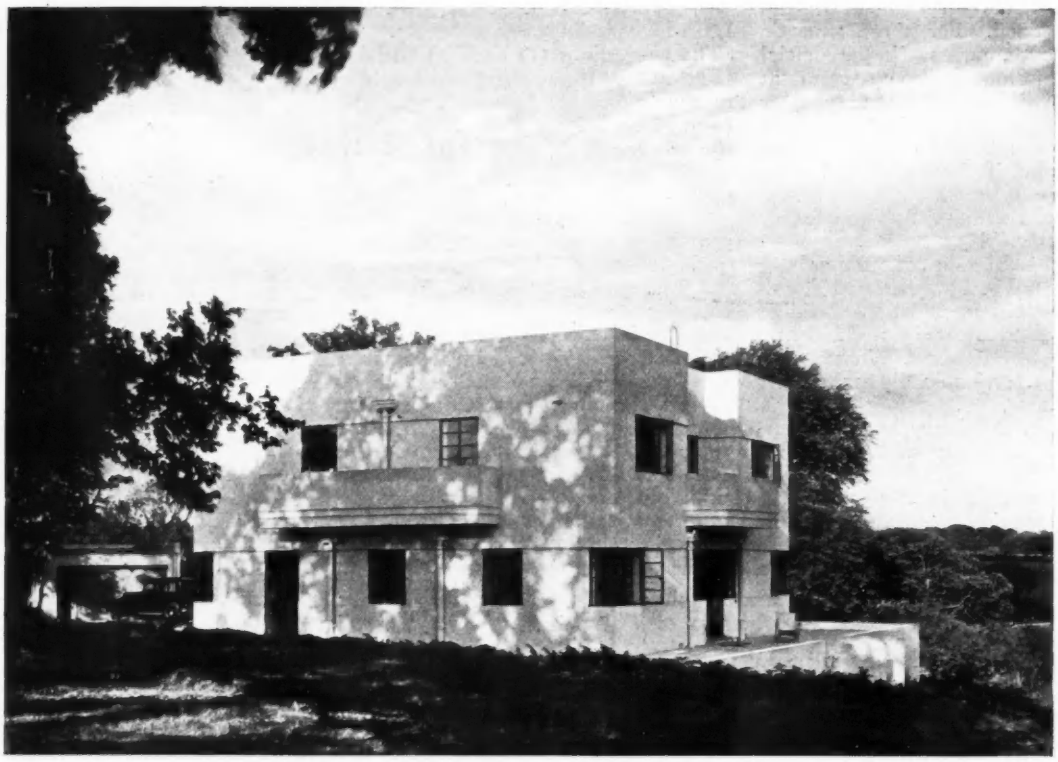
The Rt. Hon. W. Ormsby-Gore (First Commissioner of Works), proposing the toast of "The Chartered Quantity Surveyor," said: "There are approximately 50 quantity surveyors on the directly employed staff of my Department, in addition to a panel of 80 members of the Chartered Surveyors' Institution in London and the provinces whose services are called upon to a considerable extent. During the last three years fees to the extent of some £15,000 annually have been paid by my Department to surveyors in private practice and, during the last year, work exceeding £1,000,000 in value was entrusted to the panel. Your profession is therefore one of the utmost importance and value to my Department."

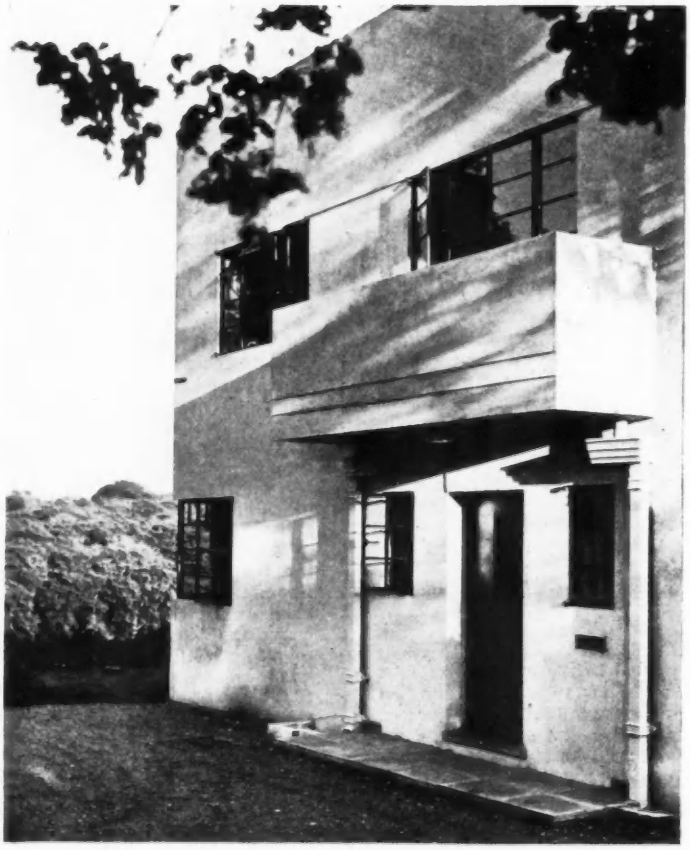
Mr. Langdon, responding to the toast, said: "The Prince of Wales, when recently addressing the R.I.B.A. at their annual banquet, urged the planning and arrangements of our towns and cities and also urged all concerned to carry the prinple of mass production over to architecture and the building trade.

"Doubtless you have all read this speech, but the question is so vital and of such importance that I would urge all members of the profession to give it their thoughtful consideration, in order that the community might have the benefit of the brains of the whole profession. It is, I am convinced, possible to achieve results which might prove astounding in comparison with present-day costs by adopting these principles of mass production."

The toast, "Our Guests," was proposed and seconded by Mr. John M. Theobald and the Rt. Hon. Lord Mottistone, C.B., respectively.

HOUSE AT HOLMBURY





This house stands on the top of a hill, part of the Woodhouse Farm Estate, overlooking Shere Common to the south, and commanding magnificent views of the surrounding country. The site along the north-east and north-west boundaries is protected by a belt of very fine trees.

The house is constructed of 11 in. hollow brick walls, rendered in a cream colour and has a flat roof. Metal casements are used, built direct into the brickwork and painted a cerulean blue which, lined with black, contrasts with the cream walls.

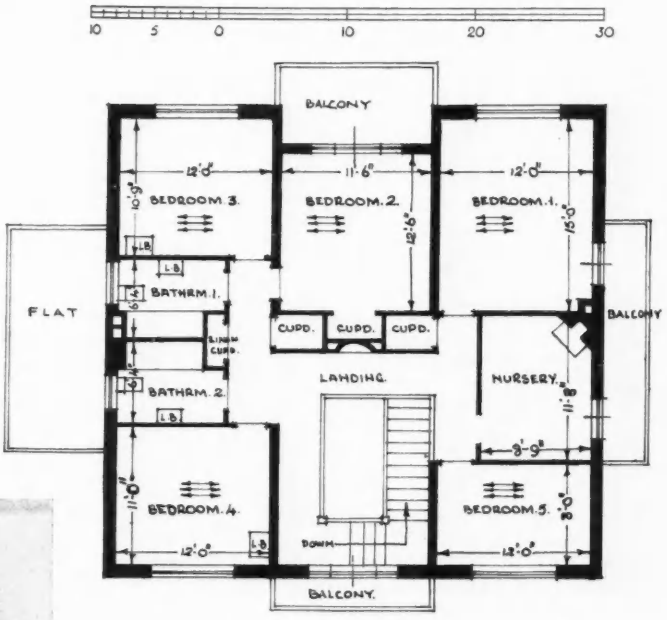
The front entrance door is finished flush in metal-faced plywood, with a small metal grille painted blue to match the windows. The trades door is finished with galvanized metal-faced plywood with a clear cellulose finish.

The photographs show a general view looking across the terrace to the sitting room windows, and a detail of the entrance portion. On the facing page are plans and an interior view of the living room.

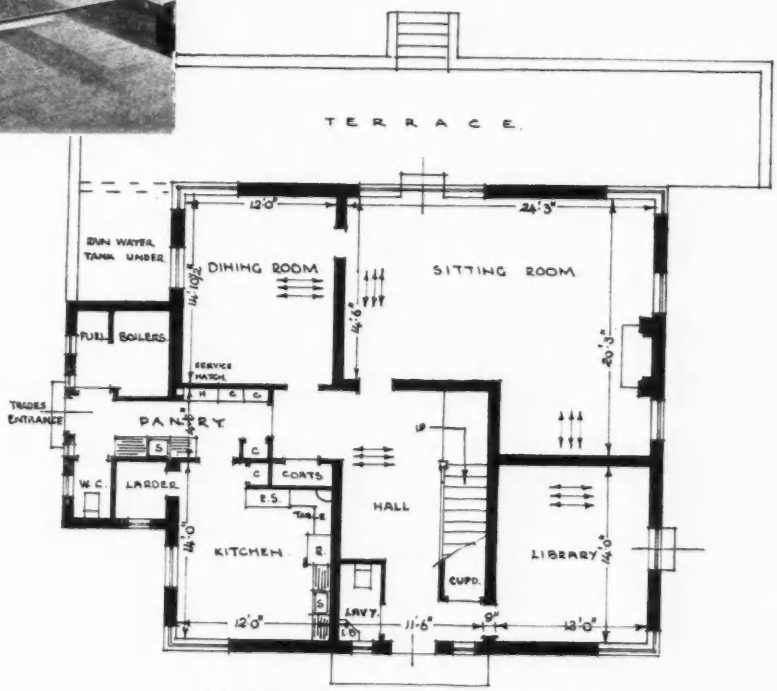
S T . M A R Y , S U R R E Y

Internally the floors on both levels are of Burmese ironwood, a hard-wood with a natural polish, the doors are all flush, those to the principal rooms in Australian walnut and the remainder in birch, and the walls are finished with tinted plaster, left rough from the wood float. The staircase is in teak, with solid balustrading in Australian walnut plywood.

There is a double-sided service hatch between pantry and dining room. Heating is by hot-water radiators and sanitation is on the one-pipe system.



FIRST FLOOR PLAN



GROUND FLOOR PLAN

D E S I G N E D

B Y

C O L E - A D A M S ,

P H I L L I P S A N D

C H E R I T O N

(In association with W. Dalton Ironside)

DESIGN IN AMERICA

[BY JOHN GLOAG]

V. PLAN AND VISION AT WASHINGTON

IN Washington there is only one statue of the first President of the Republic in all the city. It is an equestrian statue, and the oldest in the place, which, as a well-informed American gentleman told me, "perhaps accounts for the fact that it isn't the best." There is a certain lovable innocence about that remark; but it gives the key to America's critical views: in this new world, new things are worshipped. In Washington they have not yet discovered that gargantuan classic architecture is not the true architecture of the twentieth century.

In this city of wide, tree-lined streets, interspersed with fine parks, with its grid plan articulated by noble avenues that link up its focal points of civic importance, huge sums of money are being spent for building new government offices, and in tearing down old nineteenth-century buildings to make room for masses of shining white stone. The Federal Government is setting the example to State governments everywhere; and Washington is growing into the most expensive capital city in the world. All the millions of dollars that are being poured out to wash up these sparkling islands of masonry are keeping the building trade busy, and are making continuous and enormous claims upon building material. On nearly every piece of waste ground the excavators are busy, or what are called "wrecking companies" are demolishing old dwelling blocks, and the white notice boards call attention to the fact that "Federal Project No. so-and-so" is in progress, and the number and date of the contract are filled in. The state is spending money, and it will have something to show for it; but it will be the wrong thing, architecturally. And yet it is undeniably impressive, this city of exaggerated Greek and Roman temples. The New Supreme Court has just been completed. It is a Corinthian temple in dazzling white marble. Columns, columns, everywhere, and not a new thought peeping out between any of them.

Washington will be the show place of America; but I wonder whether visitors will be kept to the great avenues where they hold the ceremonial parades, or whether they will be allowed to inspect the squalor of Maryland Avenue, for example, where housing is fantastically grim and ugly, and some of the other less showy parts of the city. I found no slums; the streets are too wide for the slum proper to develop; but there was some housing that badly needed replacement. Washington has had a plan since it was founded. The city fathers have always known, more or less, where they were going, and although development did not always take place in the areas anticipated, wherever it did take place there was a generously conceived street lay-out awaiting it, so that the city has preserved unity during growth.

But they have courage in Washington. There is a solid, expensive piece of nineteenth-century building in the shape of the Old Post Office. It is massive; it is elaborately ugly; it is in the way of a new group of buildings; and it is going to be pulled down to make room for these new designs, for this neo-classic block, although it is a perfectly good building, in the structural sense. Perhaps in fifty years' time they will be pulling down the new Supreme Court, and erecting in its place a composition of steel and glass, while the young architects of that future time glower and mutter: "That dead functionalist stuff—when *will* the old men learn!"

Meanwhile millions are being spent, and a colossal opportunity is being missed, and all America seems to be taken in by it. Public men regard it as a great gesture of modernization. Only the young men, and only some of them, are aware of the tragic mistake that is being made with such hymns and shouting by the politicians. To see Washington from the Arlington Cemetery, from the front of the Curtis-Lee Mansion, is to see a white Greek city; but, like men and women on the cinema screen, it is larger than life size. The Lincoln Memorial, cool and lovely and majestic, is a superb monument; so is the little domed Greek Doric District of Columbia World War Memorial, in the woods between the Mall and the Potomac Park; both are of white marble; both have an effortless effect of serenity. The excavating archæologist of 3,000 years hence who works first on the buried ruins of New York and then on Washington will conclude that those cities were erected by totally different races, whereas they are the result of totally different moods indulged by one indisputably great race.

There are such odd contrasts. There is one of the finest railway stations in the world, the Union, and one of the worst airports, dismal with untidy makeshift structures, and with a busy traffic road sliced through the landing ground. And behind their classic façades, the powers that be are trying to encourage State governments to make bold, new experiments in architecture. There are rumours of Federal grants to acquire land outside of big cities, so that residential towers can be erected and can give country surroundings to town workers. Loans are available for making more parkways; for "landscaping" the country on either side of existing traffic roads. This administration has vision, it can plan; but it cannot live architecturally in its own age.

Washington will become a monument: a consistent expression of America in a mood of national dignity. Perhaps it is better that it should be so; for it is undeniable that the introduction of modern architecture would disrupt the spectacular unity of the city. What would the young American functionalists do if they were asked to design a monument? I'd like to see a competition set for that. Would they erect something in steel that would be a mass of rust 1,000 years hence when the colossal statue of Abraham Lincoln is still sitting, undisturbed by time, under the marble roof of the Memorial that had endured like the Pyramids?

I ventured to ask this question.

"Sir," came the answer, "would a Greek architect in the days of Pericles have entombed the noble dead in a mud sarcophagus or built a temple of Victory in wood and thatch when marble was available?"

●

National Federation of Bridge and Structural Engineers

At the annual general meeting of the National Federation of Bridge and Structural Engineers, held at Grosvenor House, Park Lane, on December 7, Mr. E. A. Willson (Archibald D. Dawnay and Sons, Ltd.) was re-elected chairman for the forthcoming year, and Mr. W. T. Thornhill (Rubery, Owen and Co.) vice-chairman. The executive committee will consist of: Mr. J. W. Baillie (Horseley Bridge and Thomas Piggott, Ltd.), Mr. B. Seymour Benson (Head, Wrightson & Co., Ltd.), Mr. T. Booth (John Booth and Sons (Bolton) Ltd.), Mr. H. Cunningham (Sir Wm. Arrol & Co., Ltd.), Mr. H. B. Denton (Joseph Parks and Son), Mr. J. R. Dixon (The Cleveland Bridge & Engineering Co., Ltd.), Mr. James Halliday (Francis Morton & Co., Ltd.), Mr. R. A. Hatfield (Burton Constructional Engineering Co., Ltd.), Mr. T. R. Miller (The Motherwell Bridge & Engineering Co., Ltd.), Mr. A. Robson (The Fairfield Shipbuilding & Engineering Co., Ltd.), Mr. J. C. Rome (John Lysaght, Ltd.), Mr. J. D. Stitt (Redpath, Brown & Co., Ltd.), Mr. Grahame H. Thomson (P. and W. MacLellan, Ltd.), Mr. F. G. Woolley (Joseph Westwood & Co., Ltd.).

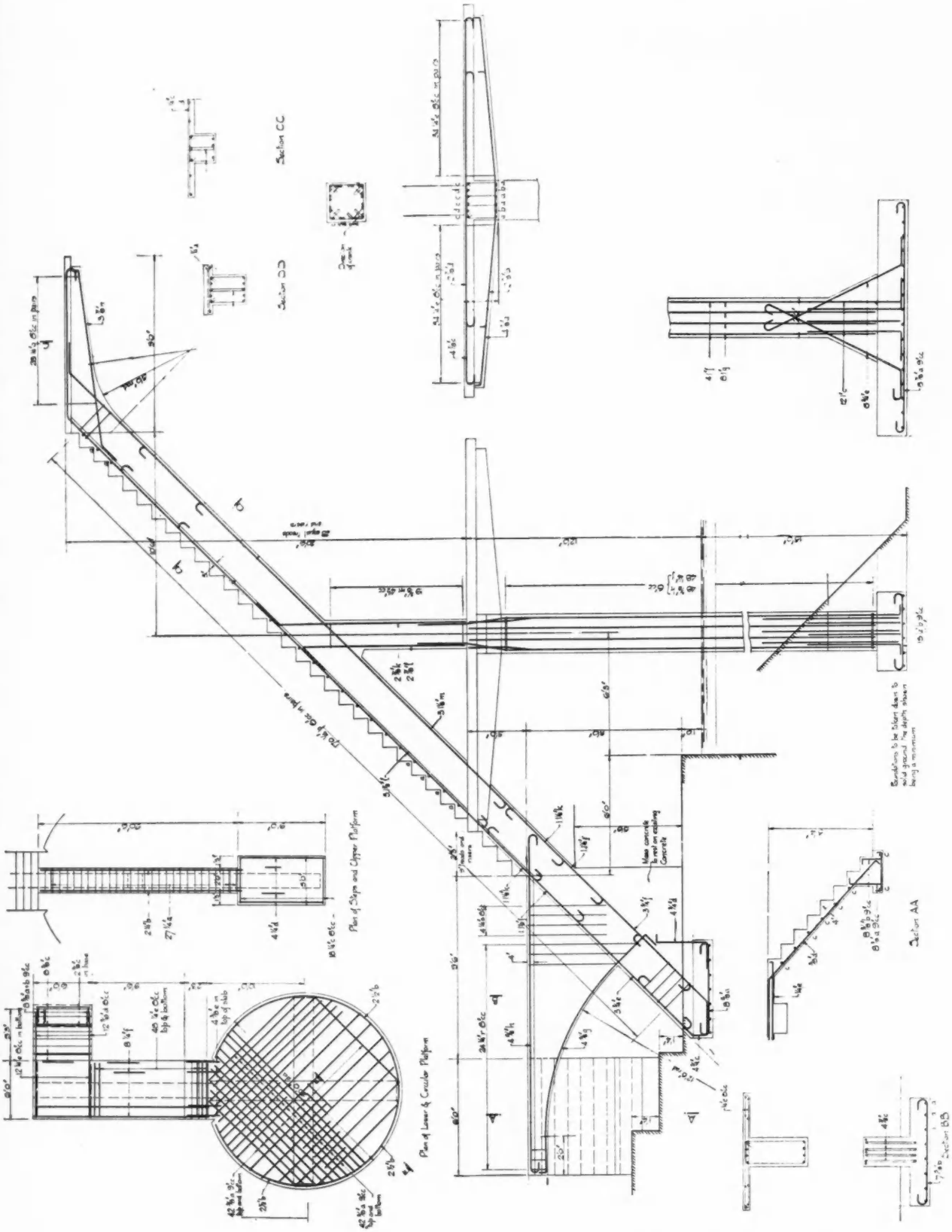
WORKING DETAILS : 177

DIVING STAGE • BATHING POOL, SCARBOROUGH • J. PATON WATSON

The upper platform of this reinforced concrete diving stage is 32 ft. 6 in. above water level, the lower 12 ft., with a water depth of approximately 15 ft. The drawings overleaf show the reinforcement of the supporting column, the main rib and the diving platforms. The railings are of galvanized iron, painted, and fixed by Lewis bolts so that they may be taken down during the winter.

WORKING DETAILS : 178

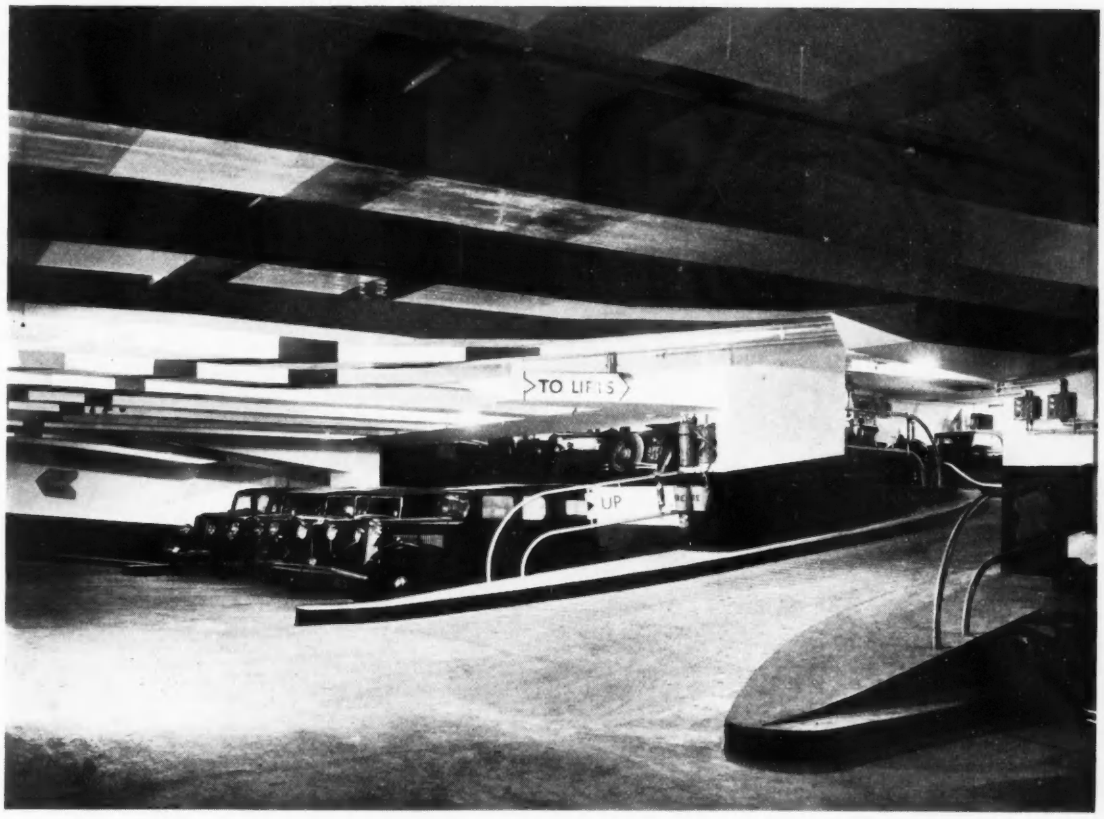
DIVING STAGE • BATHING POOL, SCARBOROUGH • J. PATON WATSON

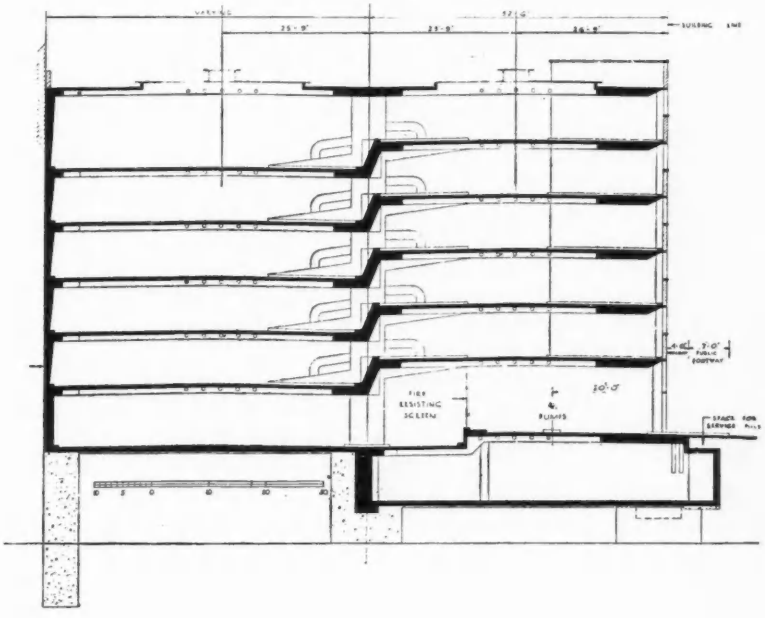


Details of the diving stage, an illustration of which is reproduced overleaf.

WORKING DETAILS : 179

STEPPED FLOOR CONSTRUCTION • CUMBERLAND GARAGE, LONDON • SIR E. OWEN WILLIAMS, K.B.E.

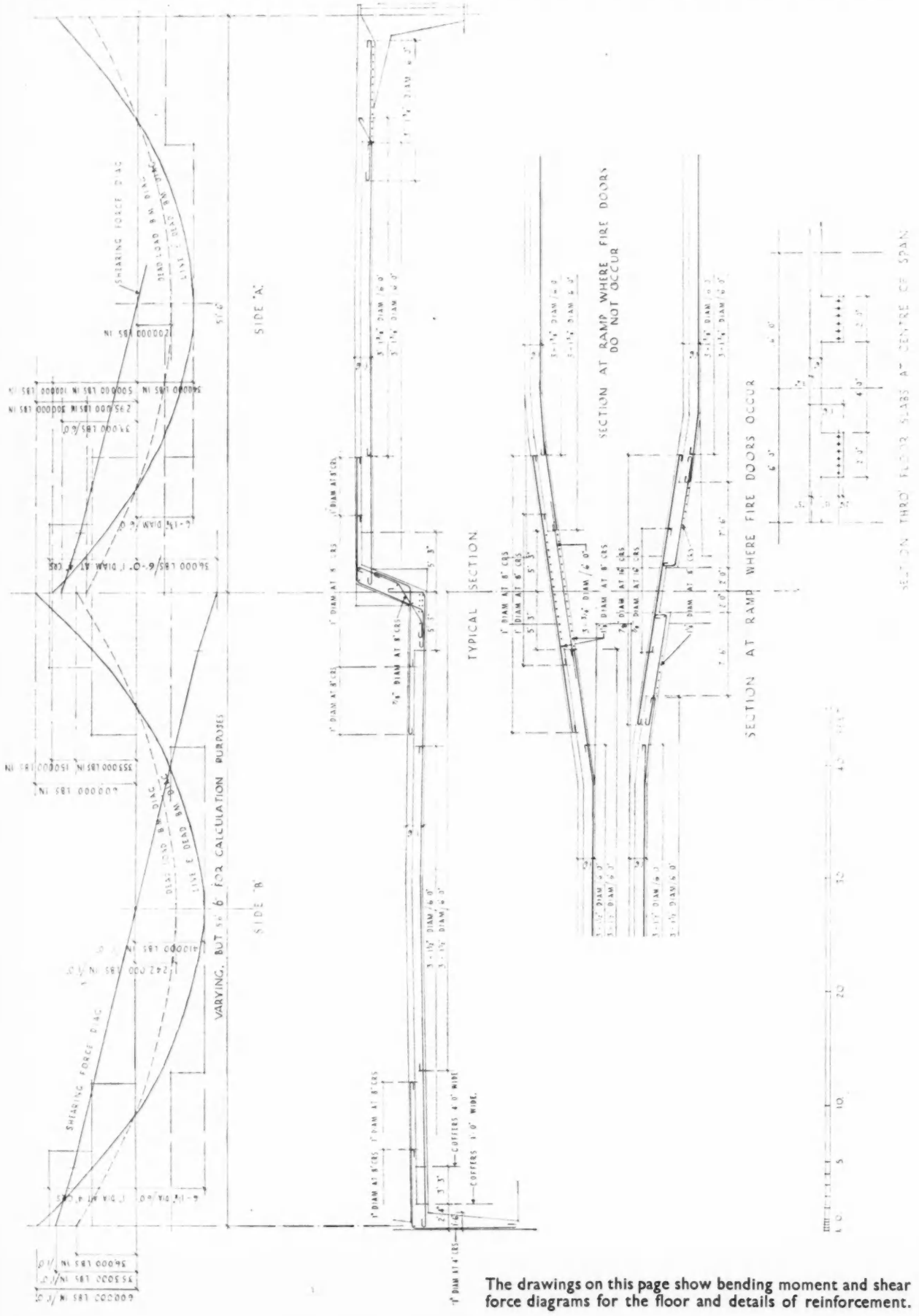




In section, the building illustrated above may be considered as two continuous spiral ramps with staggered floors at each half landing. The drawings overleaf show bending moment and shear force diagrams for the floor and details of the reinforcement. The concrete used was a $2\frac{1}{2} : 1\frac{1}{2} : 1$ mix with a compressive strength exceeding 6,800 lb. per sq. in. at 4 months. Working stresses were 18,000 lb. per sq. in. for the steel, 1,200 lb. per sq. in. for the concrete.

WORKING DETAILS : 180

STEPPED FLOOR CONSTRUCTION • CUMBERLAND GARAGE, LONDON • SIR E. OWEN WILLIAMS, K.B.E.



The drawings on this page show bending moment and shear force diagrams for the floor and details of reinforcement.

ZOOLOGICAL LABORATORY, CAMBRIDGE

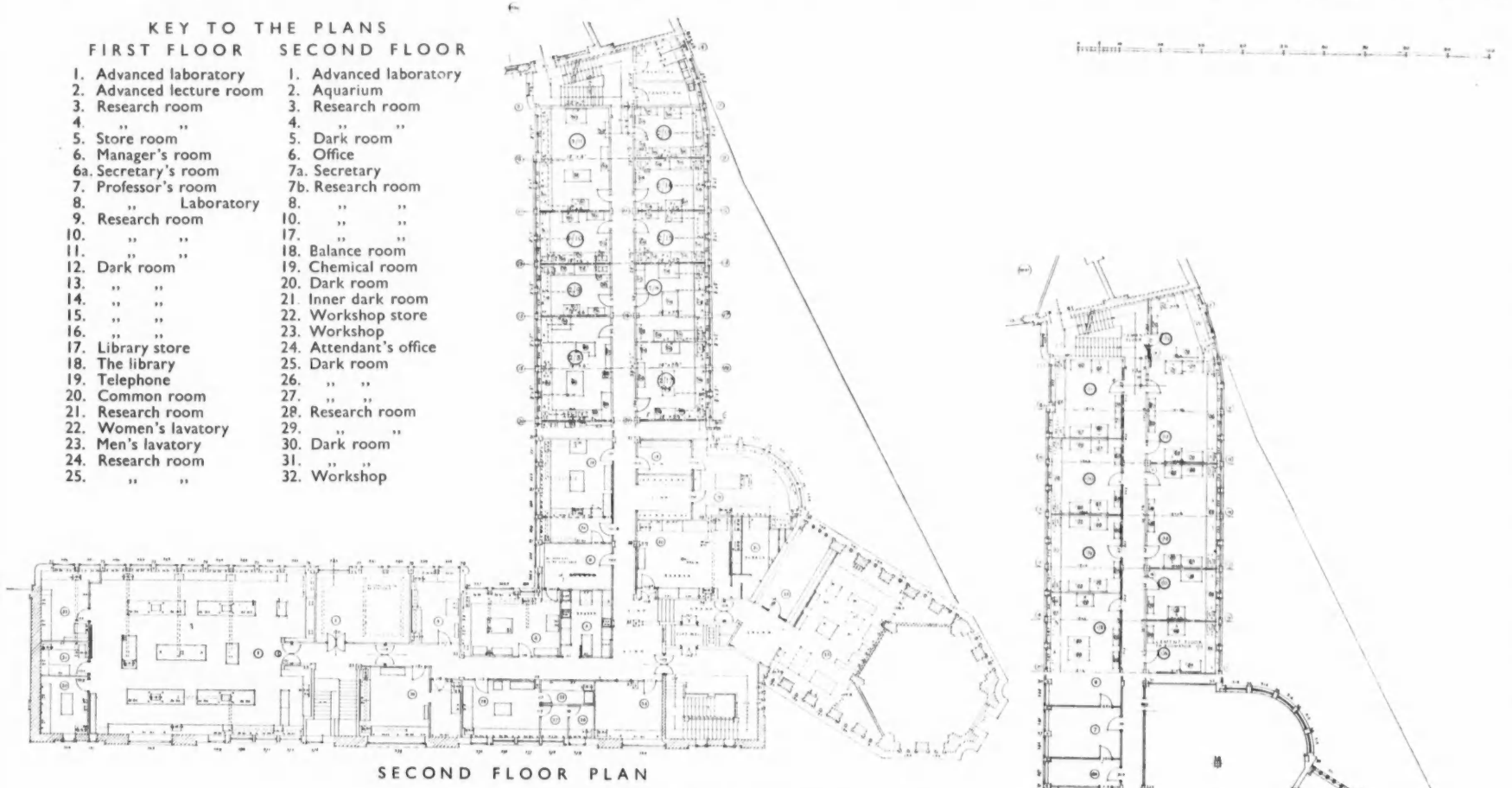
DESIGNED BY STANLEY HALL AND EASTON AND ROBERTSON

The site for this building included a vacant section of the old Medical Schools on the north side of Downing Street, which were designed some 30 years ago by the late Professor Prior. The buildings formed two sides of a quadrangle, with a projecting angle containing the Humphrey Memorial Museum, which had to be left untouched. With this exception the Medical Schools have been completely remodelled, and nothing survives except the main staircase and main wall to Downing Street. The University authorities allowed the architect a completely free hand in the design. Externally, the building is faced with golden yellow Stamford bricks and reconstructed Ancaster stone strings and dressings: the windows are steel casements pressed into special cast iron surrounds The photographs show: above, the quadrangle elevation; left, a view from Corn Exchange Street.

ZOOLOGICAL LABORATORY, CAMBRIDGE

KEY TO THE PLANS

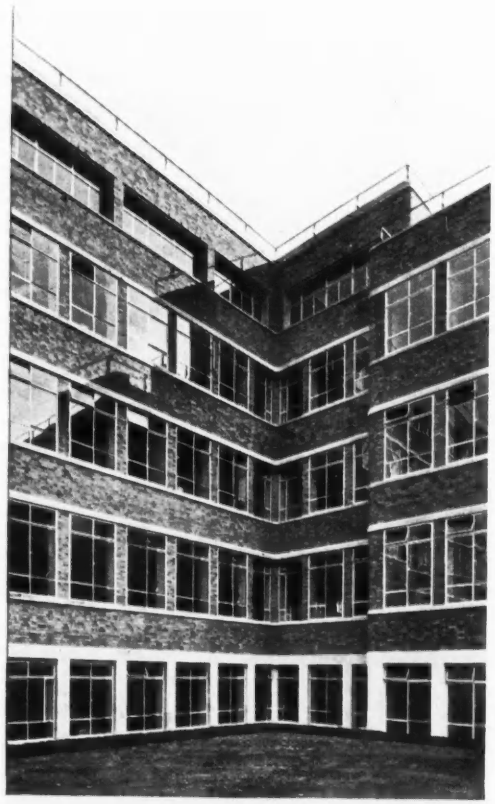
FIRST FLOOR	SECOND FLOOR
1. Advanced laboratory	1. Advanced laboratory
2. Advanced lecture room	2. Aquarium
3. Research room	3. Research room
4. ,, ,,	4. ,, ,,
5. Store room	5. Dark room
6. Manager's room	6. Office
6a. Secretary's room	7a. Secretary
7. Professor's room	7b. Research room
8. ,, Laboratory	8. ,, ,,
9. Research room	10. ,, ,,
10. ,, ,,	17. ,, ,,
11. ,, ,,	18. Balance room
12. Dark room	19. Chemical room
13. ,, ,,	20. Dark room
14. ,, ,,	21. Inner dark room
15. ,, ,,	22. Workshop store
16. ,, ,,	23. Workshop
17. Library store	24. Attendant's office
18. The library	25. Dark room
19. Telephone	26. ,, ,,
20. Common room	27. ,, ,,
21. Research room	28. Research room
22. Women's lavatory	29. ,, ,,
23. Men's lavatory	30. Dark room
24. Research room	31. ,, ,,
25. ,, ,,	32. Workshop



SECOND FLOOR PLAN

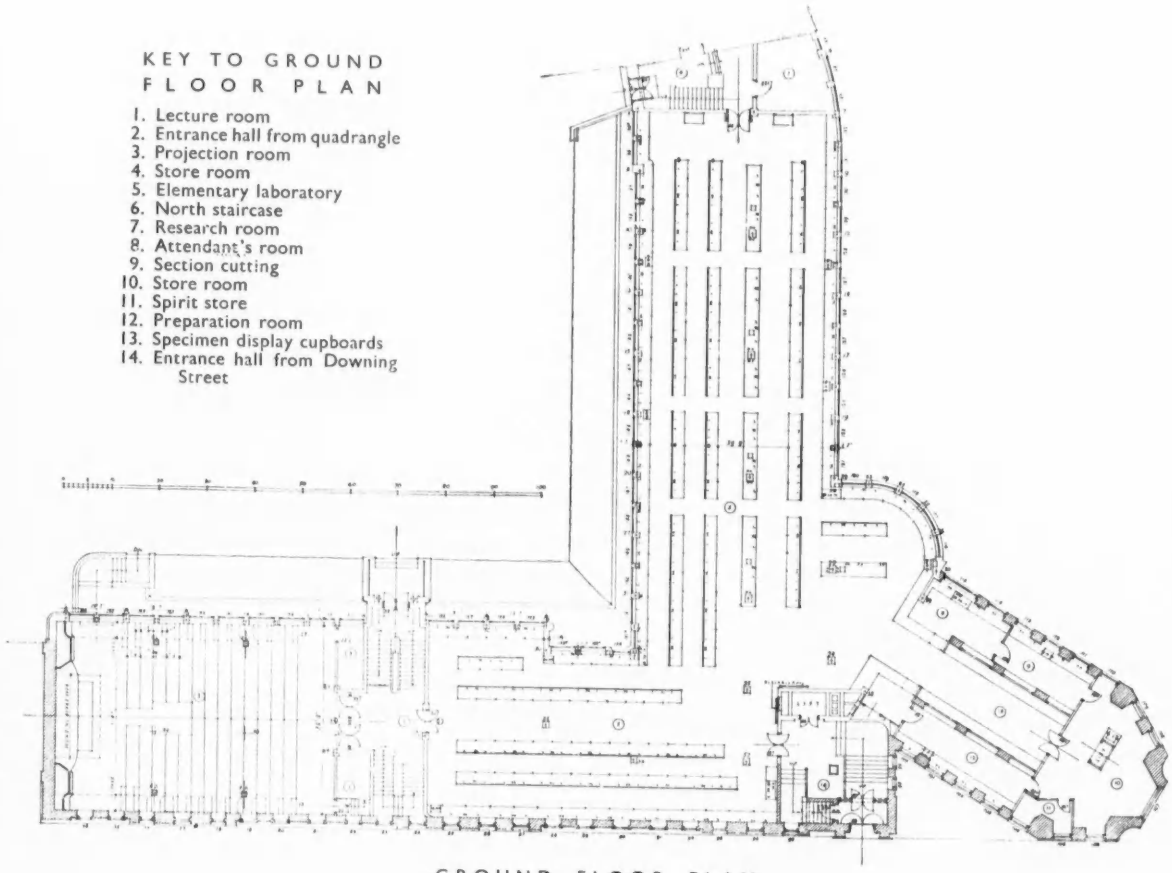
FIRST FLOOR PLAN

DESIGNED BY STANLEY HALL AND EASTON AND ROBERTSON



KEY TO GROUND FLOOR PLAN

1. Lecture room
2. Entrance hall from quadrangle
3. Projection room
4. Store room
5. Elementary laboratory
6. North staircase
7. Research room
8. Attendant's room
9. Section cutting
10. Store room
11. Spirit store
12. Preparation room
13. Specimen display cupboards
14. Entrance hall from Downing Street

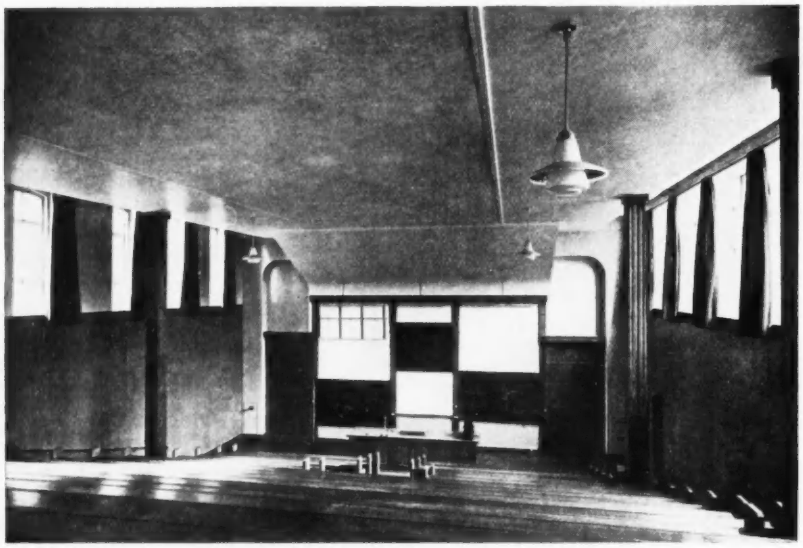


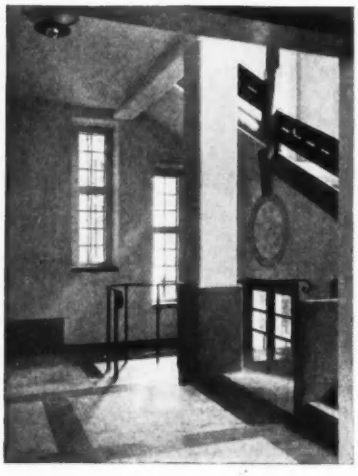
GROUND FLOOR PLAN

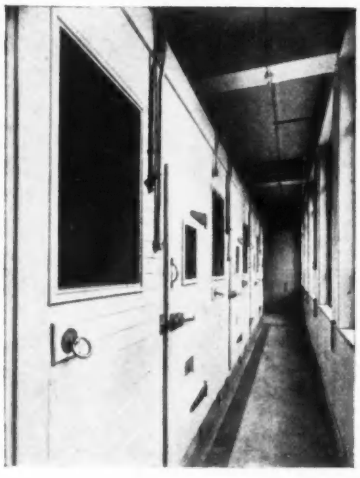
The main units of the building are the elementary laboratory (claimed to be the largest in the country), and the lecture hall, seating 250. The elementary laboratory and the research rooms above it are provided with full services, gas, water, a. and d.c. supplies, and compressed air. In the basement is the radiology section and aquarium; on the first floor is a large "advanced" laboratory, library and common room; the second floor contains the experimental laboratory, individual research rooms and fresh- and sea-water aquaria; the third floor is devoted to entomology. Structurally the building is steel framed with reinforced concrete floors; a stanchion spacing of 12 ft. 9 in. was decided upon as giving a suitably elastic unit for research rooms which are made up of one, two, three or four bays. Each bay is divided by a pier, similar in appearance to the piers containing the stanchions, but housing the necessary drainage services.

The photograph shows a corner of the quadrangle.

ZOOLOGICAL LABORATORY, CAMBRIDGE: BY





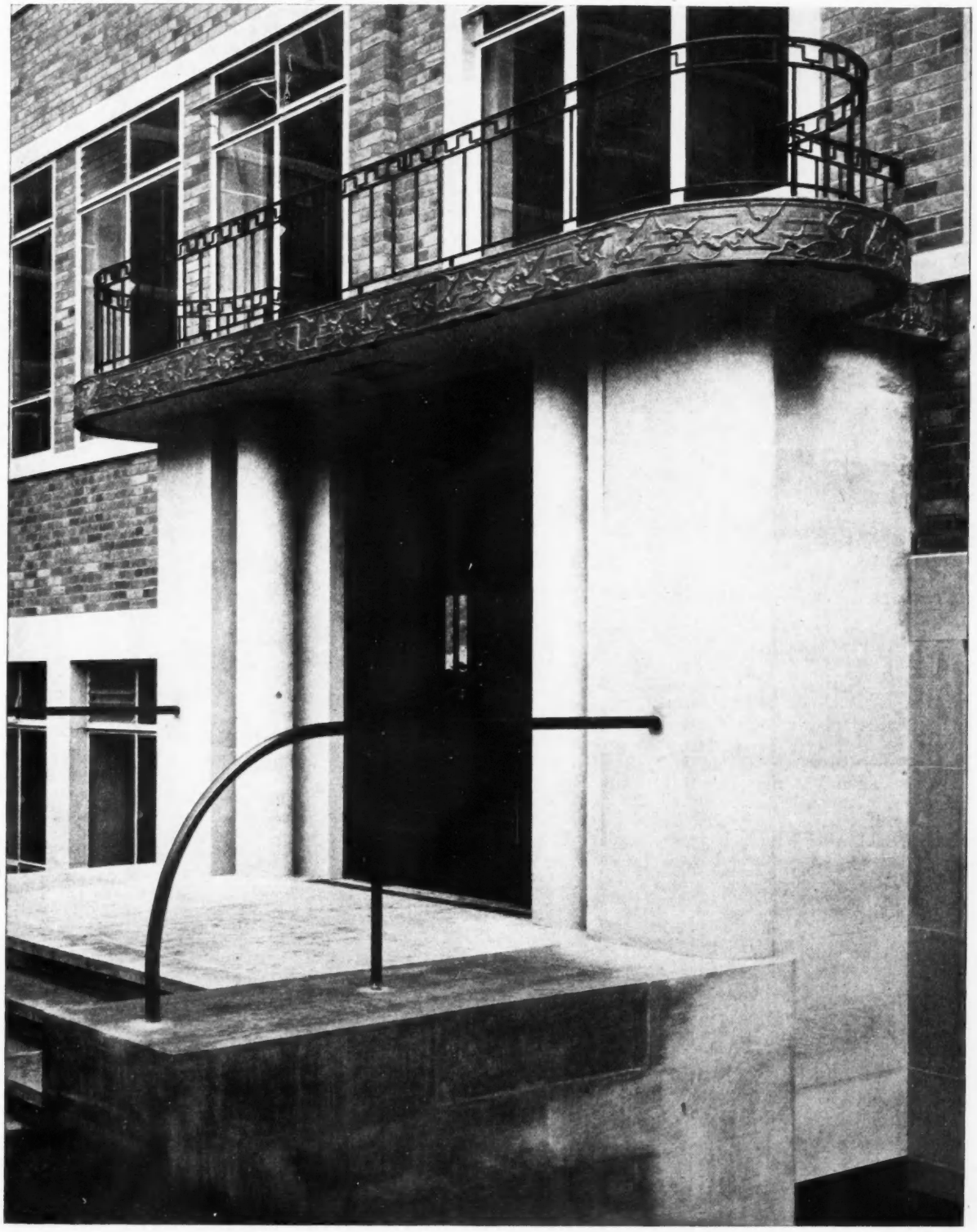


The lecture hall (top) provides seating accommodation for 250 and has a layer of sprayed acoustic asbestos on the ceiling and back wall, other walls being plastered and painted dull blue: windows have been kept high and are provided with heavily lined curtains, simultaneously operated by a winch. At the back of the hall is a projection room, and there is also an epidiascope well which can be seen in the centre of the seating, immediately in front of the lecturer's table.

The elementary laboratory (centre) has benches for 184 students, all fittings being carried out in Columbian pine and teak. Walls are plastered and painted lemon yellow and the floor is of rubber, cut into 3 ft. squares, leaving a $\frac{3}{8}$ in. line of grey rubber mastic.

The photographs at the bottom of the page show: left, a detail of the main staircase and, right, the internal corridor to the constant temperature rooms. Both lecture rooms and all dark rooms are artificially ventilated by extract fans, and heating throughout is by radiant panels. In the basement is the compressed air plant and the boilers which are fed with solid fuel by automatic stokers.

STANLEY HALL AND EASTON AND ROBERTSON



The main quadrangle entrance is faced with Ancaster Stone and has York stone steps: the hood is of reinforced concrete with the top asphalted and the soffit bush-hammered. The Darwinian motifs of the decorative lead frieze were modelled by Miss Arnrid Johnston. On either side of the entrance the grass slopes down level with the bottom of the basement windows.

Weobley, Broad Street. From "The Royal Commission on Historical Monuments: Herefordshire," Vol. III, north-west.

LITERATURE

HEREFORDSHIRE

[*BY S. E. DYKES BOWER*]

Royal Commission on Historical Monuments: Herefordshire. Vol. III, North-West. London: H.M. Stationery Office. Price 30s. net.

THE north-west section of Herefordshire, which forms the subject of a third volume in the Historical Monuments Commission's survey of the county, if not the most prolific in architecture of special note, is more than rich enough to make this book a valuable record of local vernacular building. Geographical and geological factors combined to make the native architecture of Herefordshire a composite affair, and it is perhaps the element of uncertainty about it that provides its chief interest and charm. It is the meeting-place of the brick tradition of the Midlands, the half-timber tradition of the Welsh border country, and the stone and slate tradition of Wales itself, and it is a question of chance which prevails: it is common enough to find even quite small structures embodying features from all three. With such a mixture of materials available for experiment, it was hardly to be expected that any strongly-marked sense of design should develop, such, for example, as was possible in the Cotswolds where the existence of one staple building material enabled successive generations to acquire a highly specialized technique in its use. In Herefordshire we are always more conscious of the craft than of the art. Its builders never knew quite enough about their various materials to use them with the ease and skill of those who from closer acquaintance had gained long practice. They were amateurs, working by the light of nature and achieving their purpose laboriously, and sometimes a little clumsily.

The work of the amateur, however, so long as it remains unpretentious, is far from contemptible; it often shows an instinctive sincerity that too great a knowledge of the tricks of the trade may obscure and spoil. The architecture of Herefordshire has a simple directness that is well suited to the bucolic nature of the county. Just because it bears so little trace of deliberate design but seems to have come together out of whatever lay to hand, it shares that feeling of close contact with the soil that broods like a spell over the life and landscape of this pristine corner of England. Whatever their merits or defects may be, the primitive honesty of aspect of its buildings, their rude generosity of structure have acquired, as strongly as the countryside itself, that hoary, immemorial quality that invests places as well as persons long devoted to the same pursuit. Agriculture here is still almost the only industry, and in the sturdy, if uncouth, architecture of farms and barns it seems to find fitting expression.

In so far as north-west Herefordshire differs at all from the south and east, it is in the greater abundance of half-timber buildings. Half-timber work is common to all the counties on the Welsh Marches and in each assumes a more or less distinctive form. The Herefordshire brand of it is of a milder kind than those of Shropshire and Cheshire in that the proportion of timber to infilling is not so great and the timbers themselves tend to be slighter, resulting in a less strident pattern of black and white. On the other hand, there is little attempt to turn the structural use of timber to ornamental advantage, and even the most complete specimens appear modest by comparison with the elaborate productions of Cheshire. What is seen, perhaps, better in Herefordshire than in the counties further north, is the complete half-timber village, where the massed grouping of houses, cottages, market hall and possibly church porch and steeple, all built alike, produce a satisfying unity of design and colour. Such villages as Pembridge, Weobley and Eardisland are almost the best in the county; Pembridge in particular deserves a high place among the best half-timber villages in the country.

The stranger to Herefordshire will not, however, find its architectural beauties so obvious that they cannot be missed; they are, in fact, so shy and remote that they can be very easily missed, and on that account the county is liable to be underrated. It has, it must be admitted, nothing very sensational to offer those who are bored by anything else, and no doubt for this reason it has escaped a great deal of unwelcome attention. But, as has been remarked, it is full of

surprises, and to penetrate the rusticity of its exterior is to discover the store of good things it contains.

Nothing could convey a better idea of their nature and extent than the three volumes of this survey now completed. The latest of them needs no special commendation. It is in every respect up to the high standard of the others and, considering the fine production and the wealth of illustrations, is remarkably low in price.

THE GARDENER'S TO-DAY

[*BY C. DUNBAR KILBURN*]

Garden Design of Today. By Percy S. Cane. London : Methuen. Price 15s. net.

IT is a melancholy fact that the "today" of most arts in England is the "yesterday" of the same arts on the Continent, and Mr. Cane keeps well within this tradition. The title of this book leads one to hope for some helpful discussion of the very real problem of garden designing for modern houses, but apparently Mr. Cane does not consider that the modern house is very important "today." He certainly heads one of his chapters, "Gardens for Modern Houses," but the bare four pages on this subject end with this sentence : "Time will probably bring radical changes in existing styles of architecture and the sister arts, but our native tradition of garden design will certainly fulfil any requirements that may be demanded of it." After this it is no doubt unkind but irresistible to imagine the author conscientiously trying to hide the new nakedness of, say, one of Mr. Checkley's recent houses, with a willing but rather inadequate Dorothy Perkins rose. Only figuratively speaking, of course, for Mr. Cane is quite aware that these modern houses do need particular garden treatment, though the subject is obviously distasteful to him.

It will be seen, therefore, that this book contains no illumination for the present problems of garden design ; the ground it does cover has been very well tilled by many writers in the past.

Are there really people who like to be told that (of rock gardens) "It is always difficult to make one satisfactorily on level ground, but, on the other hand, put a few boulders carelessly into some rough hollow and there is already something of a rock garden without further trouble" ? Or, again, speaking of herbaceous borders, that "While strong yellows and strong pinks should not be together, pale yellow with some soft shade of pink, some grey foliage and mauve or blue flowers would be beautiful, like a Chinese painting or rug" ?

However, it is presumed that publishers know their market, and perhaps after all there are some thousands of people who may derive pleasure from the numerous illustrations.

Two illustrations from "The Royal Commission on Historical Monuments : Herefordshire," Vol. III, north-west. Left : Pembridge, Clear Brook ; sixteenth century and later. Below : King's Pyon, Butthouse and Gatehouse ; seventeenth century.

Publications Received

Book of Speed. London : B. T. Batsford, Ltd. Price 5s.

A Guide to Draughtsmanship. By W. H. Smith. London : E. and F. N. Spon, Ltd. Price 4s. 6d.

Bautechnischer Luftschutz. By Hanse-Schoszberger. Berlin : Bauwelt-Verlag. Price 7.80 Marks.

House Building, 1934-36. Edited by Ernest Betham. Federated Employers Press, Ltd., for National Federation of Building Trades Employers. Price 5s.

PERIODICALS

NOVEMBER ANTHOLOGY

AMERICA

American Architect
(Monthly, $1)

NOVEMBER. "Old Forms for New Buildings," an article by John Gaw Meem on the Spanish Pueblo architecture of New Mexico, with examples of recent work carried out in the same style. Useful notes on contemporary interior lighting.

Architectural Forum
(Monthly, $1)

November. Numerous illustrations of a fountain by Carl Milles, to be erected in Stockholm market place, immediately outside Tengbom's Concert Hall. Van der Leeuw research house at Los Angeles, by Richard Neutra, an experimental dwelling planned in separate units, but capable of standardization.

Pencil Points
(Monthly, 35 c.)

November. A long and appreciative article on the late Cass Gilbert, with illustrations of his work: further notes on wrought ironwork, and the final instalment of Mr. Magonigle's review of the last fifty years of American architecture.

●

BELGIUM

La Cité
(Monthly, 70 frs. per annum)

No. 9. A number devoted to the needs of children from two to six years old, with examples from the work of Franz Singer and van Nueten.

L'Emulation
(Monthly, 10 fr.)

No. 7. The work of the late Dr. H. P. Berlage, including the now inevitable Amsterdam bourse and some schemes for the replanning of Amsterdam.

●

FRANCE

L'Architecté
(Monthly, 16 fr.)

No. 8. Le Corbusier's Salvation Army building, the Town Hall at Puteaux, by E. and J. Niermans and Wembley Baths, by Sir E. Owen Williams, K.B.E.

L'Architecture
(Monthly, 6 fr.)

November. French provincial architecture: recent work in Brittany by G.-R. Lefort, the new front of the Galeries Lafayette and a building in the Cité Universitaire.

L'Ossature Metallique
(Monthly, 14 belgas per annum)

November. Villeurbanne, Lyons: plans and photographs. Current bridge work at Malines and San Francisco, notes on oxy-acetylene welding and cutting, and a history of high-tensile steel for building purposes.

La Technique des Travaux
(Monthly, 10 fr.)

November. Beaudouin and Lods' Cité de la Muette at Drancy and a new Town Hall at Boulogne-sur-Seine, by Tony Garnier and Jacques Debat-Ponsan. Useful methods of aerodrome drainage.

●

GERMANY

Baugilde
(Fortnightly, 1 m. 50)

November 10. Typical village lay-outs from pre-Christian times to the present day.

November 25. An article by Otto Besse on the lay-out of external service pipes and cables, gas, water, electricity and sewage disposal, with notes on the planning of common intake rooms. Simple church furniture from Arnold Rickerts' school of arts and crafts at Bielefeld.

Monatshefte für Baukunst und Städtebau
(Monthly, 1 m. 90)

November. Housing schemes from the 1934 Munich exhibition, and an illustrated article on the work of Marcello Piacentini.

Der Baumeister
(Monthly, 3 m.)

November. A review of the rooms shown at the Munich housing exhibition this year: simple furniture, for which prices, mostly quite low, are given. Two useful details of double glazed wooden casements.

Bauwelt
(Weekly, 2 m. 52 per month)

November 1. Results of a youth hostel competition at Hannover.

November 8. Studios for painters near Berlin and on Lake Maggiore.

November 15. Rostock Town Hall competition result.

November 22. More competition results. German furniture "for today and tomorrow" showing evidence of a return to traditional designs.

November 30. Wooden wireless masts, 500 ft. high; no drawings.

Deutsche Bauzeitung
(Weekly, 3 m. 40 per month)

November 7. The design of buildings against aerial attack.

November 14. The construction and hanging of internal doors in pressed steel and wood architraves. New buildings for the Kurhaus at Bad Elster.

November 21. A suburban house, a country house and a housing scheme by E. G. Körner.

Innen Dekoration
(Monthly, 2 m.)

November. Two buildings by Fritz Höger, designed for exposed sites; one, a week-end cottage, the other a larger house in the Alps. Contemporary interior work.

Moderne Bauformen
(Monthly, 3 m.)

November. A country house by Hans Lüttgen, in which the architect has been given a completely free hand. Small one-family houses, some largely top-lit, for use on narrow sites. Sound contemporary furniture by Arno Lambrecht.

●

HOLLAND

Bouwkundig Weekblad Architectura
(Weekly, 15 florins per annum)

November 3. Reinforced concrete laboratories for a water supply company at Delft: architect, H. Kammer.

November 10. An office block at the Hague by Jan Wils. The preservation of ancient monuments in France.

November 17. A municipal bathing pavilion on the foreshore at Zandvoort by H. T. Zwiers. A church at Arnhem by G. Feenstra.

November 24. An appreciative article on Sir Giles Gilbert Scott and his work, illustrated by Liverpool Cathedral.

de 8 en Opbouw
(Fortnightly, 30 cents)

November 10. Duiker's "Cinéac" newsreel cinema at Amsterdam, seating a total of about 450 with 150 in the single balcony.

November 24. A well-illustrated 12-page article on the new "Apollo" covered tennis courts: architects, A. Boeken and W. Zweedijk.

●

FINLAND

Arkitekten
(Monthly, 15 Finnish marks)

October. Plan developments during recent years of housing blocks in Helsingfors. Summer villas and holiday houses by various architects.

●

HUNGARY

Tér és Forma
(Monthly, 3 p.)

November. A power station in Budapesth, designed by Bierbauer Virgil. Zürich technical school.

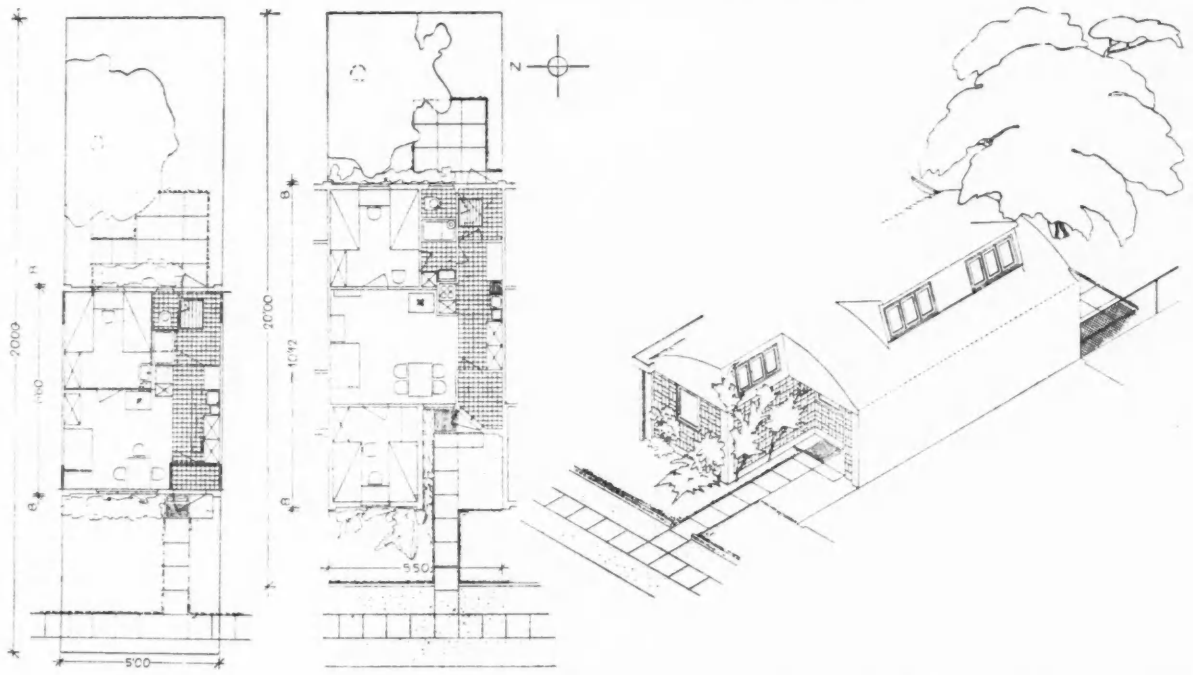
●

POLAND

Architektura i Budovnictivo
(Monthly, 8 zl)

November. "Prudential House," Warsaw, by Marcin Weinfeld: of great interest constructionally.

The new Town Hall at Boulogne-sur-Seine. Architects: Tony Garnier and J. Debat-Ponsan. (From "La Technique des Travaux.")



A design by Hugo Häring for a street of detached houses : the main axis was east and west. The living room is lit by a raised side light arranged to catch the midday sun. (From "Moderne Bauformen.")

SPAIN

Actividad Contemporanea
(Quarterly, 3 pesetas 25)

No. 4. Work by Richard Neutra, including "Rush City Reformed."

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SWEDEN

Boet
(Monthly, 1 kr. 50)

No. 10. Current Swedish interior work. Glass and pottery from the 1934 Italian exhibition.

Byggmastaren
(Weekly, 20 kr. per annum)

November 7. Stockholm housing schemes by Axel Dahlberg.

November 14. Further work by the H.S.B. housing group already described in this JOURNAL.

November 21. The design of bomb-proof shelters.

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SWITZERLAND

Schweizerische Bauzeitung
(Weekly, 1 fr.)

November 3. Town plans for Berne.

November 10. The same article continued.

November 17. The "functional town," a general article illustrated by various mistakes from New York, Barcelona and elsewhere.

Das Werk
(Monthly, 3 fr. 60)

November. Post office and flat block in Munich by Robert Vorhoelzer. Housing in Stuttgart.

LAW REPORT

ALLEGED BREACH OF BUILDING REGULATIONS

Atkinson v. *Seymour Construction Co., Ltd. and J. H. Sankey and Son, Ltd.—King's Bench Division. Before Mr. Justice Hawke.*

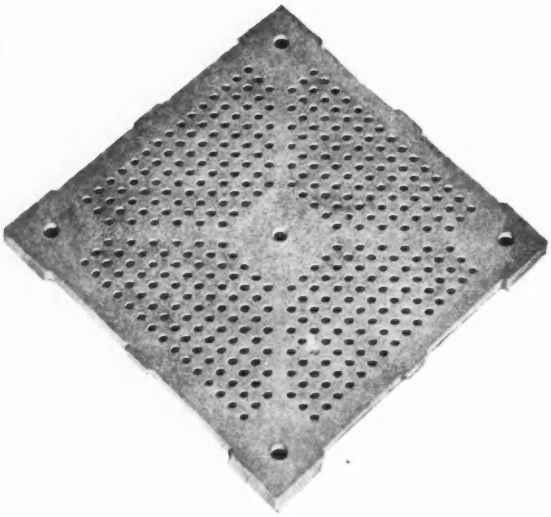
THIS was an action by Mr. Thos. Wm. Atkinson, of Vine Road, West Ham, against the Seymour Construction Co., Ltd., builders and estate developers, of Romford and Wanstead, and alternatively, against the second defendants, J. H. Sankey and Son, Ltd., of Norfolk Street, Strand, claiming damages for personal injuries sustained on August 31, 1933.

Plaintiff's case was that on that date he was engaged on tiling work on the roof of a house being erected in Elmcroft Avenue, Wanstead, of which the first defendants were the builders, and the second defendants, by whom the plaintiff was employed, were the first defendants' sub-contractors for the tiling of the roof. Whilst so engaged the plaintiff fell off the roof and sustained personal injuries from which he alleged the builders were negligent in causing him or ordering him to work outside on the roof without providing or maintaining a suitable working platform, and or without providing and maintaining a parapet wall or railings or other efficient means to prevent plaintiff from falling from the roof. Plaintiff further alleged that the builders were negligent in failing to provide and maintain a suitable guard rail and toe board on the scaffold erected and in failing to provide and maintain any proper appliances or means to enable plaintiff to perform his work with reasonable safety. Plaintiff further alleged that the wood of the battens used by the builders was not strong enough and that the accident was caused by a batten, on which he was treading, breaking. In regard to these matters plaintiff pleaded that the builders had been guilty of breaches of the Building Regulations, 1926, of the Home Office, in that they had failed to provide and maintain a safe or proper scaffolding or sufficient means to prevent him falling from the roof. With regard to the second defendants, the plaintiff pleaded that they had been negligent and guilty of a breach of duty of the sub-contractors for the tiling work on the house, by not providing sufficient means to prevent him from falling and that in the circumstances they had been guilty of breaches of the Regulations 21 and 22 of the Building Regulations.

The defence of both sets of defendants was a denial of liability or of any breach of the Building Regulations.

His lordship, after hearing evidence and arguments, said he was unable to find that the accident to the plaintiff was due to any negligence on the part of either of the defendants. He came to the conclusion that the accident was probably caused by the plaintiff, whilst working down the roof of the building, treading in the middle of the batten which broke, and not at the point where the batten was attached to the rafter. In the circumstances he found that there had been no negligence proved against either of the defendants, for whom he entered judgment, with costs.

Counsel for defendants said they would consider the suggestions his lordship had made that the costs should not be pressed for.



TRADE NOTES

[BY F. R. S. YORKE, A.R.I.B.A.]

Protection of Asphalt Flats

A CONCRETE decking, known as Solcheck, has recently been introduced by the Trussed Concrete Steel Company, with the object of protecting flat, asphalted roofs from injury caused by the heat of the sun.

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Results of tests carried out at the Building Research Station show that the temperature of an asphalted roof protected by this decking was reduced by as much as 31.5°.

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The tiles are formed in reinforced concrete in 2 ft. square slabs, perforated with holes of such diameter and shape that the sun's rays cannot pass directly through the slabs.

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The material is designed for buildings in which roofs and other large areas are constructed in concrete. It is a general practice to protect these areas against rainwater by a coating of asphalt or similar material which, in consequence of its black colour and impervious quality, collects heat and stores it in the structural concrete.

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The expansion that follows has a disastrous effect on the stability of the structure as a whole, which often necessitates expensive repairs and maintenance. Moreover, asphalt has to be made excessively brittle to withstand wear and pressure at high temperatures. This reduces its waterproofing qualities under the movement which takes place in the material it is protecting.

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Solcheck tiles are formed with a series of holes connected on the underside and within the area of the tiles by cross ducts or channels in such a way that the heated air within the holes is circulated and cooled, and is prevented from being collected by the asphalt covering. Also by screening the solar-ultra-violet rays, one of the most potent agents in the production of surface crazing is eliminated.

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The Solcheck tiles may be laid on relatively uneven surfaces, so provision is made for a firm bearing at the points of support, by the insertion of a pad or plug through the tapered hole provided. In this way, permanent bedding of the tiles is unnecessary on flat surfaces, and they can be lifted and replaced for cleaning purposes quite easily.

Klexit, a new appliance for the removal of ash, soot etc. from coal-burning fireplaces. *See note on this page.*

Ash Removal by Vacuum

The Well Fire and Foundry Company are about to place on the market a new appliance called Klexit for the removal of ash, soot, etc., from coal-burning fireplaces. The operation takes only a few seconds, and does not soil the hands. The "flying" of dust is obviated. The apparatus attaches to any type of domestic electric vacuum cleaner, by pushing the base of the cleaner into a connection provided on the Klexit.

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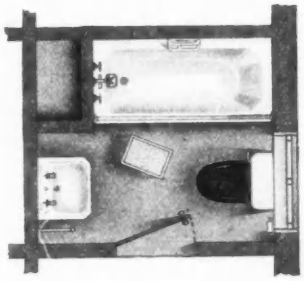
The ash container is made of asbestos and is fireproof. The refuse from six or eight fires can be collected before it needs emptying. The appliance weighs 9½ lb. with tubing and nozzle and measures 17½ in. by 12 in. by 10½ in. It costs £2 10s. 6d.

Twyfords' New Catalogue

Twyfords Limited, of Stoke-on-Trent, have issued a new general catalogue, of some 400 pages, which should form a most useful book of reference, for the sanitary fixtures illustrated in it present an extremely comprehensive range. The catalogue itself is divided into two main sections, the first dealing with domestic fixtures, the second with fixtures to meet public utility needs, with subdivisions covering the special requirements of schools, hotels and hospitals, and, to meet contemporary demands, a special coloured section has also been included.



Minimum bathroom, 7 ft. 6 in. × 6 ft. 6 in. [*from Twyfords' new Catalogue*].

Twyfords' fixtures are made in different pottery wares suitable for their particular purpose: the following notes briefly describe the main features of each type:

Vitromant earthenware—a pure white (or coloured) ware of fine texture and smooth highly glazed vitreous surfaces—suitable for domestic fittings.

Duramant heavy earthenware—similar to Vitromant in texture and finish, but possessing increased strength on account of the thickness of the ware—suitable for ordinary domestic purposes or for special public requirements.

Adamant enamelled fireclay—a refractory clay with a pure white (or coloured) vitreous enamelled finish. By reason of the tenacious character of the clay—body and the durability of the enamelled surface. Adamant fireclay is particularly suitable for the larger pieces of sanitary pottery,

such as sinks, urinals and baths, also for fittings of all kinds where thickness and strength are required to withstand constant and severe use.

A particularly useful feature of the catalogue are the type plans: nearly all the baths, lavatory basins and other sanitary fittings for domestic or hotel use are shown arranged in various ways, together with the size of room required and the window position.

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A misleading report in a Sunday paper as to the importations of foreign baths is the subject of an official statement by the International Bath Association.

"The Board of Trade returns," it is pointed out, "show that the importations from January to October, 1934, were 6,623 tons, as compared with 6,161 for the same period in 1933, an increase of less than 7½ per cent. which is more than accounted for by the increased building activity."

"Reckoning on an average of 10 baths to the ton, the official figure represents 66,230 baths, while the Sunday newspaper figure would have meant that the importations this year amounted to 1,650,000 baths, or more than five times the total number of baths sold in the British market in the course of the whole year."

"British bath manufacturers," it is stated, "supply more than the lion's share of the British market, apart from the substantial trade done by them in export markets."

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

Following are the names of the general contractors and some of the sub-contractors for the buildings illustrated in this issue:—

Zoological Laboratories, Cambridge (pages 927-931). General contractors, Dove Bros., Ltd. Sculpture: N. Lambert; models, Miss Arnrid Johnston; Sub-contractors: Richard Crittall & Co., Ltd., heating, hot water and ventilation; Matthew Hall & Co., cold water, plumbing and hydrants; Tyler and Freeman, electrical work; Stuart's Granolithic Co., granolithic floors; Crittall Manufacturing Co., Ltd., steel windows; Redpath, Brown & Co., Ltd., steelwork; Bromsgrove Guild, Ltd. and Kingsmill Metal Co., metal-work; J. and E. Hall Ltd., lift; J. A. King & Co., pavement lights, etc.; Diespeker & Co., Ltd., terrazzo; Newall's Insullation Co., Ltd., acoustic work; George Johnson Ltd., hand lift; Hollis Bros., wood block flooring; Martin Van Straaten & Co., tiling; J. L. Emms, ornamental leadwork; North of England School Furnishing Co. and Baird and Tatlock, Ltd., benches and laboratory fittings; John P. White and Sons and D. Burkles and Sons, Ltd., furniture; North British Rubber Co., rubber floors; Croft Granite Co., Ltd., artificial stone; Val de Travers Ltd., asphalt; Frazzi Ltd., Paropa flooring; Cork Insulation Co., cork insulation; Inlaid Ruboleum Ltd., linoleum; A. J. Shingleton, blinds; Luxfer, Ltd., iron staircase; F. A. Norris & Co., railwings.

House at Holmbury St. Mary, Surrey (pages 920-921). General contractors, Chapman, Lowry and Puttick, who were also responsible for electric light and power, internal joinery, fitments and staircase. Sub-contractors: W. H. Gascoigne & Co., heating, domestic hot water and plumbing; Complete Plasterers, Ltd, plastering and external rendering: C. G. Bayliss, metal casements and doors; J. Barker & Co., flush doors; Venesta, Ltd., external metal faced doors; Hollis Bros. & Co., Ltd., hard wood floors; Anderson's Thermotile Flat Roof, roofing; Thos. Parsons and Sons, paint; Cellulin Flooring Company, floor covering.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILES RADIUS).

BARKING. *Hospital Additions.* The Corporation recommends the erection of a new block at the maternity hospital at a cost of £11,280 by direct labour.

EAST HAM. *Hospital.* The Corporation has obtained sanction to borrow £146,596 in connection with the erection of the East Ham and Southend-on-Sea joint mental hospital at Runwell.

FINCHLEY. *Flats, Houses, Shops, etc.* Plans passed by the Corporation: Two houses, Devon Rise, for Messrs. Kingstons (Builders), Ltd.; two flats, Fallowcourt Avenue, for Mr. E. Wood; four houses, Kingsley Way, Hampstead Garden Suburb, for Mr. F. Wood; three shops, Regent's Park Road, for Messrs. C. F. Day, Ltd.; two houses, Brim Hill, for Mr. A. Reast; four shops and eight flats, East End Road, and 12 flats, Ossulton Way, for Mr. A. N. Bryett; six flats, Woodside Park Road, for Messrs. Tristram and Powers; six houses, Abbots Gardens, for Messrs. Comben and Wakeling; 24 houses, Linden Lea and Lytton Close, Hampstead Garden Suburb, for the W. L. M. Estates, Ltd.; 20 garages, Abbots Gardens, for Messrs. Comben and Wakeling; two flats, Alexandra Grove, for Messrs. Payne & Co.; five shops, High Road, for Messrs. A. W. Cattle and Sons; 50 flats and 18 garages, Nether Street, for the Ferndale Estates, Ltd.; cinema and six shops, High Street, for Herga Construction, Ltd. Plans submitted: 32 flats and 12 garages, Derby Lodge, East End Road, for Mr. L. Guy Morgan.

NEW MALDEN, ETC. *School.* The Surrey Education Committee is to erect a junior school for 384 in Sheephouse Lane, and the Surrey Education Committee is to proceed with the erection of a central school for 360 at Molesey.

POPLAR. *Flats.* The B.C. is to purchase a site at St. Stephen's Row, Bow, and erect 14 flats thereon, at a total estimated cost of £11,386. The B.C. is seeking sanction to borrow £16,052 for the purchsae of a site at Commodore Court and the erection thereon of 24 flats.

STEPNEY. *Tenements.* The B.C. is to erect 82 tenements in Cable Street at a cost of £37,213.

SOUTHERN COUNTIES

EASTBOURNE. *Church, Houses, etc.* Plans passed by the Corporation: Four houses, Hampden Park, and alterations 8-9 Grand Parade, for Mr. A. Ford; two houses, Garding Avenue, and dairy reconstruction, 385 Seaside, for Mr. A. J. Fellows; four houses, Astaire Avenue, for Mr. S. D. Foulkes; two houses, Longland Road, for Mr. W. James; 28 houses, Churchdale Road, for Prospect Houses, Ltd.; 247 houses, Hyndeye estate, Hampden Park, for Messrs. Oliver and Leeson; church, Victoria Drive, for Messrs. P. D. Stonham and Son, architects for exors. of Watson Trust.

GRAVESEND. *Shops and Houses.* Plans passed by the Corporation: Showrooms, the Grove, for Messrs. G. E. Wallis and Sons, Ltd., on behalf of Spooner Motors, Ltd.; 12 houses, New Road, for Mr. A. E. V. Newnham, on behalf of Mr. C. J. Howard; shop and warehouse, West Street, for Mr. P. Brockbank; lay-out for three houses, Suffolk Road, for Mr. A. K. Gillespie; six houses, Central Avenue for Messrs. W. E. and H. E. Thomas, Ltd.; lay-out for 29 houses, Central Avenue, for Mr. H. L. Smith.

GUILDFORD. *Hospital.* The Surrey C.C. is to enlarge the Warren Road hospital at a cost of £43,475.

OXFORD. *Houses, etc.* Plans passed by the Corporation: 22 houses, Quarry Fields estate, for Mr. A. Harris; 18 flats, Juxon Street, for St. John Baptist College, Oxford; shops, flats and offices, Woodstock Road, St. John's Road, etc., for St. John Baptist College, Oxford; two houses, George Street, Cowley, for Mr. R. C. Munt; two houses, Monmouth Road, for Mr. J. Laitt; 10 houses, Coniston Avenue, Headington, for the Great Headley Homesteads, Ltd.; four houses, Quarry Fields estate, Headington, for Mr. A. G. Betts; 10 houses, Quarry Fields estate, for Mr. W. Day; two houses, Coniston Avenue, for Great Headley Homesteads, Ltd.; 10 houses, Coniston Avenue, Great Headley estate, for Messrs. Cripps and Stewart.

SOUTH-WESTERN COUNTIES

CHELTENHAM. *Houses.* Plans passed by the Corporation: Eight houses, New Road, off Old Bath Road, for Mr. G. A. M. Hall; eight houses, Eldon Road, for Mr. J. Brunner; four houses, Cirencester Road, Charlton Kings, for Messrs. A. C. Billings and Sons, Ltd.; two bungalows, Warden Hill Road, for Messrs. Matthews and Wheatley; four houses, Cirencester Road, Charlton Kings, for Messrs. E. H. Bradley and Sons. Plans submitted: Four houses, Whaddon Road, for Messrs. Trigg Bros.; 12 houses, Naunton Way, for Naunton Estates, Ltd.

MIDLAND COUNTIES

BIRMINGHAM. *Houses.* The Estates Committee of the Corporation recommends the erection of 500 houses for overcrowded lodger cases, at a total estimated cost of £182,000.

BIRMINGHAM. *Houses.* The Corporation Housing Committee has approved plans by the City Engineer for the erection of 486 dwellings at the Riddings estate, Stechford, at a total estimated cost of £158,000, and recommends the erection of 146 houses at the Stonehurst estate, South Yardley, at an estimated cost of £59,739. The Corporation Housing Committee has approved plans by the City Engineer for the erection of 112 houses on the Hutton estate at a total estimated cost of £44,471.

DUDLEY. *Houses and Roads.* The Corporation has approved lay-out plans by the Borough Engineer for the erection of 400 houses and the construction of roads on land east of Bunn's Lane. The development is to be undertaken in sections.

STOKE-ON-TRENT. *Houses and Shops.* The Bournville Village Trust is to erect 95 houses and two shops at Hempstalls Lane, Wolstanton.

WEST BROMWICH. *School.* The Education Committee recommends the erection of a new school at Hamstead to accommodate approximately 400 pupils.

NORTHERN COUNTIES

HULL. *School.* The Education Committee is to proceed with the erection of a junior school for 400 on the Maybury Road site.

HULL. *Flats.* The Corporation has instructed the City Architect to obtain tenders for the erection of 20 cottage flats on the Aldbro' Street area.

WARRINGTON. *Housing.* The Corporation has obtained sanction to borrow £21,328 for the purchase of the Alder Lane housing estate and 28 acres of land for housing purposes. The Corporation is to purchase approximately five acres of land at Evelyn Street for the erection of dwellings for the working classes.

WORKINGTON. *Houses.* The Corporation has approved plans by the Borough Engineer for the erection of 40 houses on the Salterbeck Estate and 60 on the Frostoms Estate and has authorised him to obtain tenders for the work. The Corporation has instructed the Borough Engineer to prepare plans for the erection of an additional 48 houses for aged persons on the Salterbeck site.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A	Aberdeen ..	Scotland	1 6	1 1½
A_1	Abergavenny ..	S. Wales & M.	1 5	1 0½
A	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie ..	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_2	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham ..	Mid Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton	N.W. Counties	1 5½	1 1½
A_2	Boston	Mid. Counties	1 4	1 0
A	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A	Brighton ..	S. Counties	1 4	1 0
A	Bristol	S.W. Counties	1 5½	1 1½
B	Brixham ..	S.W. Counties	1 2½	11
A	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
A	Burslem ..	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury	N.W. Counties	1 5½	1 1½
A	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE ..	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A	Chelmsford ..	E. Counties	1 4	1 0
A	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A	Colchester ..	E. Counties	1 4	1 0
A	Colne	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorches ..	S.W. Counties	1 2½	11
A	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A_2	Dumfries ..	Scotland	1 5	1 0½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N E. Coast	1 5½	1 1½
A_2	EASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A_1	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorgan-shire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE	E. Counties	1 4	1 0
A	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome ..	S. W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A	Glasgow ..	Scotland	1 6	1 1½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	Gosport ..	S. Counties	1 4½	1 0½
A_2	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln ..	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12–15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLES-FIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_2	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middlesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid Counties	1 5½	1 1½
A	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth	Scotland	*1 5½	1 1½
A_2	Peterborough	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	Slough ..	S. Counties	1 4½	1 0½
A_1	Solihull ..	Mid. Counties	1 5	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stirling ..	Scotland	1 6	1 1½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud ..	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist ..	N.E. Counties	1 5½	1 1½
A_2	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay ..	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall ..	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick ..	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby ..	Yorkshire	1 4½	1 0½
A	Widnes ..	N.W. Counties	1 5½	1 1½
A	Wigan ..	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor ..	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A	Wycombe ..	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil ..	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given

The rates for every trade in any given area will be sent on request

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	s.	d.
Bricklayer . . . . . per hour	1	7
Carpenter . . . . . ,,	1	7
Joiner . . . . . ,,	1	7
Machinist . . . . . ,,	1	8
Mason (Banker) . . . . . ,,	1	7
,, (Fixer) . . . . . ,,	1	8
Plumber . . . . . ,,	1	7
Painter . . . . . ,,	1	6
Paperhanger . . . . . ,,	1	6
Glazier . . . . . ,,	1	7
Slater . . . . . ,,	1	7
Scaffolder . . . . . ,,	1	3
Timberman . . . . . ,,	1	3
Navvy . . . . . ,,	1	2½
General Labourer . . . . . ,,	1	2½
Lorryman . . . . . ,,	1	5
Crane Driver . . . . . ,,	1	6
Watchman . . . . . per week	2	10

MATERIALS

EXCAVATOR AND CONCRETOR

	£	s.	d.
Grey Stone Lime . . . . . per ton	2	2	0
Blue Lias Lime . . . . . ,,	1	16	6
Hydrated Lime . . . . . ,,	3	0	9
Portland Cement, in 4-ton lots (d/d site, including Paper Bags) . . ,,	1	18	0
Rapid Hardening Cement, in 4-ton lots (d/d site, including Paper Bags) . ,,	2	4	0
White Portland Cement, in 1-ton lots ,,	8	15	0
Thames Ballast . . . . . per Y.C.		6	3
¾" Crushed Ballast . . . . ,,		6	9
Building Sand . . . . . ,,		7	3
Washed Sand . . . . . ,,		8	3
2" Broken Brick . . . . . ,,		8	0
¾" ,, ,, ... ,,		12	3
Pan Breeze . . . . . ,,		6	6
Coke Breeze . . . . . ,,		8	9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4"			6"		
	s.	d.		s.	d.	
Straight Pipes . . per F.R.	0	9		1	1	
Bends . . . each	1	9		2	6	
Taper Bends . . ,,	3	6		5	3	
Rest Bends . . ,,	4	3		6	3	
Single junctions . . ,,	3	6		5	3	
Double . . . ,,	4	9		6	6	
Straight channels . . per F.R.	1	6		2	6	
¼" Channel bends . . each	2	9		4	0	
Channel junctions . . ,,	4	6		6	6	
Channel tapers . . ,,	2	9		4	0	
Yard gullies . . ,,	6	9		8	9	
Interceptors . . ,,	16	0		19	6	
IRON DRAINS:						
Iron drain pipe . . per F.R.	1	6		2	6	
Bends . . . each	5	0		10	6	
Inspection bends . . ,,	9	0		15	0	
Single junctions . . ,,	8	9		18	0	
Double junctions . . ,,	13	6		30	0	
Lead wool . . . lb.		6		—		
Gaskin . . . ,,		5		—		

BRICKLAYER

	£	s.	d.
Flettons . . . . . Per M.	2	18	0
Grooved do. . . . . ,,	3	0	0
Phorpres bricks . . . . . ,,	2	17	3
,, Cellular bricks . . . ,,	2	17	3
Stocks, 1st quality . . . ,,	4	11	0
,, 2nd ,, . . . ,,	4	2	6
Blue Bricks, Pressed . . ,,	8	17	6
,, Wirecuts . . ,,	7	17	6
,, Brindles . . ,,	7	0	0
,, Bullnose . . ,,	9	0	0
Red Sand-faced Facings . . ,,	6	18	6
Red Rubbers for Arches . . ,,	12	0	0
Multicoloured Facings . . ,,	7	10	0
Luton Facings . . . ,,	7	10	0
Phorpres White Facings . . ,,	3	17	3
,, Rustic Facings . . ,,	3	12	3
Midhurst White Facings . . ,,	5	0	0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:			
Stretchers . . . . . ,,	21	0	0
Headers . . . . . ,,	20	10	0
Bullnose . . . . . ,,	27	10	0
Double Stretchers . . . ,,	29	10	0
Double Headers . . . . ,,	26	10	0
Glazed Second Quality, *Less* . . ,,	1	0	0
,, Buffs and Creams, *Add* . ,,	2	0	0
,, Other Colours . . . ,,	5	10	0
2" Breeze Partition Blocks . . per Y.S.		1	7
2½" ,, ,, ,, . . . ,,		1	10
3" ,, ,, ,, . . . ,,		2	1
4" ,, ,, . . . ,,		2	6

MASON

The following d/d F.O.R. at Nine Elms:

	s.	d.
Portland stone, Whitbed . . F.C.	4	4½
,, ,, Basebed . . ,,	4	7½
Bath stone . . . . . ,,	2	10
York stone . . . . . ,,	6	6
,, ,, Sawn templates . . ,,	7	6
,, ,, Paving, 2" . . . F.S.	1	8
,, ,, ,, 3" . . . ,,	2	6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£	s.	d.
24" × 12" Duchesses . . . per M.	28	17	6
22" × 12" Marchionesses . . ,,	24	10	0
20" × 10" Countesses . . ,,	19	5	0
18" × 10" Viscountesses . . ,,	15	10	0
18" × 9" Ladies . . . ,,	13	17	6
Westmorland green (random sizes) . per ton	8	10	0
Old Delabole slates d/d in full truck loads to Nine Elms Station:			
20" × 10" medium grey per 1,000 (actual)	21	11	6
,, ,, green ,, ,,	24	7	4
Best machine roofing tiles . ,,	4	10	0
Best hand-made do. . . ,,	5	0	0
Hips and valleys . . . each			9½
,, hand-made . . . ,,			10
Nails, compo . . . lb.		1	4
,, copper . . . ,,		1	6

CARPENTER AND JOINER

	s.	d.
Good carcassing timber . . F.C.	2	2
Birch . . . . as 1" F.S.		9
Deal, Joiner's . . . ,, ,,		5
,, ,, 2nds . . ,, ,,		4
Mahogany, Honduras . . ,, ,,	1	3
,, African . . ,, ,,	1	1
,, Cuban. . . ,, ,,	2	6
Oak, plain American . . ,, ,,	1	0
,, Figured ,, . . ,, ,,	1	3
,, Plain Japanese . . ,, ,,	1	2
,, Figured ,, . . ,, ,,	1	5
,, Austrian wainscot . . ,, ,,	1	6
,, English . . . ,, ,,	1	11
Pine, Yellow . . . ,, ,,	1	0
,, Oregon . . . ,, ,,		4
,, British Columbian . . ,, ,,		4
Teak, Moulmein . . ,, ,,	1	3
,, Burma . . ,, ,,	1	2
Walnut, American . . ,, ,,	2	3
,, French . . ,, ,,	2	3
Whitewood, American . . ,, ,,	1	1
Deal floorings, ¾" . . Sq.	18	6
,, 1" . . ,,	1	1	6
,, 1¼" . . ,,	1	2	0
,, 1½" . . ,,	1	5	0
,, 1¾" . . ,,	1	10	0
Deal matchings ¾" . . ,,		14	0
,, 1" . . ,,		15	6
Rough boarding ¾" . . ,,	1	4	0
,, 1" . . ,,		16	0
,, 1¼" . . ,,	1	6	0

Plywood, per ft. sup.

—Thickness	¼"			⅜"			½"			¾"		
Qualities	AA.	A.	B.	AA.	A.	B.	AA.	A.	B.	AA.	A.	B.
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
Birch .	4	3	2	5	4	3	7½	6	4½	8½	7	6
Alder .	3½	3	2	5	4	3	6½	5½	4½	8	7	6
Gaboon Mahogany	4	3	3	6½	5½	4½	9½	7½	–	1/0½	10	–
Figured Oak 1 side	8½	7	–	10	8	–	11½	–	–	1/6	–	–
Plain Oak 1 side	6½	6	–	7½	7	–	9½	–	–	1/–	–	–
Oregon P.ne	5	4	–	5½	5	–	6	–	–	–	–	–

	d.
Scotch glue . . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:

(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	¼"	⅜"	½"	¾"	1"	1¼"	1½"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10			
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9			
,, 3"-11½" long ,,	7	9	1/3	1/8	3/–			
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3			
,, ,, 3"M-½" long ,,	8	10	1/5	1/11	3/6			
Bends . . . . ,,	8	11	1/7½	2/7½	5/2			
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11			
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–			
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3			
Tees . . . . ,,	1/–	1/3	1/10	2/6	5/1			
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6			
Plain Sockets and nipples ,,	3	4	6	8	1/3			
Diminished sockets . ,,	4	6	9	1/–	2/–			
Flanges . . . ,,	9	1/–	1/4	1/9	2/9			
Caps . . . . ,,	3½	5	8	1/–	2/–			
Backnuts . . . ,,	2	3	5	6	1/1			
Iron main cocks . . ,,	1/6	2/3	4/2	5/4	11/6			
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–			

Discounts:

TUBES.	Per cent.		Per cent.
Gas . . .	65	Galvanized gas .	52½
Water . . .	61½	,, water	47½
Steam . . .	57½	,, steam	42½
FITTINGS.			
Gas . . .	57½	Galvanized gas	47½
Water . . .	52½	,, water	42½
Steam . . .	47½	steam	37½

SMITH AND FOUNDER—*continued*

	s.	d.
Rolled steel joists cut to length . . cwt.	10	9
Mild steel reinforcing rods, ⅜" . . ,,	8	6
,, ,, ½" . . ,,	8	3
,, ,, ⅝" . . ,,	8	0
,, ,, ¾" . . ,,	7	6
,, ,, ⅞" . . ,,	7	6
,, ,, 1" . . ,,	7	6
,, ,, 1¼" . . ,,	7	6
,, ,, 1½" . . ,,	7	6

Cast-iron rain-water pipes of ordinary thickness metal .	3" s. d. F.R. 8	4" s. d. 10
Shoes . . . . each	2 0	3 0
Anti-splash shoes . . ,,	4 6	8 0
Boots . . . . ,,	3 0	4 0
Bends . . . . ,,	2 7	3 9
,, with access door . . ,,	—	6 3
Heads . . . . ,,	4 0	5 0
Swan-necks up to 9" offsets . ,,	3 9	6 0
Plinth bends, 4½" to 6" . ,,	3 9	5 3
Half-round rain-water gutters of ordinary thickness metal .	F.R. 5	6
Stop ends . . . . each	6	6
Angles . . . . ,,	1 7	1 11
Obtuse angles . . . ,,	2 0	2 6
Outlets . . . . ,,	1 9	2 3

PLUMBER

	£	s.	d.
Lead, milled sheets . . . cwt.	18	6	
,, drawn pipes . . . ,,	17	0	
,, soil pipe . . . ,,	18	6	
,, scrap . . . ,,	10	6	
Solder, plumbers' . . . lb.		9½	
,, fine do. . . . ,,	1	0	
Copper, sheet . . . ,,		8½	
,, tubes . . . ,,		11	

L.C.C. soil and waste pipes:	3"	4"	6"
Plain cast . . F.R.	1 0	1 2	2 6
Coated . . ,,	1 1	1 3	2 8
Galvanized . . ,,	2 0	2 6	4 6
Holderbats . . each	3 10	4 0	4 9
Bends . . ,,	3 9	5 3	10 3
Shoes . . ,,	2 10	4 4	9 6
Heads . . ,,	4 8	8 5	12 9

PLASTERER

	£	s.	d.
Lime, chalk . . . per ton	2	5	0
Plaster, coarse . . ,,	2	10	0
,, fine . . ,,	4	15	0
Hydrated lime . . ,,	3	0	9
Sirapite . . . ,,	3	6	0
Keene's cement . . ,,	5	0	0
Gothite Plaster . . ,,	3	6	0
Thistle Plaster . . ,,	3	6	0
Sand, washed . . Y.C.		11	6
Hair . . . lb.			6
Laths, sawn . . bundle		2	4
,, rent . . ,,		3	9
Lath nails . . lb.			3½

GLAZIER

	s.	d.	s.	d.
Sheet glass, 21 oz., squares n/e 2 ft.			s.	F.S.
,, ,, 26 oz. ,, ,, ,,				3
Flemish, Arctic, Figured (white)* ,,				7
Blazoned glasses . . ,,			2	6
Reeded; Cross Reeded ,,				11
Cathedral glass, white, double-rolled, plain, hammered, rimpled, waterwite				6½
Crown sheet glass (n/e 12 in. x 10 in.) ,,			2	0
Flashed opals (white and coloured) ,,	1	0 and	2	0
¼" rough cast; rolled plate . ,,				5½
¼" wired cast; wired rolled . ,,				9½
¼" Georgian wired cast. . ,,				11
¼" Polished plate, n/e 1 ft. . ,,	† 10 to		‡1	1
,, ,, 2 . ,,	†1 2	,,	‡1	4
,, ,, 4 . ,,	†2 3	,,	‡2	6
,, ,, 8 . ,,	†2 9	,,	‡3	2
,, ,, 20 . ,,	†3 7	,,	‡4	2
,, ,, 45 . ,,	†3 11	,,	‡4	7
,, ,, 100 . ,,	†5 0	,,	‡5	7
Vita glass, sheet, n/e 1 ft. . ,,			1	0
,, ,, ,, 2 ft. . ,,			1	3
,, ,, ,, over 2 ft. . ,,			1	9
,, ,, plate, n/e 1 ft. . ,,			1	6
,, ,, ,, 2 ft. . ,,			3	0
,, ,, ,, 5 ft. . ,,			4	0
,, ,, ,, 7 . ,,			5	0
,, ,, ,, 15 . ,,			6	0
,, ,, ,, over 15 . ,,			7	6
"Calorex" sheet 21 oz., and 32 oz. ,,	2	6 and	3	6
,, rough cast ¼" and ½" ,,			8½ ,, 1	0
Putty, linseed oil . . lb.				3

* *Colours, id. F.S. extra.*

†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£	s.	d.
White lead in 1 cwt. casks . . cwt.	2	6	0
Linseed oil . . . . gall.	2	2½	
Boiled oil . . . . ,,	2	4½	
Turpentine . . . . ,,	4	1½	
Patent knotting . . . ,,	14	0	
Distemper, washable . . . cwt.	2	0	0
,, ordinary . . ,,	2	0	0
Whitening . . . . ,,	4	0	
Size, double . . . firkin	3	0	
Copal varnish . . . gall.	13	0	
Flat varnish . . . ,,	14	0	
Outside varnish . . . ,,	16	0	
White enamel . . . ,,	1	15	0
Ready mixed paint . . ,,	13	6	
Brunswick black . . ,,	7	6	

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR		£ s. d.
Digging over surface n/e 12" deep and cart away	Y.S.	2 9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.	8 6
" to form basement n/e 5' 0" deep and cart away	"	9 0
" " 10' 0" deep and cart away	"	9 6
" " 15' 0" deep and cart away	"	10 0
If in stiff clay	add	6
If in underpinning	"	4 0
Planking and strutting to sides of excavation	F.S.	1 0
" " to pier holes	"	5
" " to trenches	"	5
" " extra, only if left in	"	3
Hardcore, filled in and rammed	Y.C.	10 0
Portland cement concrete in foundations (6-1)	"	1 6 0
" " (4-2-1)	"	1 12 6
" " underpinning	"	1 16 0
Finishing surface of concrete, spade face	Y.S.	7

DRAINLAYER		4" s. d.	6" s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
" junctions	"	3 9	4 6
Gullies and gratings	"	16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER		£ s. d.
Brickwork, Flettons n lime mortar	Per Rod	27 10 0
" " in cement	"	28 15 0
" Stocks in cement	"	35 0 0
" Blues in cement	"	52 0 0
Extra only for circular on plan	"	2 0 0
" backing to masonry	"	1 10 0
" raising on old walls	"	2 0 0
" underpinning	"	5 10 0½
Fair Face and pointing internally	F.S.	1½
Extra over fletton brickwork for picked stock facings and pointing	"	8
" " " red brick facings and pointing	"	11
" " " blue brick facing and pointing	"	1 4
" " " glazed brick facings and pointing	"	3 6
Tuck pointing	"	7½
Weather pointing in cement	"	3
Slate dampcourse	"	10
Vertical dampcourse	"	1 1

ASPHALTER		s. d.
½" Horizontal dampcourse	Y.S.	4 6
½" Vertical dampcourse	"	6 9
½" paving or flat	"	4 0
1" paving or flat	"	5 6
1" × 6" skirting	F.R.	1 6
Angle fillet	"	2
Rounded angle	"	2
Cesspools	Each	5 0

MASON		s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17 9
Bath stone and do., all as last	"	13 6
Artificial stone and do.	"	13 0
York stone templates, fixed complete	"	10 6
" thresholds	"	13 6
" sills	"	1 0 6

SLATER AND TILER		£ s. d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr.	3 10 0
Do., 18" × 9"	"	3 7 0
Do., 24" × 12"	"	3 17 0
Westmorland slating, laid with diminished courses	"	6 0 0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3 0 0
Do., all as last, but of machine-made tiles	"	2 16 0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	"	4 6 0
" " " " " " (green)	"	4 15 0

CARPENTER AND JOINER		£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2 5 0
Shuttering to sides and soffits of beams	F.S.	8
" to stanchions	"	8
" to staircases	"	1 8
Fir and fixing in wall plates, lintols, etc.	F.C.	3 9
Fir framed in floors	"	4 6
" " roofs	"	6 6
" " trusses	"	7 6
" " partitions	"	8 6
½" deal sawn boarding and fixing to joists	Sqr.	1 14 6
1" " " " "	"	1 17 6
1½" " " " "	"	2 3 0
½" × 2" fir battening for Countess slating	"	9 6
Do. for 4" gauge tiling	"	12 0
Stout feather-edged tilting fillet	F.R.	4½
Patent inodorous felt, 1 ply	Y.S.	2 3
" " " 2 "	"	2 9
" " " 3 "	"	3 3
Stout herringbone strutting to 9" joists	F.R.	10½
1" deal gutter boards and bearers	F.S.	1 2
1½" " " "	"	1 6
2" deal wrought rounded roll	F.R.	8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2 1 0
1¼" do.	"	2 10 0
1½" do.	"	2 17 0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S.	1 6
1½" do	"	1 9

CARPENTER AND JOINER—*continued*		s. d.
1½" deal moulded sashes of average size	F.S.	1 9½
2" " " "	"	1 11½
1½" deal cased frames double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ⅜" parting beads, and with brass faced axle pulleys, etc., fixed complete	"	3 7
2" " " "	"	3 10
Extra only for moulded horns	Each	6
1½" deal four-panel square, both sides, door	F.S.	2 0
2" " " "	"	2 8
1½" " but moulded both sides	"	2 4
2" " " "	"	3 0
4" × 3" deal, rebated and moulded frames	F.R.	1 0
4½" × 3½" " "	"	1 4
1½" deal tongued and moulded window board, on and including deal bearers	F.S.	1 9
1½" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2 6
1¼" deal moulded wall strings	"	2 1
1½" " outer strings	"	2 4
Ends of treads and risers housed to string	Each	1 9
3" × 2" deal moulded handrail	F.R.	1 3
1" × 1" deal balusters and housing each end	Each	2 0
1½" × 1½" " "	"	2 9
3" × 3" deal wrought framed newels	F.R.	1 3
Extra only for newel caps	Each	6 0
Do., pendants	"	6 0

SMITH AND FOUNDER		£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.	15 6
Riveted plate or compound girders, and hoisting and fixing in position	"	19 6
Do. stanchions with riveted caps and bases and do.	"	19 0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	"	17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.	11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1 10 0

PLUMBER		£ s. d.
Milled lead and labour in flats	cwt.	1 12 0
Do. in flashings	"	1 15 6
Do. in covering to turrets	"	2 3 0
Do. in soakers	"	1 7 6
Labour to welted edge	F.R.	3½
Open copper nailing	"	3
Close "	"	4

		½" s. d.	¾" s. d.	1" s. d.	1¼" s. d.	2" s. d.	4" s. d.
Lead service pipe and fixing with pipe hooks	F.R.	10	1 0	1 3	2 0	2 10	—
Do. soil pipe and fixing with cast lead tacks		—	—	—	—	—	5 6
Extra, only to bends	Each	—	—	—	—	2 0	6 9
Do. to stop ends	"	6½	8	9	11	1 0	—
Boiler screws and unions	"	3 3	3 9	5 0	8 0	—	—
Lead traps	"	—	—	—	6 3	8 9	—
Screw down bib valves	"	6 9	9 6	11 0	—	—	—
Do. stop cocks	"	7 0	9 6	12 6	—	—	—
4" cast-iron ½-rd. gutter and fixing	F.R.						1 0
Extra, only stop ends	Each						1 0
Do. angles	"						1 6
Do. outlets	"						2 9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.						1 2
Extra, only for shoes	Each						1 3
Do. for plain heads	"						5 6

PLASTERER AND TILING		s. d.
Expanded metal lathing, small mesh	Y.S.	2 0
Do. in n/w to beams, stanchions, etc.	"	2 9
Lathing with sawn laths to ceilings	"	1 3
½" screeding in Portland cement and sand or tiling, wood block floor, etc.	"	1 5
Do. vertical	"	1 7
Rough render on walls	"	1 2½
Render, float and set in lime and hair	"	1 9
Render and set in Sirapite	"	1 11
Render, backing in cement and sand, and set in Keene's cement	"	2 9
Extra, only if on lathing	"	4
Keene's cement, angle and arris	F.R.	6
Arris	"	1½
Rounded angle, small	"	3
Plain cornices in plaster, including dubbing out, per 1" girth	"	1½
1" granolithic pavings	Y.S.	3 6
1½" " "	"	4 6
6" × 6" white glazed wall tiling and fixing on prepared screed	"	17 6
9" × 3" " " " "	"	1 2 6
Extra, only for small quadrant angle	F.R.	8

GLAZIER		s. d.
21 oz. sheet glass and glazing with putty	P.S.	7½
26 oz. do and do.	"	8½
Flemish, Arctic Figured (white) and glazing with putty	"	1 1
Cathedral glass and do.	"	1 2
Glazing only, British polished plate	"	7
Extra, only if in beads	"	2
Washleather	F.R.	4

PAINTER		s. d.
Clearcolle and whiten ceilings	Y.S.	6
Do. and distemper walls	"	9
Do. with washable distemper	"	1 1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	"	3 3
Do. on woodwork	"	3 6
Do. on steelwork	"	3 0
Do. and brush grain and twice varnish	"	5 6
Stain and twice varnish woodwork	"	1 11
Stain and wax-polish woodwork	"	4 6
French polishing	F.S.	1 2
Stripping off old paper	Piece	2 0
Hanging ordinary paper	from "	2 9

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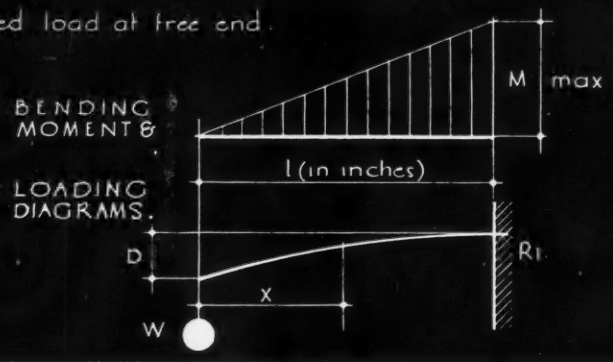
BEAMS UNDER VARIOUS LOADING CONDITIONS

BENDING MOMENTS AND DEFLECTIONS

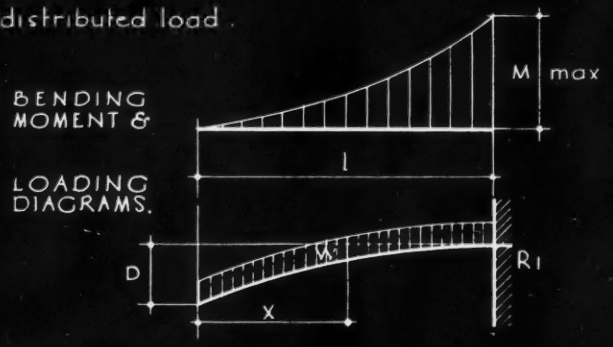
1. CANTILEVER BEAM: Concentrated load at free end.

R_1 (max. shear).	=	W
M, distance x	=	Wx
M max, at R_1	=	Wl
W max.	=	$\frac{FZ}{l}$
D max.	=	$\frac{Wl^3}{3EI}$



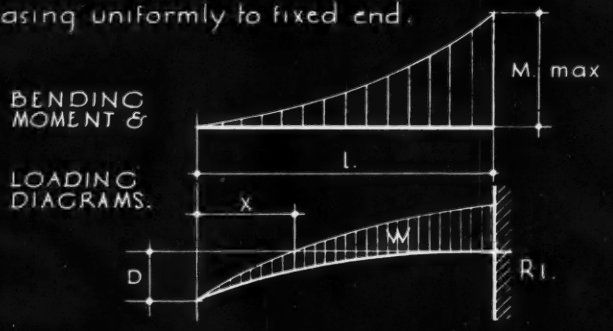
2. CANTILEVER BEAM Uniformly distributed load.

R_1 (max. shear)	=	W
M at distance x	=	$\frac{Wx^2}{2l}$
M max. at R_1	=	$\frac{Wl}{2}$
W max.	=	$\frac{2FZ}{l}$
D max.	=	$\frac{Wl^3}{8EI}$



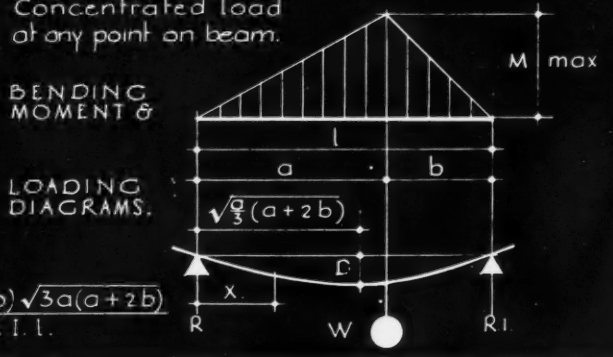
3. CANTILEVER BEAM: Load increasing uniformly to fixed end.

R_1 (max. shear)	=	W
M at distance x	=	$\frac{Wx^3}{3l^2}$
M max. at R_1	=	$\frac{Wl}{3}$
W max.	=	$\frac{3FZ}{l}$
D max.	=	$\frac{Wl^3}{15EI}$



4. BEAM SUPPORTED AT ENDS: Concentrated load at any point on beam.

R (max. shear if $b > a$)	=	$\frac{wb}{l}$
R_1 (max. shear if $a > b$)	=	$\frac{wa}{l}$
M at distance x. ($x < a$)	=	$\frac{wbx}{l}$
M max, at point of load	=	$\frac{wab}{l}$
W max.	=	$\frac{fZl}{ab}$
D max.	=	$\frac{Wab(a+2b)\sqrt{3a(a+2b)}}{27EIl}$



INFORMATION SHEET: CALCULATIONS FOR BEAMS AND CANTILEVERS 1

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS, ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1

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INFORMATION SHEET

• 173 •

BEAM CALCULATIONS

THIS Sheet gives various formulæ for safe load, shear stress, bending moments and deflections. The notation used is as follows :—

$W_{max.}$ = Maximum safe load in tons.

W = Total load in tons.

l = Span in inches.

E = Modulus of elasticity (assumed at 12,000 lbs. per sq. in. for steel).

I = Moment of Inertia in inch units, assumed constant throughout the length of the beam.

Z = Section modulus in inch units = $\frac{I}{y}$

y = Half the depth of section in inches.

f = Safe stress (tons per sq. in.) in extreme fibres of beam.

x = Distance in inches.

a = Distance in inches.

b = Distance in inches.

Deflection. In the case of beams intended to carry plastered ceilings, experience shows that, to avoid cracking of plaster, the vertical deflection should be limited to not more than $\frac{1}{360}$ of the total span. For steel beams this span limit (in feet) is approximately twice the depth in inches.

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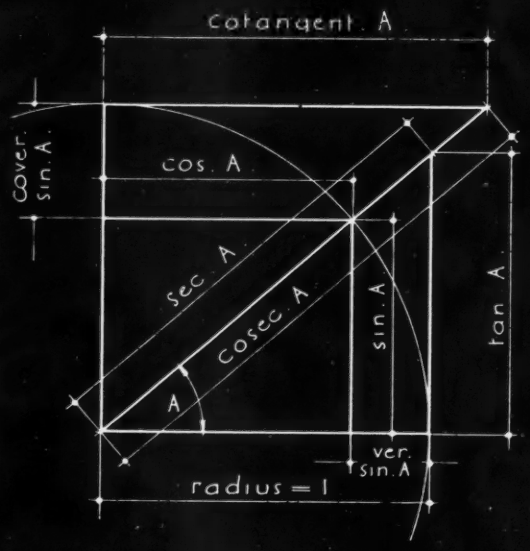

Radius, $1 = \sin^2 A + \cos^2 A$

$= \sin A \operatorname{cosec} A = \cos A \sec A = \tan A \cot A$

sine $A = \frac{\cos A}{\cot A} = \frac{1}{\operatorname{cosec} A} = \cos A \tan A = \sqrt{1-\cos^2 A}$

cosine $A = \frac{\sin A}{\tan A} = \frac{1}{\sec A} = \sin A \cot A = \sqrt{1-\sin^2 A}$

tangent $A = \frac{\sin A}{\cos A} = \frac{1}{\cot A} = \sin A \sec A$

Cotangent $A = \frac{\cos A}{\sin A} = \frac{1}{\tan A} = \cos A \operatorname{cosec} A$

Secant $A = \frac{\tan A}{\sin A} = \frac{1}{\cos A}$

Cosecant $A = \frac{\cot A}{\cos A} = \frac{1}{\sin A}$

$\sin(A \pm B) = \sin A \cos B \pm \cos A \sin B$

$\cos(A \pm B) = \cos A \cos B \mp \sin A \sin B$

$\sin A + \sin B = 2 \sin \tfrac{1}{2}(A+B) \cos \tfrac{1}{2}(A-B)$

$\sin A - \sin B = 2 \cos \tfrac{1}{2}(A+B) \sin \tfrac{1}{2}(A-B)$

$\cos A + \cos B = 2 \cos \tfrac{1}{2}(A+B) \cos \tfrac{1}{2}(A-B)$

$\cos B - \cos A = 2 \sin \tfrac{1}{2}(A+B) \sin \tfrac{1}{2}(A-B)$

$\sin 2A = 2 \sin A \cos A$

$\cos 2A = \cos^2 A - \sin^2 A$

$\sin \tfrac{1}{2} A = \sqrt{\frac{1-\cos A}{2}} \quad \cos \tfrac{1}{2} A = \sqrt{\frac{1+\cos A}{2}}$

$\sin^2 A = \frac{1-\cos 2A}{2} \quad \cos^2 A = \frac{1+\cos 2A}{2}$

$\sin^2 A - \sin^2 B = \sin(A+B) \sin(A-B)$

$\frac{\sin A \pm \sin B}{\cos A + \cos B} = \tan \tfrac{1}{2}(A \pm B)$

$\tan(A \pm B) = \frac{\tan A \pm \tan B}{1 \mp \tan A \tan B}$

$\cot(A \pm B) = \frac{\cot A \cot B \mp 1}{\cot B \pm \cot A}$

$\tan A + \tan B = \frac{\sin(A+B)}{\cos A \cos B}$

$\tan A - \tan B = \frac{\sin(A-B)}{\cos A \cos B}$

$\cot A + \cot B = \frac{\sin(B+A)}{\sin A \sin B}$

$\cot A - \cot B = \frac{\sin(B-A)}{\sin A \sin B}$

$\tan 2A = \frac{2 \tan A}{1 - \tan^2 A}$

$\cot 2A = \frac{\cot^2 A - 1}{2 \cot A}$

$\tan \tfrac{1}{2} A = \frac{\sin A}{1+\cos A} \quad \cot \tfrac{1}{2} A = \frac{\sin A}{1-\cos A}$

$\tan^2 A = \frac{1-\cos 2A}{1+\cos 2A} \quad \cot^2 A = \frac{1+\cos 2A}{1-\cos 2A}$

$\cos^2 A - \sin^2 B = \cos(A+B) \cos(A-B)$

$\frac{\sin A \pm \sin B}{\cos B - \cos A} = \cot \tfrac{1}{2}(A \mp B)$

INFORMATION SHEET : TRIGONOMETRIC FORMULAS.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS. ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1.

Supplement to THE ARCHITECTS' JOURNAL for December 20, 1934

THE ARCHITECTS' JOURNAL
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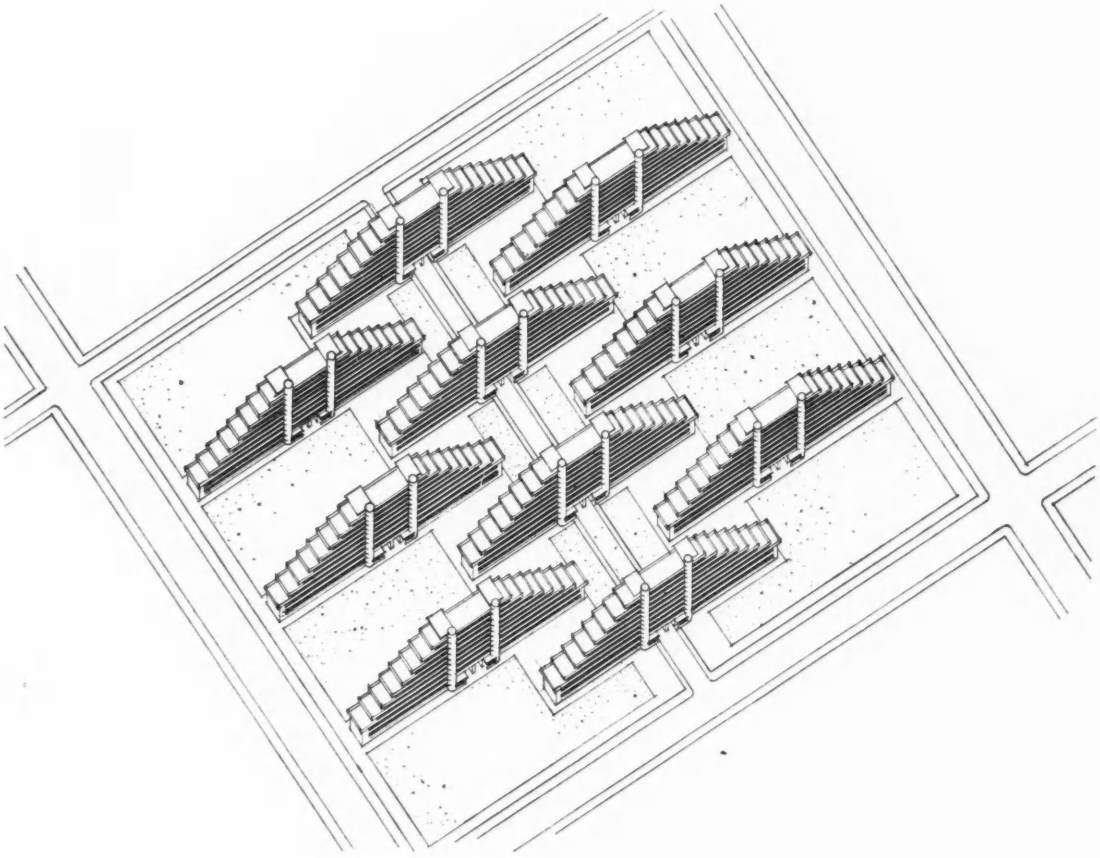
INFORMATION SHEET
• 174 •
TRIGONOMETRICAL FORMULÆ

THIS Sheet gives various general trigonometrical formulæ. Only those likely to be required for reasonably simple calculations have been included, and no attempt has been made to employ the more elaborate equations which would not be used often enough to justify their inclusion. A previous Sheet of formulæ (No. 152) was presented with our issue for October 11.

SUN DECKS FOR TENEMENTS

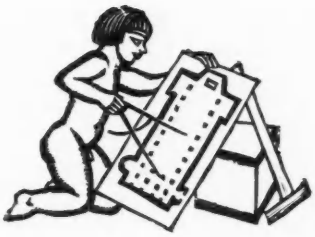
A SCHEME WITH OVERLAPPING TEN-STOREY BLOCKS



THE need for balconies and proper play areas, recently stressed by the R.I.B.A. in a letter to the Minister of Health, and by the insistent demands of Infant Welfare authorities, has apparently stimulated several designers to attempt a proper solution of the problems involved. Somewhat reminiscent of Mr. H. V. Lanchester's recent suggestion, but evolved quite independently, Mr. Edward Armstrong and Mr. Oscar A. Bayne have produced a scheme for stepped ten-storey blocks with a large sun deck at each floor level. The above sketch shows the staggered lay-out of the blocks and the access balconies with sun decks at each end: the aspect side would have small balconies opening off the living rooms. The authors of the scheme consider that a density of 100 flats per acre would be possible without any real loss in amenities. An article on the scheme, with elevations, plans and fuller details, will be published as a Housing Supplement in our issue for January 3.

REPAIRS AT PETERBOROUGH

Both the piers and roof of Peterborough Cathedral have suffered from the drought of the last two years, the moisture content of the rubble cores to the piers having been so reduced that extensive fractures have occurred in the ashlar facing. Tracery and vaulting show the effect of the weakened supports in the formation of large cracks and in opening of the joints. This photograph shows the repairs that are now being made to the fan vaulting. One of the bosses shown nearly came away altogether, and was only saved by prompt action. As usual in cases of this kind, there is insufficiency of money; the work is being carried on to save the building, incurring a debt which will have to be met at some time in the future.



ACCELERATING RIBBON DEVELOPMENT

THOSE of us who have been particularly disturbed by the increasing menace to safety and amenity represented by the evil of ribbon building were encouraged by the mention of the subject in the King's Speech at the opening of Parliament, but sadly disappointed by the cautious reservation that qualified the Government's promise of action. The paragraph inserted in the Speech by His Majesty's advisers stated that "measures will be introduced, if time permits, for the control of building development along the main thoroughfares, for providing better housing of the Metropolitan Police and other subjects." Such an indefinite announcement of possible future legislation, besides showing inadequate appreciation of the seriousness of the ribbon-development evil, must have done active harm to the cause of civilized urban building; for it constituted a warning to all speculators to accelerate their operations before the Government should make up its mind to curtail them. This process of acceleration is, in fact, taking place, and increased activity in the speculative building trade since that announcement has been commented on in the daily press.

The *Birmingham Post* remarked on the dangers of procrastination in an altogether admirable leading article on the subject of Ribbon Development, and we cannot put the case for immediate action better than by quoting a paragraph from that paper:

"Any site," says the writer, "lying beside a road already made is better, from a builder's point of view, than land which can only be utilized for building after the laying out of roads at his own expense; and sites abutting upon main thoroughfares seem to be regarded in these days as specially desirable. There need be no question of houses so placed finding a ready market. And so, ever since the Session was opened, the process of snapping up main-road sites has been accelerated. Builders cannot fail to have noted the conditional nature of the pledge which so unhappily links together a national problem of real importance, a minor problem of Metropolitan administration and 'other subjects' too insignificant to be separately specified; but as men of business they take no unnecessary risks. They have said to themselves: 'Now, if ever! Now, lest next year or next quarter be too late'; and so, in the near future—even though legislation should presently be introduced—the country will find itself in the possession of so much more of the 'ribbon' which it could more willingly have spared. In the circumstances, members of the Amenities Groups in the two Houses of Parliament did well to send a deputation to the Prime Minister asking for a Bill at an early date, 'and that some means should be sought to stop the progress of the evil during the interval.' And in the circumstances one must hope that something over and above its bare face value may be assigned to the Prime Minister's encouraging yet studiously non-committal reply; which was to the effect that the Government 'were giving active and sympathetic consideration to the whole subject with a view to the early introduction of legislation.'"

Besides this danger of increased ribbon building there is another one, just as serious from the public point of view and just as much the result of the Government's indefinite announcement of its intentions. This is the likelihood, whose advent has also already been commented on in the press, of a boom in roadside property. Speculators in land, anticipating that the Bill when it eventually arrives will necessitate the acquisition by local authorities of roadside property for preservation purposes, will acquire this land in the hope of reselling it at an enhanced price: and the burden of this can only fall on the ratepayer. It is most important, therefore, that not only is the Bill brought forward immediately but that provision is made in it for compulsory acquisition of the necessary land at a price that represents its reasonable value: not an inflated value (the so-called "compensation" demanded) set on it by speculators taking advantage of public necessity—and taking advantage, also, we repeat, of official dilatoriness.

The preservation, free from "development," of roadside property is of the greatest urgency. The presence of ribbon building is one of the major causes of traffic mortality, and its abolition would go further to eliminate road accidents than all the Minister of Transport's palliative experiments: this, quite apart from ribbon-building's obstruction to the progress of urban development and its damage to the health of the community. Each month it is permitted to continue reform becomes harder. Is it too much to hope that the present Government will take advantage of its possession of an energetic Ministry of Transport and a conscientious Ministry of Health and renew our confidence in its willingness to act vigorously on the public behalf by finding time immediately Parliament reassembles for adequate measures to combat the evil?

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Buildable
Part
London

NOTES & TOPICS

ARCHITECTURAL PUBLICITY

THE amazing volume of publicity which has been vouchsafed the architectural profession during the last couple of months can have one of two possible results: either the world at large will suddenly awaken to the existence of architects and continue to be interested in their doings; or it will become bored with it all and resent the merest mention of the name.

*

It would appear that the former, and far more likely, alternative is already coming to pass. Newspapers all over the country are taking an unprecedented interest in matters which, a year ago, would have been obliterated by sub-editorial blue pencils.

*

Mr. Alister MacDonald has been addressing the Glasgow Publicity Club on "Modern Building"—and not from the point of view of the *appearance* of present-day design, but on the sound, practical angle of the *organization* of buildings. He discussed the "American efficiency" methods which are gradually coming into being in this country. He talked about "cutting away" and "pipe-runs" and "costs"—and the Glasgow Publicity Club (and the papers) lapped it up.

*

Evidently the world is not surfeited with architecture and building. Then let us feed it with the right sort of nourishment.

A SOUTHERN BLACKPOOL

St. Leonards-on-Sea, I observe, is to have a skyscraper. There is to be erected on the front at Undercliff a 16-storey building which, it is proudly claimed, will be "more than half as high again as any building in London." It will embody twelve shops, a restaurant and a garage at ground level, with 167 service flats above.

*

I had no idea that land was so prohibitively expensive down there by the sea. I hope the promoters of the scheme are quite satisfied that they will get a reasonable return on the cost of the site—let alone the building itself.

*

Consider how this edifice will improve the appearance of St. Leonards viewed from the sea; try to visualize the grandeur which the giant will impart to the sea, viewed from inland. It will be its own comment on the vision and taste of the townsfolk who have allowed it to come into being; it will stand out of the rest of the town like a vast mark of exclamation.

*

The Hastings Council has just approved the construction, so I imagine that it does not disapprove the project. I wonder what the Council's attitude would be towards such matters as have recently brought Ruislip and Chipperfield and Cuckfield into the lurid glow of fame.

AXIS

Most art magazines appear to be as much concerned with archæology as living art, or else too confused by art's literary relations; so an uncompromising periodical about painting and sculpture will be very welcome.

*

I have just seen a prospectus of the new quarterly, *Axis*, the first number of which is to appear in January. It is being edited by Myfanwy Evans and is announced as a "review of contemporary 'abstract' painting and sculpture."

*

Notable names in an impressive and cosmopolitan list of contributors are Hans Arp, Jean Hélion, Wassily Kandinsky, Henry Moore, Paul Nash, Ben Nicholson, Pablo Picasso, John Piper, Herbert Read and Sir Michael Sadler. If a list of contributors is any guide to the quality of a periodical's contents, we can expect *Axis* to make a valuable New Year contribution to æsthetic enlightenment.

DISGUISE AND DESIGN

I confess I was a little disturbed to find that clear-minded exponent of good design, Major G. B. J. Athoe stating in a national newspaper that he had seen "some excellent 'oak' panelling, in a linen-fold design, made of asbestos." He said, quite rightly, that "modern building construction has been greatly influenced by scientific discoveries." Unfortunately he instanced synthetic "stone," "marble" and "joinery."

*

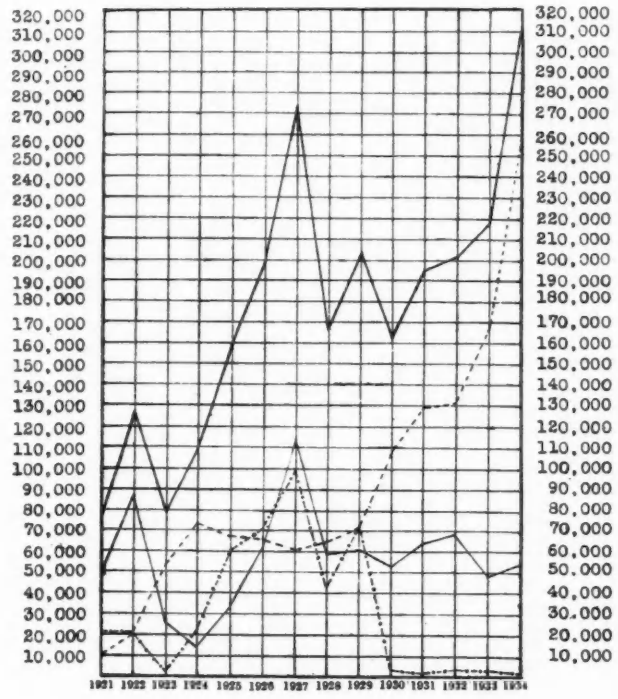
It's a pity that he should allow the public to think that the contributions of science to building technique are largely concerned with the production of imitation materials. It was disturbing, also, to find him asserting that under immediate post-war conditions "a Palladio, or a Wren, or a Jones was not required."

*

Major Athoe, and the Association of which he is such an able official, must realize that no age can afford to be without good designers.

THE NEW HOUSING BILL

In April, 1933, Sir Hilton Young presented Parliament



The above chart, reproduced from a statement issued by the Ministry of Health, shows the number of houses provided in England and Wales in the years ending September 30, 1921 to 1934. The statement, which is reviewed on pages 957-958, is the outcome of a proposal, made in the House of Commons last July, calling for the publication of a half-yearly return showing the progress in dealing with housing in England and Wales.

with an Easter egg in the shape of a Slum Bill. Now, he has given Parliament a Christmas gift—the new Housing Bill, which was introduced in the House of Commons last week. It will be put down for second reading shortly after Parliament reassembles towards the end of January.

*

The main purpose of the Bill is to prevent overcrowding. The measure defines legal standards of accommodation, and makes illegal any overcrowding in excess of them. Provision is made for building sky-wards, and flats provided in the inner zones, because of the high price of land.

FRANK LLOYD WRIGHT ON ART

I've heard a story about Frank Lloyd Wright, which has been brought back from America, and which makes me wish that we had somebody over here who could puncture the pretentiousness of critics and æsthetic busybodies.

*

A long discussion had been occupying the attention of a number of earnest people at a party. The character of art and its general significance in life were examined with academic precision, and presently it was discovered that Frank Lloyd Wright was in the room; had been for some time, in fact, and was commenting passively upon the proceedings by sleeping steadily through the buzz of refined conversation.

*

Somebody, perhaps unwisely, suggested that he might be persuaded to enlighten the discussion with his views. I don't know whether they drew lots first but, anyway, he was awakened, and the meeting presented their difficulty "What should art do for humanity, Mr. Wright?" was the solemn poser.

*

"Who cares?" said Frank Lloyd Wright, and immediately resumed his interrupted sleep.

OUT-OF-DATE EXTRAVAGANCE AT SEA

Some of the things that Major Frank Bustard said the other night at the Institute of Transport on "The Future of the North Atlantic Trade," badly needed saying. Major Bustard is a former member of the Institute Council, and he thoroughly understands the economics of ocean travel. He attacked the gross extravagance of the existing services.

*

He complained of the scale of victualling "that made of every meal a banquet." He also complained of "an out-of-date extravagance in the decoration, equipment, and operation, for all of which the passenger and the companies' shareholders or the taxpayer eventually had to pay."

*

On consulting the latest edition of *Ships and Shipping*, edited by Mr. Edwin P. Harnack, I find that for a normal trip a liner like the *Berengaria* ships 60,000 eggs, to mention only one item. I wish somebody would measure up how many miles of egg-and-tongue ornament are used in the saloons and public rooms of our North Atlantic liners: enough to reach from Southampton to New York and back three times, I should think.

*

An engineer who is also an airman and whose personal taste is of "ye olde" kind, surprised me recently by exploding about the decoration of liners. "I like a ship to look like a ship, and not like a misplaced country house," he said. Unfortunately this age seems committed to the art and craft of disguise.

MR. MARTIN BRIGGS AND MIDDLESEX

Mr. Martin S. Briggs is a lover of the countryside, and of Middlesex in particular. His newly published book on that county is dedicated to Sir Raymond Unwin, and it is illustrated with his own careful pen and ink sketches.

*

It is an historical survey of Middlesex, and I commend it to everyone who lives in the county into which London has spilled over. Every page has some local lore that is worth preserving. Those of us who wonder what the main-street of our particular suburb looked like before the neo-Tudorists got at it, before the trams and buses came, and when scented orchards and market gardens bordered it, will find material for comfort, and regret, in this book.

ASTRAGAL.

NEWS

POINTS FROM THIS ISSUE

"Ever since the Session was opened, the process of snapping up main-road sites has been accelerated" .. 943

The L.C.C. have approved designs for blocks of flats having an elevation of much more modern design than has been customary in London municipal flat buildings 946

"I am patentee of a new hollow kerb which floodlights the road surface through prismatic refracting lenses" 952

"The real delight that people have for growing flowers and being in contact with them is too often forgotten by our architects" 952

TEN-STOREY FLATS BY THE THAMES

The approval of the L.C.C. is being sought for plans to erect a huge block of flats on the 7½ acre riverside site formerly occupied by the Royal Army Clothing Depot in Grosvenor Road, Westminster. The building will be of ten storeys, the top two storeys being set back, and it will cost nearly £2,000,000. The Grosvenor estate has granted an option to purchase the site to British and American interests represented by Mr. F. F. French, of the New York hotel, office and flat building organization.

It will be built round a large central garden and will contain 4,400 rooms, divided into 1,340 suites, a restaurant and garage for several hundred cars.

The sporting facilities will include tennis courts, bowling greens, squash courts, a large swimming bath, and a recreation park fronting the Thames.

It is expected that flats will be available for renting in the autumn of 1936. They will range from one to five-room flats, rented at from £75 to £275. The block will be called Ormonde Square.

TWO HOUSING BILLS

In the House of Commons last week Sir Godfrey Collins, Secretary of State for Scotland, introduced the Housing (Scotland) Bill, "to make further and better provision for the prevention of overcrowding in Scotland, the re-development of areas in connection with the provision of housing accommodation, and the re-conditioning of buildings, to make provision for the establishment in Scotland of a housing advisory committee and of commissions for the management of local authorities' houses, to amend the enactments relating to the housing operations of public utility societies and other bodies, to provide for the consolidation of housing accounts and subsidies, and to amend the enactments relating to housing in Scotland; and for purposes connected with the matters aforesaid."

Sir Hilton Young, also introduced the Housing Bill, "to make further and better provision for the abatement and prevention of overcrowding, the re-development of areas in large towns in connection with the provision of housing accommodation therein, and the re-conditioning of buildings, to make provision for the establishment of a housing advisory committee and of commissions for the management of local authorities' houses, to amend the enactments relating to the housing operations of public utility societies and other bodies, to provide for the consolidation of housing accounts, to amend the enactments relating to housing; and for purposes connected with the matters aforesaid."

THE ARCHITECTS' DIARY

Monday, December 31

R.I.B.A. *At 66 Portland Place, W.1. Christmas holiday lecture to boys and girls. "The Face of England—the Past." By the Hon. Humphrey Pakington, F.R.I.B.A.* 3.30 *p.m.*

Wednesday, January 2

R.I.B.A. *At 66 Portland Place, W.1. "Exhibition of International Architecture, 1924–1934." Last day. Christmas holiday lecture to boys and girls. "The Face of England—the Present." By the Hon. Humphrey Pakington," F.R.I.B.A.* 3.30 *p.m.*

NEW L.C.C. FLAT DESIGNS

The London County Council have approved its architect's designs for large blocks of five-storey flats having an elevation of much more modern design than has been customary in London municipal flat-building. The flats have sun balconies, long steel-framed windows, grass forecourts and gardens, clothes drying rooms and wash houses.

Tenders are to be sent out in January for a block to be erected in Macaulay Road, Clapham, and in February for blocks in Oban and Ranwell Streets, Poplar. The flats will probably be ready for occupation by the end of 1935. The claim is made for them that they will be the finest municipal flats in Europe.

GOVERNMENT AND RIBBON DEVELOPMENT

Hopes of an early Bill against ribbon development have been aroused by the Prime Minister's reception on Monday, December 17 of a deputation on the subject from the Amenities Group in the House of Commons. He told the deputation that there was hope of legislation at an early date, and this is believed to mean that a Bill will be presented in the House of Lords early in the New Year, probably in February.

There is also ground for the expectation that any action taken will be retrospective so that attempts at last-minute frustration of the Government's intentions will be discouraged.

ACTIVITY IN THE BUILDING INDUSTRY

At the seventh annual meeting of the Sussex Brick Company, Sir Charles H. Marshall, K.B.E., said: "I hope that the lessons of the past few years of uncoordination in our building programme have been well learnt. There has been a slump followed by a sudden reversion to activity in the building industry—a violent fluctuation bad for the industry in itself and through it for the country as a whole."

PROPOSED CIVIC CENTRE: GLOUCESTER

At the request of Gloucester City Council, Mr. E. Vincent Harris, F.R.I.B.A., has prepared a plan for a suggested civic centre to replace the present Guildhall and the public administrative departments which are housed in various buildings in the city. The scheme, which is estimated to cost £200,000, is now under consideration by a special sub-committee, and has not yet been considered by the Council.

MODERN BUILDINGS

"Modern Buildings" was the subject of an address by Mr. Alister G. MacDonald, A.R.I.B.A., at a recent meeting of the Publicity Club, Glasgow.

The lecturer said that a race of people was being developed in this country which was going to be very sensitive about many things, and in which the ordinary man in the street would demand scientific conditions in his building undreamt of at the present time. The time was coming when they would take an æsthetic joy in their buildings because they were efficient, and that for a multitude of reasons.

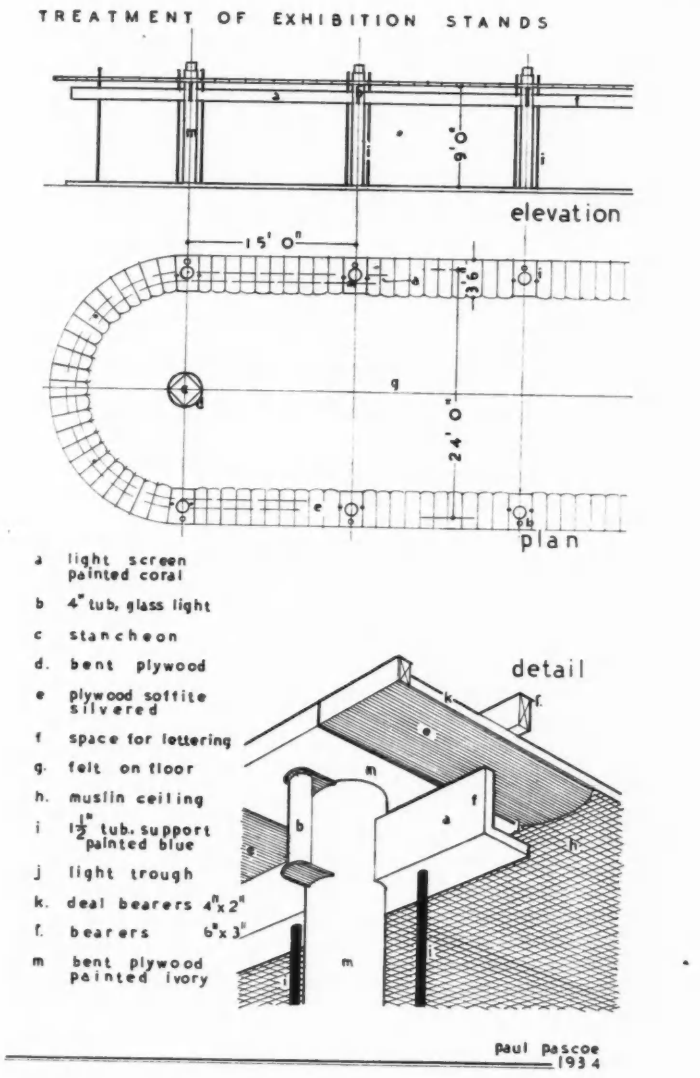
He did not think the blame for the lack of efficiency could be placed on any particular set of individuals, but he did think the architects themselves should strive to impress upon the community that they were a very valuable entity, in the same way as doctors and other professional men were. Nowadays, buildings did not occupy the place in public life in the mind and imagination of the man in the street as did buildings in the old days. The reason for that, in his mind, was simply that we had become a commercial nation, and not æsthetically commercial.

ROYAL INSTITUTE OF THE ARCHITECTS OF IRELAND

Mr. H. Allberry, A.R.I.B.A., F.R.I.A.I., has been elected president of the Royal Institute of the Architects of Ireland in succession to Mr. G. F. Beckett.

STAND FOR THE B.I.F. EXHIBITION

The competition for the design of the City of Leeds Stand at the British Industries Fair to be held at Olympia next year has been won by four of the fifth-year students of the Leeds School of Architecture, working in collaboration, namely: H. Bailey, E. Brown, J. Dean and H. W. Scatchard. The competition was organised by the West Yorkshire Society of Architects and was open to all its members. The Assessors were



Treatment of Exhibition Stands at the Hairdressing Exhibition at Olympia. Designer: Joseph Emberton.

Mr. Victor Bain, President of the Society, Mr. Norman Culley, Past President, and Mr. Alan Johnson, member of the Council.

INCORPORATED INSTITUTE OF BRITISH DECORATORS

The Gold Medal of the above Institute has been awarded to Mr. Henry G. Dowling, Past President of this Institute, in respect of "conspicuous services rendered by him to the Institute during his three years of office, namely, 1931-32, 1932-33, 1933-34."

RIBBON DEVELOPMENT

"Ribbon Development" was the subject of an address by Mr. Percy Morris, F.R.I.B.A., at a recent meeting of the East Sussex Rural Community Council.

"Ribbon development," he said, "is defeating the object for which our new roads were built; it is adding to the congestion of those roads and also adding to the number of road accidents.

"But the most serious problem it raises, and this is apt to be overlooked, is its threat to agriculture. The primary work of the countryside is agriculture, and it should be an axiom of all planning that country should be country and town should be town.

"There is also the threat to amenities, blotting out the view for miles and miles by houses which are not country but are in the country, houses which the healing hand of nature can never redeem."

A.A.S.T.A. POCKET DIARIES

The A.A.S.T.A. pocket diaries are now available. Copies may be obtained from A. Seymour Reeves, Secretary, A.A.S.T.A., 26 Buckingham Gate, S.W.1, price 2s. 6d. (post free, 2s. 9d.).

AERODROMES ADVISORY BOARD

The Aerodromes Advisory Board announces the establishment of a Site Selection Committee through which it offers to advise local authorities and other bodies on the selection of sites to be purchased or reserved for future aerodromes.

The Board, which began its work earlier this year under the chairmanship of Capt. the Rt. Hon. F. E. Guest, M.P., has as its members representatives of the principal professional and technical institutions—aeronautical, engineering, architectural, surveying, town planning, etc.—whose co-operation will contribute to the efficient and rapid development of the groundwork of civil aviation.

The lack of any regular or satisfactory system, by which municipal or other bodies, engaged in or contemplating the provision of aerodromes, might obtain advice on their projects, has occupied the earnest attention of the Board. Aerodrome provision falls naturally into two stages—the stage of site selection, and the stage of the development of selected sites as aerodromes.

For the first (site selection) stage the Board has decided to set up its own organization, in order that the necessary advice may be available on the broadest possible basis, in consistent and regular form, and at the lowest possible cost. The most difficult questions arising at this first stage are those concerned with the relation of a potential aerodrome site, and of the town it would serve, to a future national airway system whose pattern and organization are, as yet, undefined. The Board has given close attention to this aspect of the matter, and has formulated and submitted to the Air Ministry proposals for the preparation of a survey and scheme of development for the future air-routes and aerodromes of Great Britain.

At the second (aerodrome development) stage it is essential that the promoting body should obtain the advice of fully qualified professional consultants. The Board has made a careful investigation of the qualifications appropriate to such consultant work, and will shortly issue to local authorities a memorandum incorporating their recommendations in this respect, together with general advice on procedure in the establishment, licensing and development of civil aerodromes.

Local authorities or others who may wish to consult the Board at any stage of aerodrome work, or in particular to obtain the Board's advice on the selection of sites, are invited to apply to the Secretary, Aerodromes Advisory Board, 5 Verulam Buildings, Gray's Inn, W.C.1.

The Board wishes to emphasize the vital importance of early purchase or reservation of aerodrome sites. A good site near a town is difficult to find, and is almost invariably subject to the threat of building development; delay may make the cost prohibitive or involve the irrevocable loss of the site. In most cases, purchase on an ample scale is strongly recommended, since the land is likely to be a safe and probably profitable investment, even if it proves to be in excess of the aerodrome requirements.

ANNOUNCEMENT

Mr. C. H. James, F.R.I.B.A., and Mr. S. F. Bywaters, F.S.I. (of the firm of James and Bywaters, 33 Bedford Place, W.C.1), and Mr. S. Rowland Pierce, A.R.I.B.A., have entered into partnership. The style of the new firm will be James and Bywaters and

Rowland Pierce, and the practice will be carried on at the above address. Telephone No. : Museum 9952.

THE LATE THOMAS FALCONER

We regret to record the death of Mr. Thomas Falconer, F.R.I.B.A., of Gloucester. Mr. Falconer was born at Church Stretton in 1879 and educated at Sherborne School. He was a Past President of the Gloucestershire Architectural Association and had practised in Amberley since 1911. During the war he served in the Royal Engineers, and afterwards returned to Amberley. His work includes the restoration of the ancient Priory Church at Leonard Stanley, Glos., the additions to Great Rissington Manor, the Sanatorium at Wycliffe College, Stonehouse, Glos., and several typical Cotswold stone houses on the Cotswold Hills. He was one of the representatives of the Gloucestershire Architectural Association on the Committee for the Preservation of Rural England.

R. I. B. A.

OFFICE EXPERIENCE AND THE ASSOCIATESHIP OF THE R.I.B.A.

The R.I.B.A. have issued the following announcement : "The Council have decided to discontinue from February 1, 1935, the concession whereby the Associateship of the R.I.B.A. is not withheld owing to inability to obtain the twelve months' office experience required under the regulations."

R.I.B.A. PRIZE FOR SCHOOLS OF ART AND TECHNICAL COLLEGES

The R.I.B.A. Prize of £5 in books for Schools of Art and Technical Colleges with facilities for the instruction of intending architects, has been awarded to Mr. H. A. White, of the L.C.C. School of Building, Brixton, and a Certificate of Honourable Mention has been awarded to Miss Muriel Alden, of the City of Oxford School of Arts and Crafts.

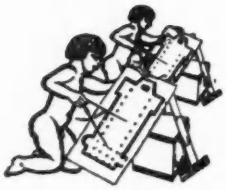
MEDALS FOR STUDENTS OF RECOGNIZED SCHOOLS OF ARCHITECTURE

The Council of the R.I.B.A., on the recommendation of the Board of Architectural Education, have made the following awards :—

R.I.B.A. Silver Medal and £5 in Books : The R.I.B.A. Silver Medal and £5 in books for Schools of Architecture recognized for exemption from the R.I.B.A. Final Examination has been awarded to Mr. Alan Reiach, of the School of Architecture, Edinburgh College of Art.

R.I.B.A. Bronze Medal and £5 in Books : The R.I.B.A. Bronze Medal and £5 in books for Schools of Architecture recognized for exemption from the R.I.B.A. Intermediate Examination has been awarded to Mr. Brian Bunch, of the Birmingham School of Architecture.

COMPETITION



NEWS

FIRE STATION, BRIGHTON

At a recent meeting of the Watch Committee of the Brighton Town Council it was recommended that "a sub-committee be authorized to consult with an assessor, to be selected by the sub-committee after consultation with the R.I.B.A., as to the promotion of a competition for designs to be invited from architects for the construction of a fire station on the Preston Circus site, including the premises at present occupied by the Weights and Measures Department and by the police, as a recreation room, and to report to the Watch Committee and the Council."

Competitions Open

Dec. 31.—Proposed Council Offices, Wirral, for the Wirral U.D.C. Open to architects in practice in Birkenhead, Chester, Liverpool and Wirral. Assessor : Gilbert Fraser, F.R.I.B.A. Premiums : £40, £30 and £20, for the designs placed first, second and third respectively. Designs are to be submitted to Mr. W. F. Roberts, Clerk to the Council, Council Offices, Wirral, before December 31.

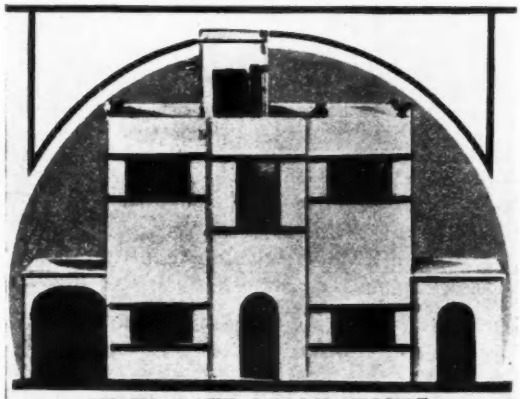
January 19.—Designs for five-storey blocks of working-men's flats suitable for construction in reinforced concrete for the Cement Marketing Company. Assessors : Joseph Emberton, F.R.I.B.A., Burnard Geen, M.INST.C.E., and L. H. Keay, O.B.E., F.R.I.B.A. Premiums : £300, £200 and £100 for designs placed first, second and third, respectively. Copies of the conditions will be forwarded on application to the Publicity Department, the Cement Marketing Co., Portland House, Tothill Street, S.W.1. Latest date for submission of designs : January 19.

March 1.—New municipal offices, public library and fire station for the Wembley U.D.C. (Open to architects of British nationality and resident in the British Isles.) Assessor : Stanley Hamp, F.R.I.B.A. Premiums : £300, £250, £150, and £100, for designs placed first, second, third and fourth, respectively. Conditions, etc., are obtainable from the Clerk to the Council, Council Offices, Wembley. (Deposit £1 1s.) Designs must be submitted by March 1.

March 27.—Cemetery chapel and auxiliary buildings at Coney Hill for the Gloucester Corporation. (Open to architects practising on their own account within the area covered by the Wessex Society of Architects.) Assessor : Edward Maufe, F.R.I.B.A. Premiums : 125 and 100 guineas, for the designs placed first and second, respectively. Applications for the conditions of the competition and site plan should be made to Mr. C. J. Scudmore, City Surveyor, 21, Eastgate Street, Gloucester, not later than Monday, December 31. Designs must be submitted to the City Surveyor on or before March 27.

April 30.—The Croydon Corporation invite the submission of designs for laying out an area in Central Croydon which is to provide an extension of the Civic Centre of the Borough and to improve central means of communication. Assessor : Dr. Thomas Adams, F.R.I.B.A., F.S.I., M.T.I. Premiums : £500 for the design placed first ; £350 to be divided (in proportions to be determined by the Assessor) for not more than three designs placed next in order of merit. A copy of the conditions is obtainable on application to the Town Clerk, Town Hall, Croydon. (Deposit £1 1s.) Designs are to be submitted not later than April 30.

THIS ARSHETECTURE

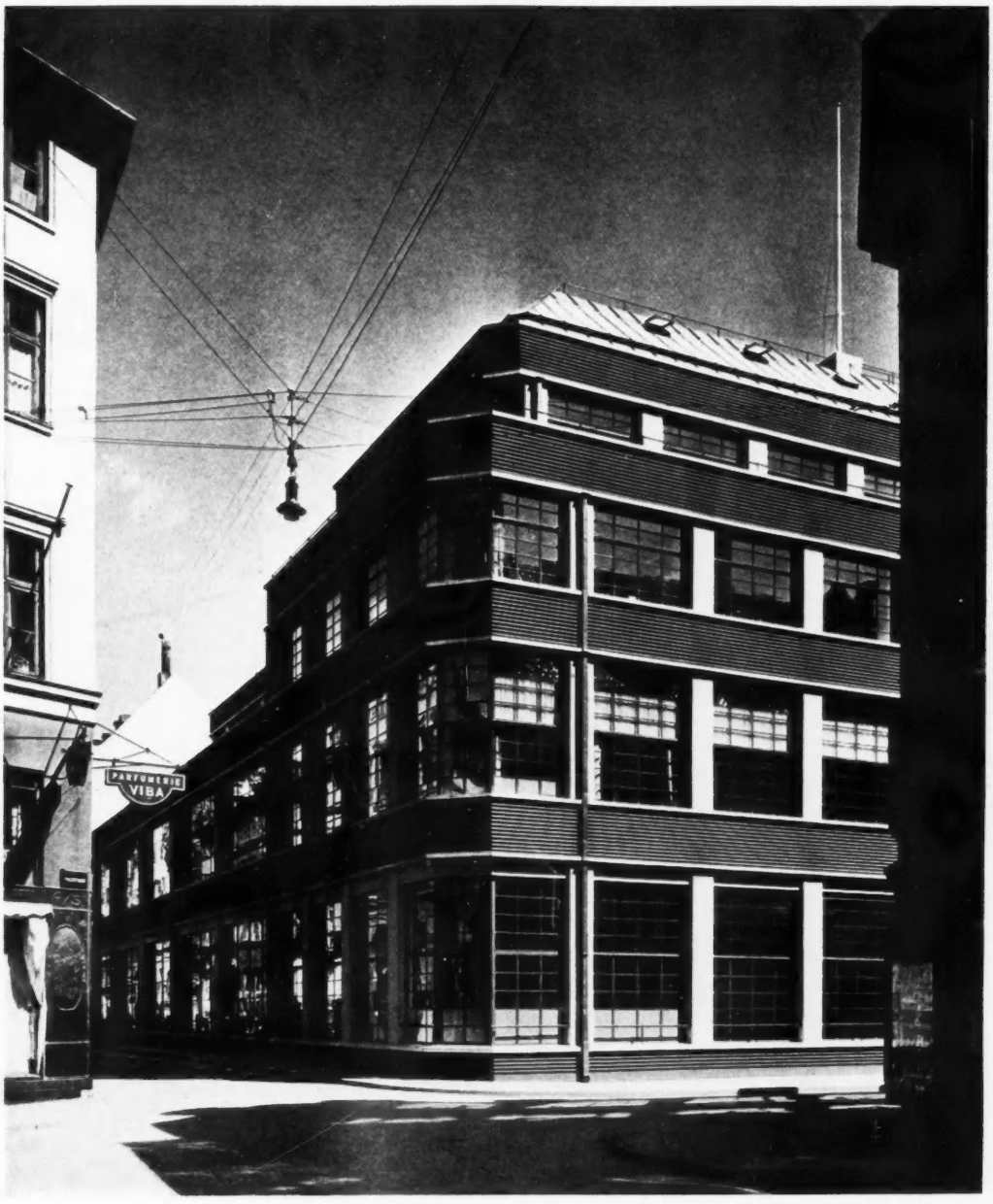


UP-TO-DATE DOLL'S HOUSE

Model of the latest Sun Trap House, as shown at Ideal Homes Exhibition. Has seven rooms and garage with sliding windows. Fitted with lift and electric light. All doors are made to open. Base and sides take to pieces to pack. Stands 27in. high, 37in. wide. The latest and most novel plaything for a girl. Price 48/-
Larger size 65/-

From Gamage's Christmas Catalogue.

NEWSPAPER OFFICE IN COPENHAGEN

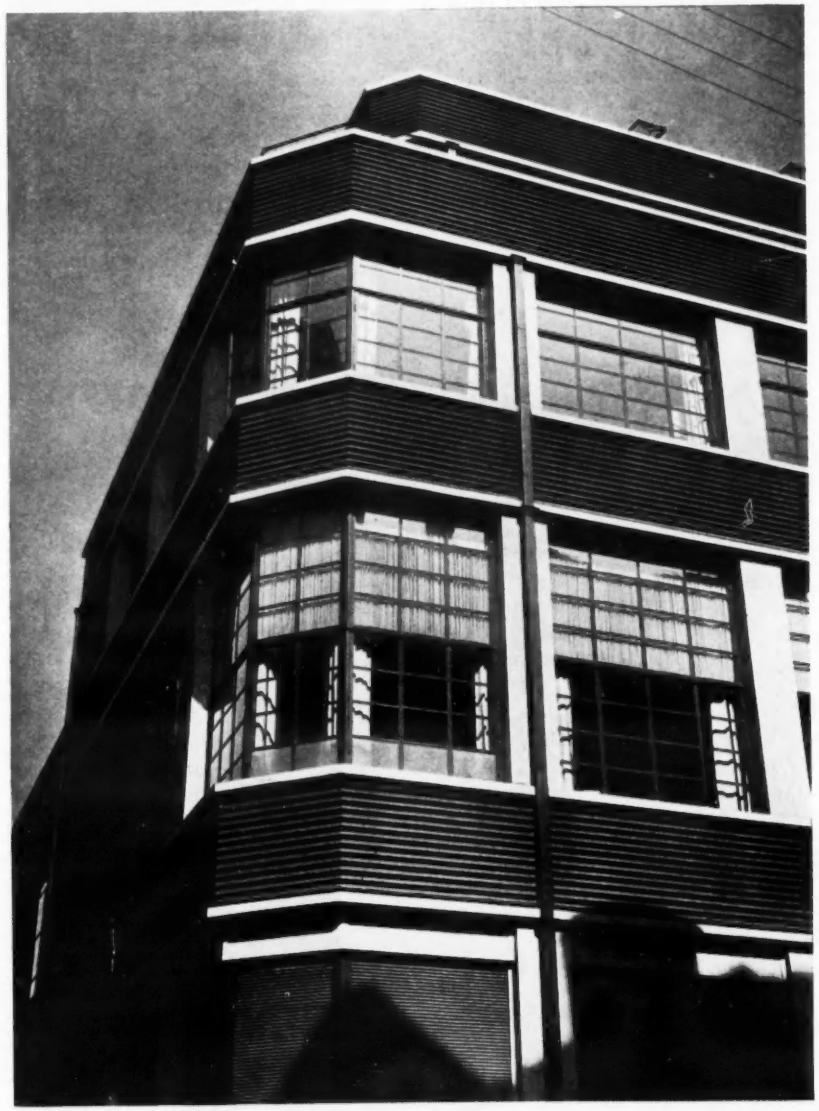


These are the offices for the Copenhagen newspaper, "Berlingske Tidende."

The accommodation consists of basement: paper store and printing room (the latter running up two storeys); ground floor: printing room, delivery room and (in an adjoining old building) advertising department; mezzanine: lavatories, baths, etc.; second floor: composing department; third floor: editorial department; fourth floor: book-keeping department; fifth floor: reproduction. The flat roof is available as a recreation space for employees.

DESIGNED BY HELWEG-MÖLLER

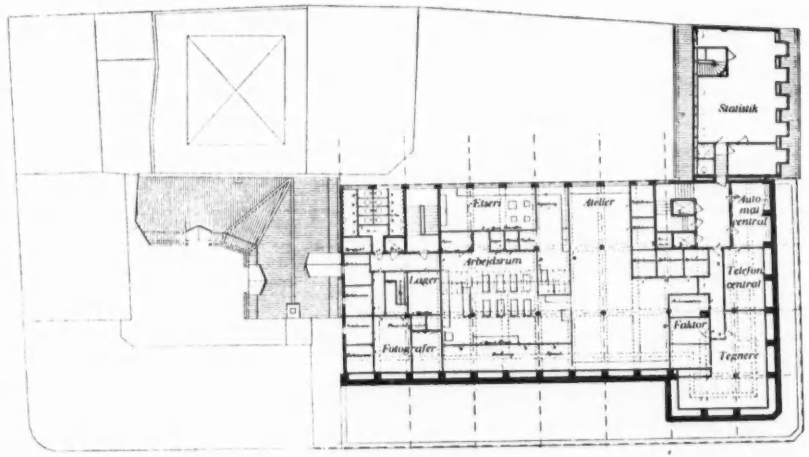
A NEWSPAPER OFFICE IN COPENHAGEN



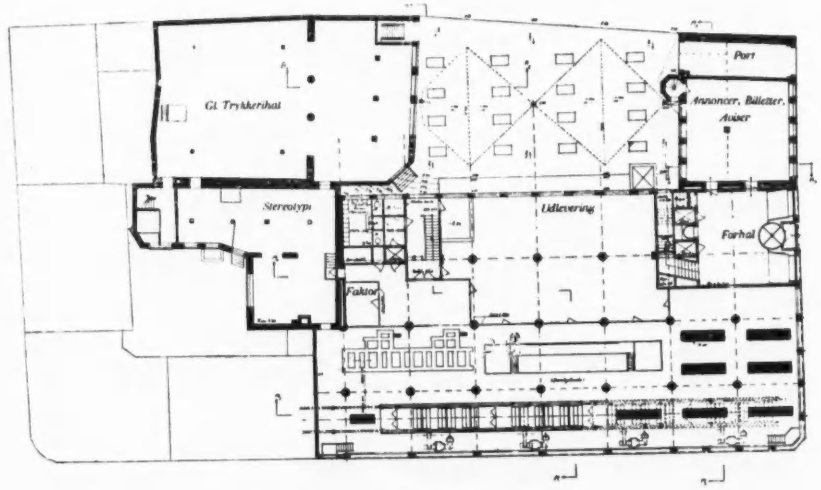
The building is of reinforced concrete construction, with spandrels of a fluted texture produced by nailing strips of wood to the inside of the form-work. The surface is treated with a light finish of cement, afterwards painted with oil paint.

On the left is a corner detail of the upper storeys, showing the fluted surface and, at the foot of the picture, the rolling shutters by which the ground floor windows can be protected. Above is the main entrance, with the old building adjoining.

The entrance hall, with walls covered with slightly fluted gypsum slabs. The window linings and cornice are of Cipollino marble and the floor of black Schlecian marble. The clock dial is decorated with a verse by Helge Rode.



TOP FLOOR PLAN



GROUND FLOOR PLAN

DESIGNED BY HELWEG-MÖLLER

LETTERS FROM READERS

BRIGGS AND THORNELY, FF.R.I.B.A.
ERNEST T. BUCKLEY
H. M. MILLER
LADY ALLEN OF HURTWOOD, F.I.L.A.
WHITHER?

Denial of a Report

SIR,—We are given to understand that a report is being circulated in various parts of the country to the effect that we are retiring from practice.

May we be allowed to state that the rumour is altogether unfounded and that our firm, as heretofore constituted, continues in active practice at the same address.

BRIGGS AND THORNELY
Liverpool

Illuminated Roads

SIR,—Under "Notes and Topics" on page 875 of your issue for December 13, Astragal discusses road surface illumination, and I thought it might possibly be of interest to mention that I am patentee of a new hollow kerb which floodlights the road surface through prismatic refracting lenses, using the new sodium discharge lamps.

I built a 100 yard road for the purpose of practical demonstration, but I met with so much obstruction that I abandoned the project. As soon as I can find a suitable spot, *and* an intelligent district surveyor, it is my intention to build some investment property and light the roads by this method.

ERNEST T. BUCKLEY
Manchester

Damp Walls

SIR,—In *Questions that Arise*, one of your experts answers a letter from F. W. N. regarding damp walls in a bungalow. An experience of mine may be interesting to you and your correspondent. I had the same trouble with my bungalow, and in addition found dry rot in the floors of the rooms furthest from the living room.

After having the floors very thoroughly treated (there was, I found, a 2 ft. cavity with dry surface concrete all over), and putting in new wood in many places and many new air grids, I came to the conclusion, that, unless the walls could be kept a little off the cold, inside damp must always condense on the walls. It is obvious that the warm air from living rooms cannot be made to circulate all over one floor, say in seven rooms—that is horizontally; so I put in hot-water pipes *round the walls* of all the bedrooms and the bathroom, with radiators, worked from a boiler, in one sitting room. By a little arrangement of the grate the fire can be kept in all night by the use of the right kind of slack. The result is complete comfort all the winter, and in fact at all times, and dry walls.

H. M. MILLER
Manchester

Balconies for Babies

SIR,—It is good news that the architects, speaking through their President, are urging the necessity and explaining the practicability of including a small private balcony to working-class and middle-class flats. What type of balcony do they recommend as a minimum? "Open wrought-iron balcony on a small plinth." What indications do they give as to the size? "Large enough to take a cot for infants up to two years."

We may all agree that these iron balconies will make a suitable ledge for the baby. What are they going to look like from the street below as compared, for instance, with a balcony edged with flowers? How will our streets appear if these easily-seen-through cages are used as a dumping-ground for the debris of an untidy household? Are they going to be large enough for the mother or father to take a spot of rest in the sun? Is their only function to provide a sleeping place for the baby, and then only until it is two years old?

Just what is meant by the following words in the memorandum: "There need be no fear from draughts"? Air and sunlight we know are indispensable to the young baby, but we have also learnt that draughts are dangerous. Town streets are probably the most draughty places in the world; and yet, if the open wrought-iron balcony is to become the standard fitting to the new flats, what protection will there be against these draughts?

The iron grille with "reinforced concrete floor and curb" would, they say add "only negligibly to the cost." These words, coming as they do from architects, are of paramount importance. Could the committee be persuaded to go still further and ascertain what the additional cost would be of a balcony that might be considered an extension of the living-room? This enlarged type of balcony would provide a sunny, open place where the family might rest and possibly take their meals, where the young baby could sleep in the sun and air within reach of the mother and yet not encumber her while she works, and where there might be a built-in flower-box, to be tended as a personal garden by the tenant.

By building the flower-box to form a parapet, and then running a low grille on the top of this, the baby would receive all the sun and air that was desirable, he would be free from street-draughts, dust and dirt, and he would have the added entertainment of watching the gay flowers. It is pertinent to add that he would also have an outside playroom *after* he had reached the age of two, whereas under the "cage" system his only crawling space, after that age, would be on the floor indoors.

The real delight that people have for growing flowers and being in contact with them is too often forgotten by our architects. The old wooden box, fixed to the cill as an afterthought, has done much to discredit window-gardening in the eyes of architects. The drip from the boxes tends to disfigure the face of the building; they are often insecure; they soon rot to pieces; the soil quickly dries out, and gardening in so narrow and flimsy a structure must be unsatisfactory. The flower-box built in as part of the structure of the balcony, such as I have suggested, overcomes all these difficulties.

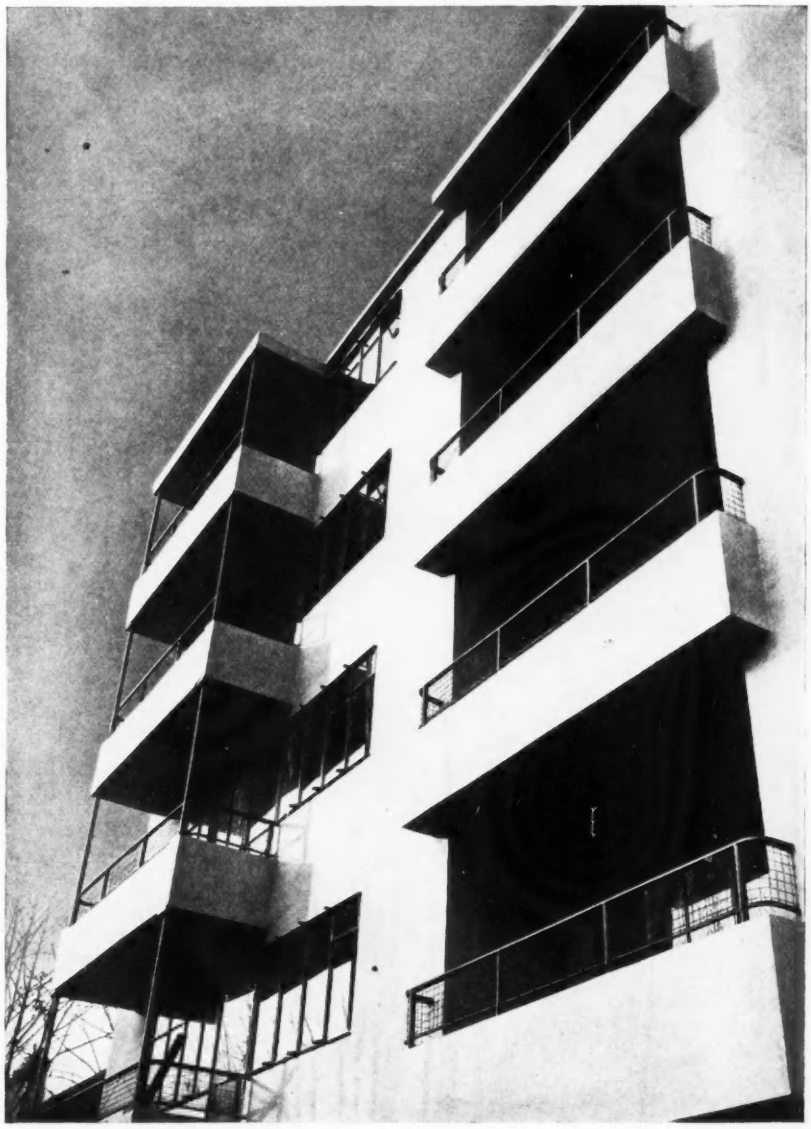
Have the possibilities of including this type of balcony been explored and rejected by the architects? It is clear that it must be more expensive than the type they advocate, but does this extra cost make it quite prohibitive? Apparently it was not considered prohibitive by Messrs. Adams, Thompson and Fry, who, in collaboration with Miss E. Denby, have just completed the most excellent block of flats for the Pioneer Housing Trust, Peckham.

All these flats have a spacious balcony sufficiently large to accommodate two children's beds or

chairs and table for a whole family. The built-in flower box is also a feature. Yet these flats are let at from nine shillings to eleven shillings a week and pay good interest on the capital.

We shall all agree that these larger balconies, with flower-boxes, would be of inestimable value to the health and happiness of those who must make their homes in flats. Ought not the question to be considered very carefully before the "cage" becomes accepted as the standard type of balcony.

MARJORY ALLEN OF HURTWOOD
Guildford



Balconies of the type recommended by Lady Allen of Hurtwood in her letter printed on this page. [From Sassoon House, Peckham, by Adams, Thompson and Fry in collaboration with Miss Elizabeth Denby.]

Beauty in Architecture

SIR,—I find it very difficult to read Mr. Campbell Johnston's *cri de cœur* without raising a complementary moan.

I cannot accept his doctrine that "the essential qualities of beauty in all things are utility and economy," nor can I recognize the basis of utility on which any form of decoration may be described as "useless ornament," or indeed as "useful ornament." I have until now believed that an ugly human face is as economical and functional as a beautiful one, and I am prepared to applaud the use of curling irons and other forms of applied ornament *when their application makes an unpleasant face pleasant.* Mr. Campbell Johnston will probably agree with me that it is rather more difficult to enjoy the applied enrichments on a face which is beautiful without them.

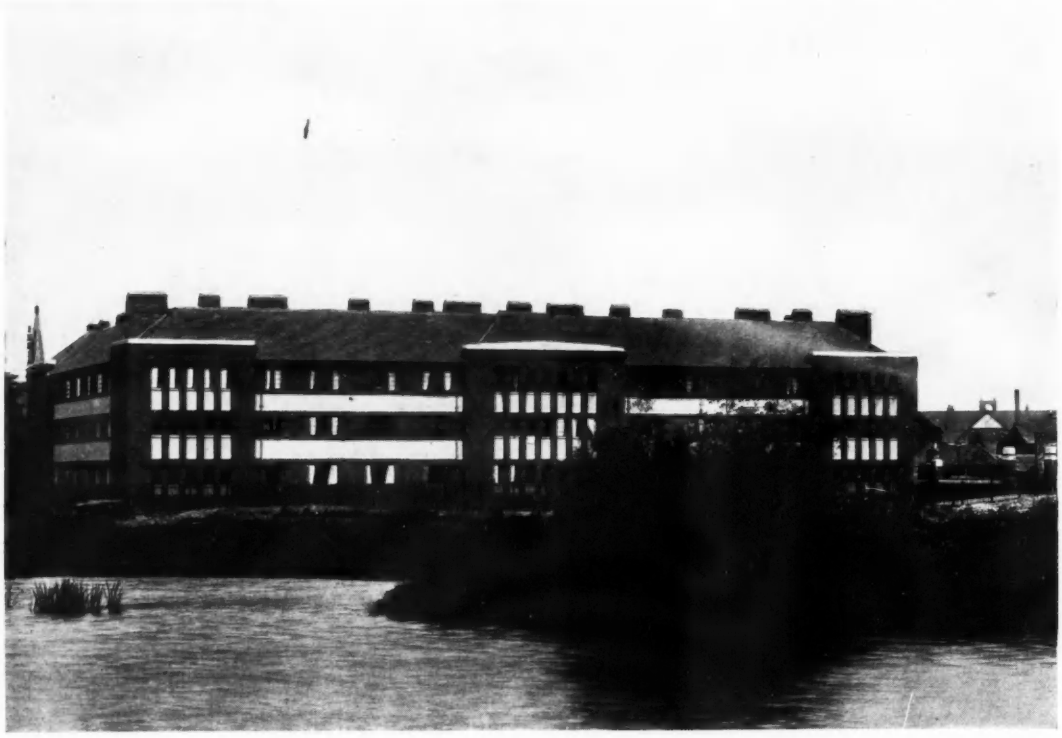
Similarly with architecture: a corrugated iron roof may be economical and functional, but it needs the soul of an artist to make it beautiful. The real cause of architectural schisms (and I fear that Mr. Campbell Johnston has succumbed to one) is that, while we all agree that architecture should be beautiful, we cannot agree upon the method of making it so: and the error is inherent in our attempts to make rules for beauty. For, in so far as beauty is largely dependent on our power of deriving sensuous pleasure, there can be no absolute rules. In case any of your readers may quarrel with this statement, I suggest that a beautiful smell is different from other smells essentially because we like it; that the mountain gorge which delights us to-day was a "black and horrible chasm" to Wordsworth, and that the musical efforts of the crooner are sweet music or horrible music according to our power of enjoying them.

So with architecture: to be beautiful it must give visual pleasure, and therefore we cannot make rigid standards of good and bad. Economy and utility, while being essentials of good building, must not be confused with beauty. We can reason people into a knowledge of what is good and desirable, but we cannot reason them into the enjoyment of it. We need not worry about the fact that our column is not carrying anything if it is a nice column; and pseudo Elizabethan is not wrong if the building does not suffer functionally, and if it is pleasing to look upon. The real objection to Jerrybethan is that it is not pleasing to look upon. The popular taste clings to the Tudor of the estate market as sophisticated people cling to their old boots, not because the new ones are not in every respect better, but because they have become so used to the old.

Therefore, if architects are to reach the heart of the people we must first find out exactly what it is that gives the people pleasure, after which we may try to give that pleasure architectural expression. Then we may tackle the estate developers who produce not what the public want but what the public, for lack of choice, must have.

WHITHER?
London

EXETER HOUSE: A BLOCK



DESIGNED BY

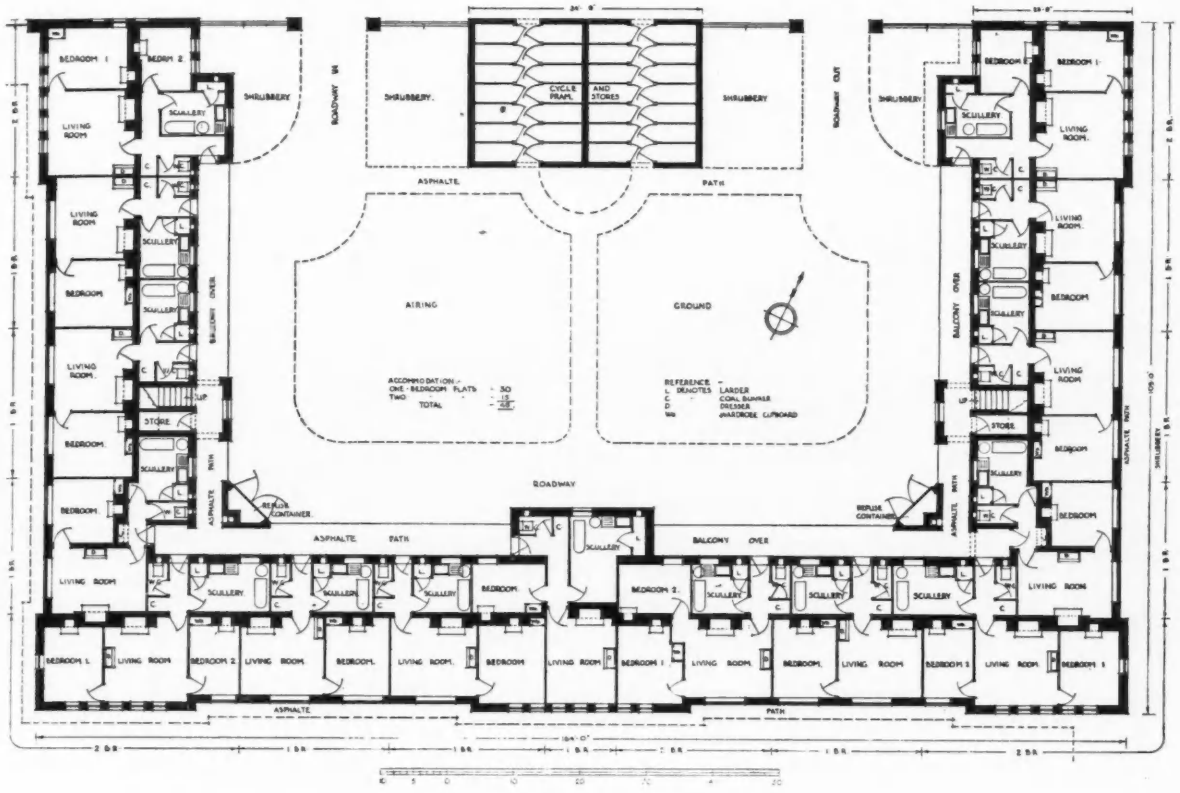
C. T. ASLIN (Borough Architect)

This block of tenement flats—the only block of flats in Derby—has been erected on a site in the centre of the town on the north bank of the River Derwent.

The accommodation provided is thirty one-bedroom and fifteen two-bedroom flats, and the cost (including drainage, boundary walls, railings and lay-out) was £12,623.

It is proposed to develop the surplus land on the river bank at the rear of the tenements with walks and gardens in a manner similar to the south bank. The building is of brick construction on a reinforced concrete skeleton raft, and the roof, which is formed with light steel trusses and wood purlins and rafters, is covered with hand-made tiles. The floors are of reinforced concrete, cantilevered out to form balconies, the balcony walls being of the same material. All ground floor walls are in 14 in. brickwork, those above being 9 ins., except the centre and end bays, which have the 14 in. work carried up the full height. The facings are light red smooth-faced brindled bricks; while the light coloured bands are in common brickwork, flush pointed and

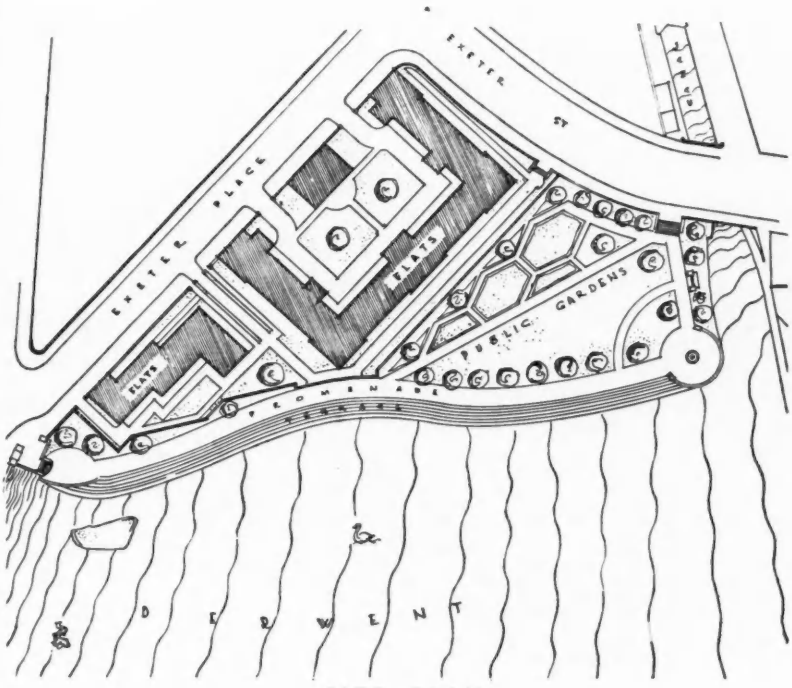
OF FLATS IN DERBY



GROUND FLOOR PLAN

covered with stoneface waterproofing composition of a colour specially made to match the artificial stonework which is used for cills, copings, chimney caps, etc. Balcony walls and soffits are also finished with the same waterproofing material. Windows have steel frames built direct into the brickwork, and extension hinges are provided to all casements. The floor finish to bedrooms and living rooms is boarding on wood fillets secured to the concrete by floor clips ; that to the remainder is granolithic, being coloured (except in the balcony) a warm red, with coved skirtings. All internal partitions are in 2 in. patent partition blocks and all walls are plastered.

The ash chutes are of brick, lined with a 12 in. diameter glazed stoneware pipe and are fitted with self-closing hoppers on each floor. The chute delivers into a brick chamber with dust-proof sheet iron doors and contains a sheet iron bin of about four days' refuse capacity fitting tightly into the chamber and provided with wheels and handles so that it can be easily drawn out for emptying purposes.



SITE PLAN

DESIGN IN AMERICA

[BY JOHN GLOAG]

VI. SAFETY FIRST IN CHICAGO

FLYING from Washington to Chicago, across Western Virginia to Charleston, and then crossing and recrossing the Ohio to Cincinnati, and on via Indianapolis to this great, murky, lakeside city, you see a lot of America in plan, and you begin to realize that plan in its great sense of social tidiness is as little understood here as in England. Our sins or omission and imitation are their sins. But, having more space to play with, their muddles are not quite so squalid as ours; their small towns are not cramped and huddled; they are casual, but they are spacious. Railroads are laid through village streets, and trains with their tolling bells amble through townships, dwarfing the cars and people, and creating an additional traffic problem, but not for the trains—they have priority. The aeroplane that took me from Washington to Cincinnati was comfortable; it was provided with a "hostess," who attended to the wants of passengers, providing them with what American Airways called "a complimentary lunch," and doling out cotton wool, chewing-gum and other aids to air travel; but the smooth metal interior of this machine was painted to imitate walnut. As it is possible to talk and be heard on American aeroplanes, I discussed this decoration with the "hostess."

It was a new point of view to her. She had never noticed the inside of the machine before anyway; but she supported its condition by saying: "Why we couldn't have *real* wood in here."

And that remark explains not only the dismal imitations of Gothic, Byzantine, Italian and Spanish Renaissance façades hung on to the fronts of the towers of Chicago, but much of the World's Fair, where, as a Chicago architect said to me: "a Century of Safety First has been put over as progress." Chicago has suffered terribly from the nineteenth century. The worst Victorian domestic architecture of England is grimly repeated in block after weary block here. There is a vast horizontal expansion of residential areas; although here and there are vertical concentrations, like the tall apartment buildings that overlook Lake Shore Drive.

I went round the Fair with an architect. The place is full of contradictions like all I have yet seen of America. There are Halls of Science devoted to commercial exhibits, some of them palpable quackeries; there are side shows, such as: "The Last Supper of Our Lord. Figures life size and animated: they do everything but talk." There are others concerned with nudity: "Neptune's Follies," "The Streets of Paris," and worse—an "Olde Englishe" village. But there are many experiments in housing, all of them marred by that funk of logical consequences which distorts so much work in this country of experiments. There are pre-fabricated houses in metal; needlessly expensive because they are not compactly planned, and their producers are obviously suffering from the trouble that afflicted the motor trade in its early life, when manufacturers insisted that the motor car was a rich man's toy and always would be. I don't think that the makers of pre-fabricated houses are consciously saying that; but they are not attempting to solve the problem of cheap housing if the exhibits at the Fair are a representative sample of their endeavours. I mentioned this to my architect guide.

He said they were breaking in the public to the idea of "canned housing." It had to look like something familiar to begin with.

"If anybody gets a good idea here, they've got to get it under cover quick, or they get shot up for being revolutionaries," he said with a smile; but he wasn't really smiling. He'd had some of that experience himself, and, like so many architects, he had given up independent practice because of the depression and had taken up research work and designing with a big manufacturer of building materials. (Incidentally, he managed the sales department for the particular type of material he was handling—I wonder how many of our young designers, punted out into industry, could lay their hands on so much versatility? He was by no means an exception.)

When he said that, I was incredulous. "No," he assured me, "we go to our schools over here, and they teach us methods of construction, and they give us facts, and show us what has been done—but we're all afraid of doing something creative. Schools exist here to show people what will be accepted by other people. We don't create." I began to recite rapidly: "Edison, Henry Ford, Frank Lloyd Wright—" He interrupted and asked: "How many Americans have heard of the greatest of those three you've mentioned?"

I had to admit that outside the architectural profession, only one man, an author, had heard of the greatest architect America has produced.

"Precisely," he said. "Great creative work has no chance in money-minded America."

I protested that ideas were bursting out all over the place; I admitted that after the stimulation of New York and the urbanities of Washington, Chicago was a bit of an anti-climax; but here, even in the World's Fair, which is probably the proudest muddle the world has ever seen, there was something alive, and, like all things full of life, making mistakes, but promising one day to create something that may make Western civilization fit to live in. Meanwhile, design is everywhere degraded. The modern furniture is modern only in its materials; the modern houses are trying to make modern materials look as far as possible like the frame houses of America's domestic tradition; the modern architects are impatient of the conditions of patronage, and they are getting into industry, so that, with greater authority than they now possess in matters of design, they can one day teach industry its business in the manufacture of houses and their equipment. Externally, as my architect friend said, it has been a "Century of Safety First," but, in the minds it has produced, and in the will to conquer and control the machine age that it has implanted in those minds, it *has* been a century of progress.

●

New Hotel for Liverpool

We understand that early next year work will be started on a new Liverpool hotel, which is to be erected on a site between Moorfields and Eberle Street at a cost of about £350,000. The architect is Mr. A. E. Shennana.

Manchester Society of Architects

Waterloo Bridge was discussed by Mr. A. C. Dean, M.C., M.INST.C.E., in a lecture on "The Æsthetics of Engineering" at a meeting of the Manchester Society of Architects.

"It is difficult," he said, "to credit the sincerity of many of the views set forward for the retention of the old structure. Mr. Herbert Morrison held only a brief period of fame as a vandal when he dramatically started the removal of the Rennie structure, which, by its very tendency to collapse on its foundations, destroyed for the engineer any conception of the bridge as a perfect structure either in construction or in condition. I say outright that the old Waterloo Bridge to our present-day vision was merely a plain (and not markedly beautiful), straightforward structure which was worn out and needed replacement."

HOUSING PROGRESS

THE Ministry of Health issued recently a statement showing for the period up to September 30, 1934, the number of houses provided with State assistance, the number of houses provided without State assistance, the progress made in carrying out slum clearance programmes, and certain other particulars relevant to the housing activities of local authorities.

Following are some extracts from the statement:

It was announced on July 3, 1934, during the debate in the House of Commons on the Estimate of the Ministry of Health, that it was proposed to make a half-yearly return showing the progress in dealing with housing in England and Wales, and that the first statement would be published as soon as the figures relating to the half-year ending September 30, 1934, were available. In fulfilment of this promise this statement, which has been compiled from departmental records relating to the approval of housing proposals and from returns furnished by the local authorities showing the progress made in carrying out approved proposals and the provision of houses by private enterprise in their areas, is now published.

At the date of the Armistice the number of houses in England and Wales was a little under 8,000,000. Between that date and September 30, 1934, 2,484,848 new houses were provided, 788,872 by local authorities and 1,695,976 by private enterprise. This total excludes 14,365 houses provided to rehouse persons displaced under improvement and reconstruction schemes under legislation prior to the Housing Act, 1930. Table I shows the number of houses included in this total which were provided by local authorities and by private enterprise respectively, distinguishing the numbers under each of the Housing Acts, and the numbers provided without state assistance.

Table II gives particulars of the numbers of houses provided in each of the last ten half-years, with particulars in each of the last two half-years of the numbers of houses with lower rateable values which were provided by private enterprise without State assistance and the numbers of these houses which were occupied by persons other than the owners.

The number of houses provided by private enterprise without state assistance in the half-year ending September 30, 1934, was 134,153. This constitutes a record, the number being 13,372 more than in the previous half-year, the figure for which was itself a record at that time. The total for the year ending September 30, 1934, was 254,934, being 53 per cent. greater than the corresponding total in the previous year and 95 per cent. greater than in each of the years ending September 30, 1931 and 1932.

Under the Housing Act, 1930, local authorities in making their ordered attack on bad housing conditions deal with the following three broad categories :—

(*a*) Clearance areas in which all the buildings are to be demolished ;

(*b*) Improvement areas in which unfit houses are to be demolished or made fit, and overcrowding abated ; and

TABLE I

HOUSES PROVIDED IN ENGLAND AND WALES since the Armistice

(This Statement does not include 14,365 houses provided to rehouse persons displaced under Improvement and Reconstruction Schemes made under the Housing of the Working Classes Act, 1890, and the Housing Act, 1925.)

	Number of houses provided up to September 30, 1934			
	By Local Authorities	By Private Enterprise	Total	*Total in rural districts* (included in previous column)*
With State Assistance—				
Housing, Town Planning, etc., Act, 1919 ..	170,090	4,545	174,635	*35,915*
Housing (Additional Powers) Act, 1919 ..	—	39,186	39,186	*15,979*
Housing, etc., Act, 1923	75,309	362,738	438,047	*118,261*
Housing (Financial Provisions) Act, 1924 :—				
(*a*) In Agricultural Parishes	29,420	2,062	31,482	*30,090*
(*b*) In other Parishes	474,682	13,359	488,041	*36,745*
Housing Act, 1930 :—				
(*a*) In Agricultural Parishes	296	—	296	*246*
(*b*) In other Parishes	26,377	253	26,630	*310*
Totals (Assisted)	776,174	422,143	1,198,317	*237,546*
Without State Assistance with a rateable value—				
(*a*) Up to £26 (£35 in Greater London) ..	12,520	1,016,309	1,028,829	*292,147*
(*b*) £27 to £52 (£36 to £70 in Greater London)	138	229,748	229,886	*38,223*
(*c*) £53 to £78 (£71 to £105 in Greater London)	40	27,776	27,816	*4,629*
Totals (Unassisted)	12,698	1,273,833	1,286,531	*334,999*
Grand Totals	788,872	1,695,976	2,484,848	*572,545*

* Many houses which were provided in rural districts are now in urban districts, mainly owing to alterations in areas made as a result of the County Reviews under the Local Government Act, 1929. The figures in the last column relate to rural districts as now constituted except those in respect of houses provided under the Acts of 1919, 1923 and 1924, which relate to districts which were rural districts when the final returns under those Acts were made.

TABLE II

HOUSES PROVIDED IN ENGLAND AND WALES in the half-year ending March 31, 1930, and in each subsequent half-year

Half-year ending—	Number of houses provided by—				Total number of houses
	Local Authorities		Private Enterprise		
	With State Assistance	Without State Assistance	With State Assistance	Without State Assistance	
March 31, 1930	24,502	1,605	590	51,788	78,485
September 30, 1930	24,550	1,360	1,682	55,622	83,214
March 31, 1931	27,964	2,000	883	69,746	100,593
September 30, 1931	32,205	1,119	983	60,044	94,351
March 31, 1932	35,371	1,366	1,350	68,374	106,461
September 30, 1932	31,063	690	1,306	62,456	95,515
March 31, 1933	23,503	735	1,187	79,556	104,981
September 30, 1933	24,474	501	1,269	87,088	113,332
March 31, 1934	29,399	1,466	1,644	*120,781	153,290
September 30, 1934	19,876	1,856	578	*134,153	156,463

*Included in the 120,781 and 134,153 houses provided by private enterprise without state assistance during these half-years are the following numbers of houses with the rateable values indicated :—

	Number of houses provided during the half-year ending	
	March 31, 1934	September 30, 1934
With a rateable value not exceeding £13 (£20 in Greater London)—		
(*a*) Total number	*44,754*	*48,111*
(*b*) Number occupied by persons other than the owners ..	*13,014*	*15,078*
With a rateable value exceeding £13 but not exceeding £26 (£21 to £35 in Greater London)—		
(*a*) Total number	*61,529*	*69,957*
(*b*) Number occupied by persons other then the owners ..	*9,716*	*9,486*

(*c*) Individual unfit houses, not in clearance areas or improvement areas, which are to be demolished, to be closed, not to be used for human habitation, or to be made fit.

Table III of this statement shows in statistical form the action taken by local authorities in declaring areas to be clearance areas or improvement areas, and Table IV the position of the necessary orders for giving effect to the resolutions declaring areas to be clearance areas.

TABLE III

HOUSING ACT, 1930

CLEARANCE AREAS AND IMPROVEMENT AREAS

RESOLUTIONS declaring areas to be clearance areas or improvement areas

	During the half-year ending September 30, 1934	Up to September 30, 1934
1. Number of local authorities who have passed resolutions declaring areas to be clearance areas or improvement areas ..	261	507
2. Number of areas declared	1,448	3,920
3. Number of houses in clearance areas and improvement areas to be demolished as a result of resolutions passed	23,434	73,046
4. Number of persons in clearance areas and improvement areas to be displaced by demolition of houses as a result of resolutions passed	97,714	325,809
5. Number of persons in improvement areas to be displaced in order to abate overcrowding as a result of resolutions passed	1,321	4,449

TABLE IV

HOUSING ACT, 1930

CLEARANCE AREAS

Statement as to CLEARANCE ORDERS and COMPULSORY PURCHASE ORDERS made by Local Authorities under resolutions declaring areas to be clearance areas, with certain particulars as to houses in clearance areas purchased by agreement

	During the half-year ending September 30, 1934	Up to September 30, 1934
1. Number of local authorities—		
(*a*) Submitting orders to the Minister	232	378
(*b*) Whose orders were confirmed by the Minister	185	290
2. Number of orders—		
(*a*) Submitted to the Minister	1,452	2,857
(*b*) Confirmed by the Minister	802	1,701
3. Number of houses to be demolished specified in the schedules to the orders—		
(*a*) Submitted to the Minister	26,935	58,029
(*b*) Confirmed by the Minister	11,383	34,449
4. Number of persons to be displaced from houses specified in the schedules to the orders confirmed by the Minister	52,908	161,085

In addition, up to September 30, 1934, terms had been arranged by 43 Local Authorities for the purchase by agreement of 2,213 houses in 104 clearance areas (covering the whole of 79 and parts of 25 clearance areas), the number of persons to be displaced from these houses being 11,545.

LAW REPORTS

DISPUTE OVER A DITCH

Joynson v. *E. O'Sullivan (Kenley), Ltd.—Chancery Division. Before Mr. Justice Farwell.*

THIS was an action by Mr. Edmund Hamborough Joynson, of Effingham Lodge, St. Mary Cray, Kent, against E. O'Sullivan (Kenley), Ltd., of the Estate Office, Valley Road, Kenley, claiming an injunction to restrain the defendant from trespassing upon land and from cutting down trees.

Mr. Swords, K.C., and Mr. Buckmaster appeared for the plaintiff and Mr. Norman Wagner, K.C., and Mr. Ranson for the defendants.

Plaintiff's case was that he and defendants were the adjoining owners of land at St. Mary Cray, where the defendants are developing an estate, and the dispute between them was to the ownership of a ditch separating the two estates. Plaintiff claimed to have been in uninterrupted possession of the ditch for 52 years.

Defendants pleaded that the existence of a bank and a hedge there gave them the presumption of right in the ditch.

Mr. Swords for the plaintiff said the plaintiff's right in the ditch had only recently been disputed. His contention was that the various acts of ownership by the plaintiff displaced any presumption that the ditch belonged to the defendants. The boundary between the two properties was marked with stones bearing the plaintiff's initials and the date 1887, and they were placed there by an agreement between plaintiff and his predecessor in title.

Evidence was called on both sides, defendants contending that the ditch belonged to them.

His lordship in giving judgment said Mr. Behrens was formerly the owner of the land and his lordship came to the conclusion that in 1887 when the plaintiff and Mr. Behrens and a Mr. Greenslade went over the land and Mr. Behrens pointed out the boundary that was on his side of the ditch. In recent times the land of Mr. Behrens passed to the defendants and they thought it of importance that they should have the ditch and claimed it. The presumption as to the ditch was in the defendants' favour, as they had no notice to the contrary. Plaintiff claimed to have been in possession for over 12 years, which gave him a good title against all the world, and to have exercised acts of ownership, which displaced any presumption put up by the defendants. But that did not end the matter. They had had the evidence of Mr. Greenslade, who stated that Mr. Behrens himself indicated the boundary of plaintiff's land as including the ditch, and that stones were set up in the holes which Mr. Behrens had made. In addition to that the plaintiff had allowed a local football team to play on his field and had erected a pavilion over the site of the ditch and had caught the water in the ditch and used it. In these circumstances he found for the plaintiff and granted the injunction asked, declaring the ditch the property of the plaintiff and awarding him 40s. in respect of the trespass by the defendants in pollarding the willow trees.

CLAIM FOR SURVEYOR'S FEES

Lane v. *John Mowlem & Co., Ltd.—Court of Appeal. Before Lords Justices Greer, Maugham, and Roche.*

THIS was an appeal by Mr. Alfred Lane, the district surveyor of Battersea, from a judgment of a King's Bench Divisional Court, composed of the Lord Chief Justice and Justices Avory and Talbot, holding that the stipendiary at the South Western Police Court was wrong in deciding that Messrs. John Mowlem & Co., Ltd., were liable to pay to Mr. Lane £476 10s. under the fifth schedule of the London Building Act, 1930, in respect of the erection of the generating station at the Battersea Power Station, and in respect of which building Messrs. Mowlem were the principal contractors.

The building in question, which was of the capacity of about 18,000,000 c. ft., was erected in accordance with plans approved by the London County Council between 1929 and 1932.

Mr. Lane contended and the magistrate held that Messrs. Mowlem were the builders within the meaning of sections 173 and 177 of the Act of 1930, and were liable to pay the fees claimed. The Divisional Court, however, on the appeal of Messrs. Mowlem, reversed the magistrate's decision, holding that upon the facts set out in the special case stated by the magistrate, that the building was erected under section 227 and therefore was a special building to which the general provisions of parts 5, 6 and 7 of the Act did not apply and judgment was entered for Messrs. Mowlem.

From this result Mr. Lane now appealed.

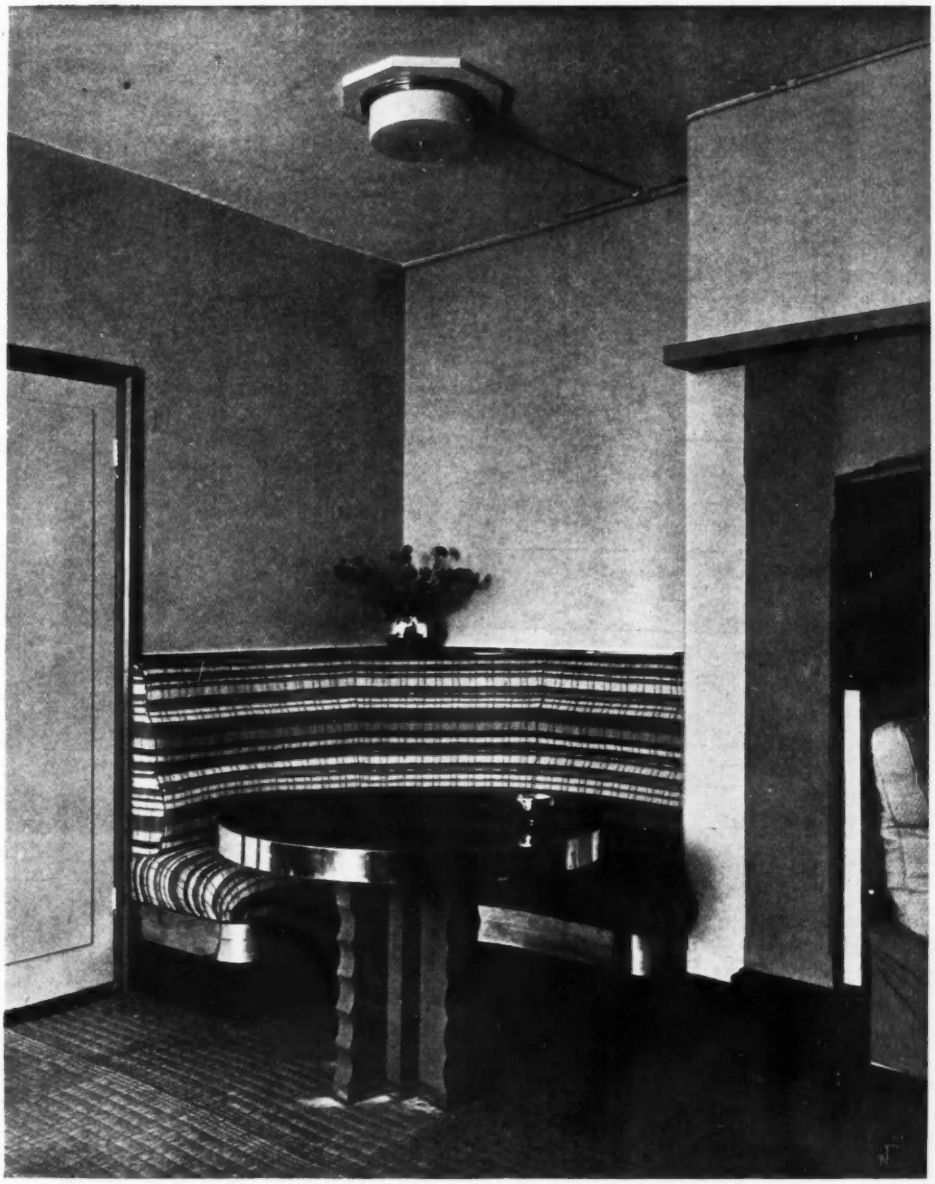
After long arguments the Lords Justices now held that Mr. Lane was entitled to his fees as claimed upon the ground that the building was erected under the provisions of sections 58 and 59 and that schedule 5, part 4, of the Act applied.

The appeal was accordingly allowed with costs and the judgment of the Divisional Court reversed and the decision of the stipendiary restored.

Leave to Messrs. Mowlem to appeal to the House of Lords was granted on certain terms as to the costs of the appeal.

WORKING DETAILS : 179

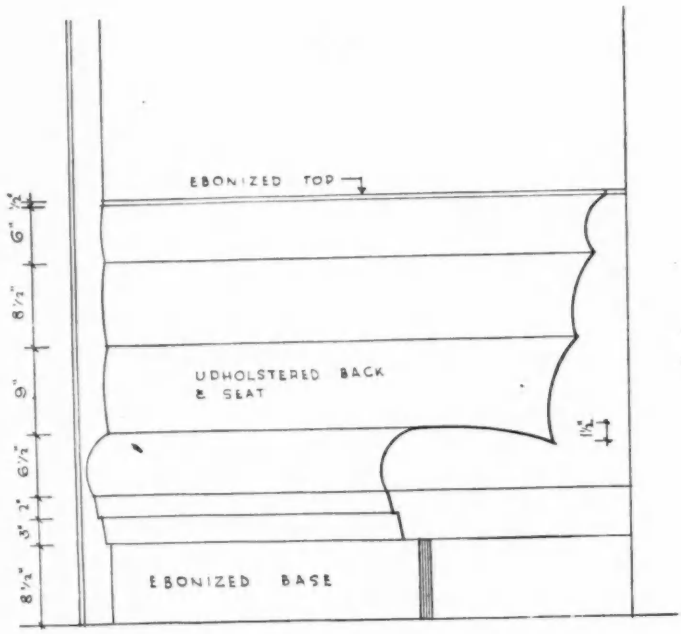
BANQUETTE AND TABLE • STUDIO IN SLOANE STREET, LONDON • CHRISTOPHER NICHOLSON



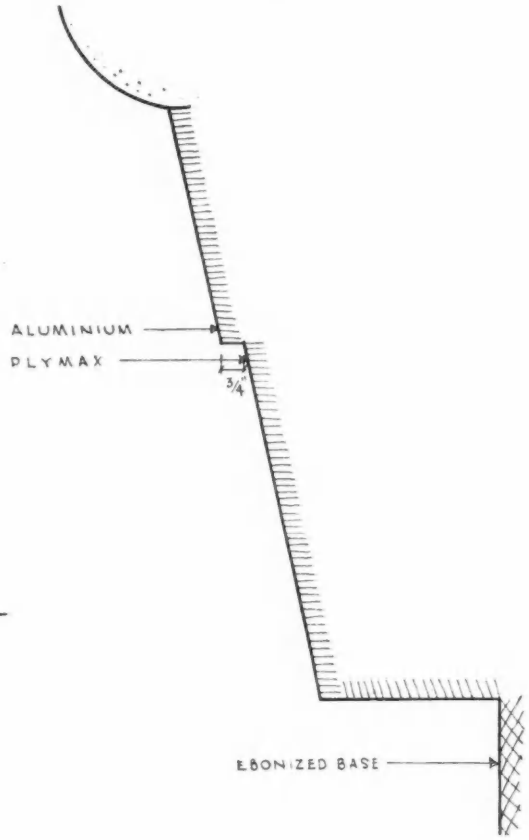
This banquette and table were arranged in a recess at the side of a fireplace in an existing building. The upholstery is green with a thin red line on a background of buff; the table is vermilion. The drawings overleaf show the relative positions of the banquette and table, and the essential cushion dimensions.

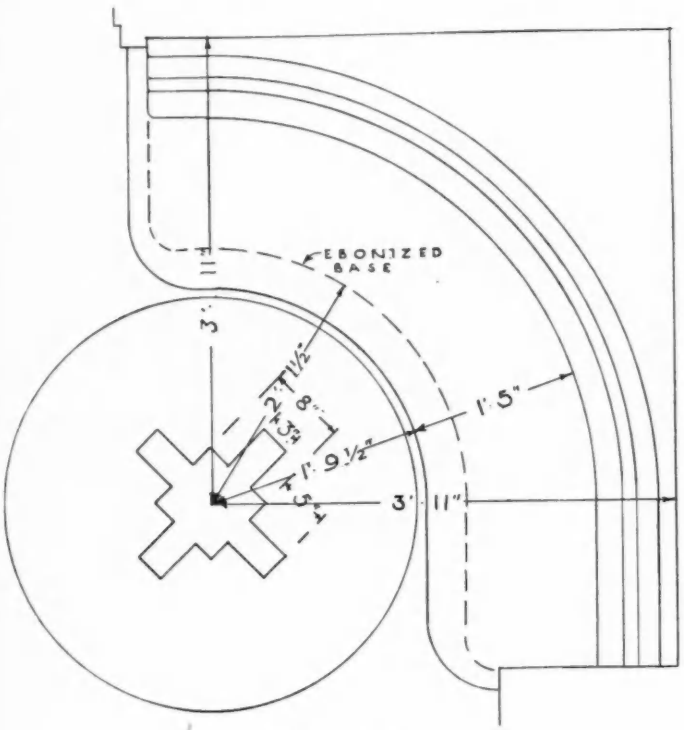
WORKING DETAILS : 180

BANQUETTE AND TABLE • STUDIO IN SLOANE STREET, LONDON • CHRISTOPHER NICHOLSON

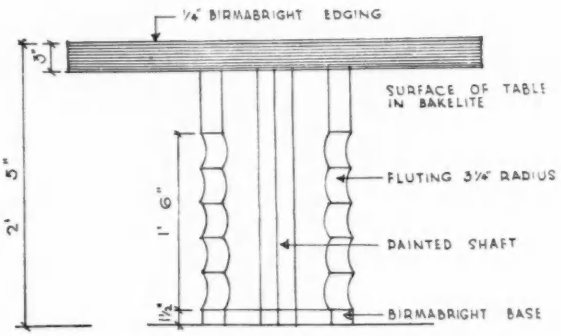


SECTION





PLAN



ELEVATION

Details of the banquette and table illustrated overleaf.

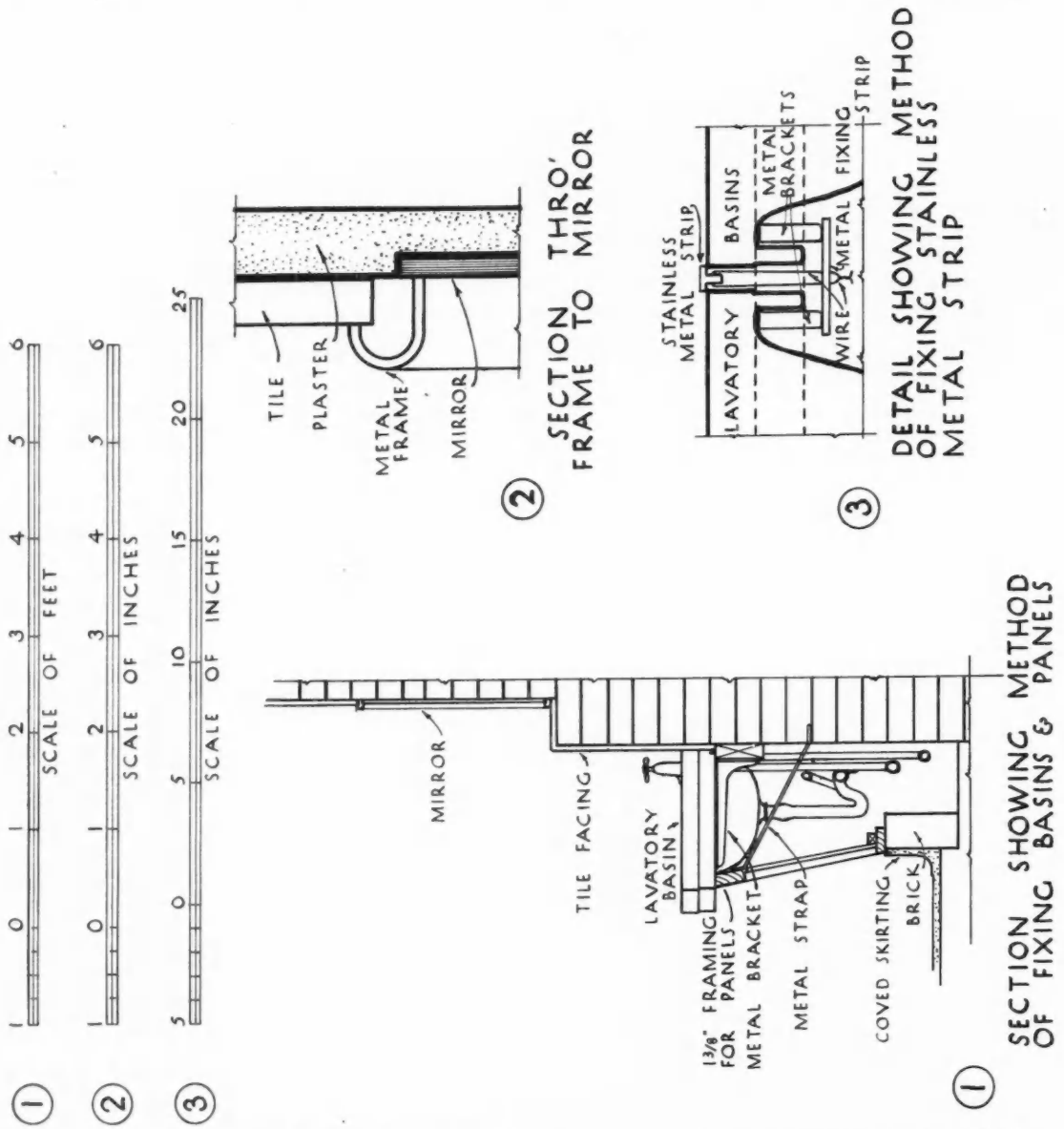
WORKING DETAILS : 181

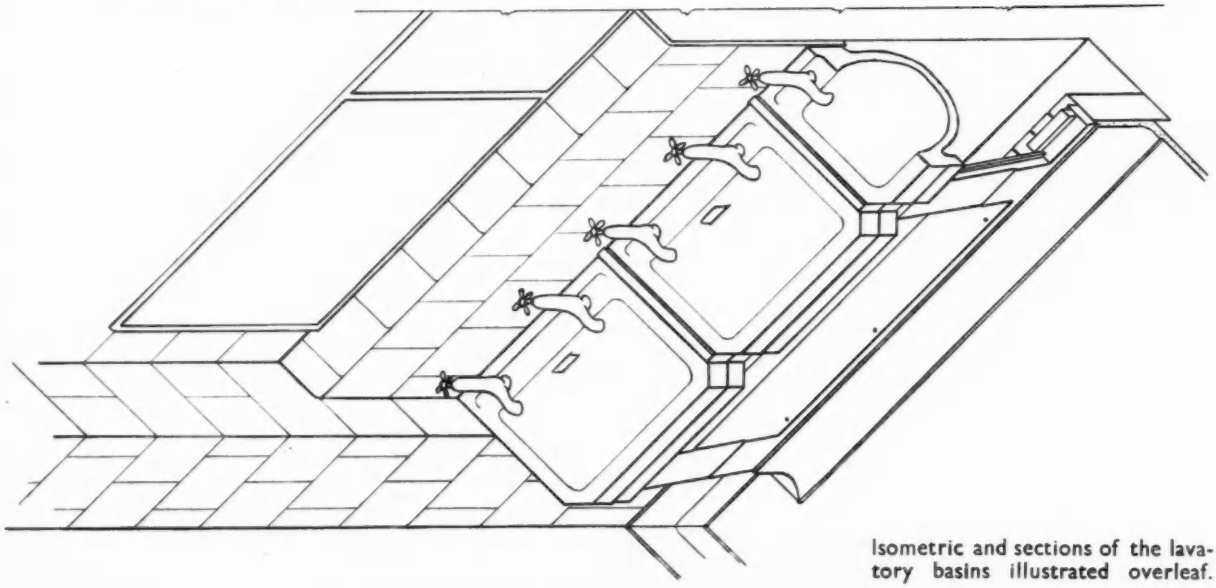
LAVATORY BASINS • MARLON HOUSE, MARK LANE, LONDON • RICHARDSON AND GILL

The lavatory basins, illustrated above, are set 1¼ in. apart, the space between them being covered by a stainless steel strip. All plumbing is concealed behind a wooden boxing with detachable access panels, and a black coved skirting; the floor is of biscuit-coloured 12 in. square tiles. The drawings overleaf show an isometric, a section through the boxing, and the fixing of the stainless cover strip.

WORKING DETAILS : 182

LAVATORY BASINS • MARLON HOUSE, MARK LANE, LONDON • RICHARDSON AND GILL





Isometric and sections of the lavatory basins illustrated overleaf.

Bishop Burton, Yorkshire. From "English Villages and Hamlets."

LITERATURE

ESCAPE

[*By J. M. RICHARDS*]

English Villages and Hamlets. By Humphrey Pakington. London: B. T. Batsford, Ltd. Price 7s. 6d. net.

IT is an interesting reflection that popular enthusiasm for the romantic and the picturesque arose almost simultaneously with the rise of industrialism; that appreciation, for example, of the æsthetic virtues of agricultural scenery coincided with the decline in the economic value of rural and the increase in the economic importance of urban occupations. Interest in the countryside was fostered, it would appear, far more by the later desire to escape from reality than by the earlier need for familiarity with the means of existence; and it is not surprising that this interest should be concentrated on the static and pictorial qualities of the countryside, sought after, perhaps subconsciously, as a reassuring antidote to the confusing changeability of urban conditions.

With the pursuit of means of escape there grew up also a literature of escape; the scenic or pastoral guide-book having become in recent years a certain best-seller. The book under review is the latest addition to the large number of such in existence. It is a pleasant enough anthology, the subject in this case being that perpetual source of enjoyment for all who do not have to live in one—the English village.

In character with the genus to which the book belongs, the villages the author has chosen to describe are regarded almost entirely from the pictorial point of view: as a collection of objects which, by character and grouping, give pleasure to the eye. We are left to assume that the villages of England are still inhabited. However, it would be unfair to criticize a book for not doing what it never tried to do. Mr. Pakington's is a picture book, whether verbal or photographic; and he does not pretend either to describe English village existence or to explain how the villages he illustrates acquired their characteristic shapes and qualities. The function he has assumed is that simply of a guide, pointing out the villages he likes and enumerating the pleasing qualities of each.

As a personal guide book *English Villages and Hamlets* is most enjoyable. Mr. Pakington has a wide knowledge of topography and catholic taste in scenery; and, although he prefers to look at the village pictorially, he does so with the wise and practical reserva-

Finchingfield, Essex. From "English Villages and Hamlets."

From top to bottom : Bourton-on-the-Hill, Gloucestershire ; Dunsford, Devon ; and Groombridge, Kent. From " English Villages and Hamlets."

tion of demanding in a village the homogeneity of an architectural unit before he will admit it to the "village" category. It must have, if not a corporate existence (for that in most cases modern transport has destroyed), at least corporate externalization of form.

Choosing the best villages in England makes an entertaining parlour game, and searching Mr. Pakington's book for villages included or omitted is an enjoyable variation of it. The game has the additional advantage of inducing in one who is playing it a comforting feeling of superiority —of the possession either (in the case of omission) of knowledge that the author does not possess, or (in the case of inclusion) of superior selective susceptibility. Mr. Pakington disarms all criticism of his choice of villages by insisting in the introduction that the choice is merely his own ; though few readers whose knowledge of England is as complete as the author's will have serious criticisms to make. The distribution among the counties of the villages he considers good enough to mention is, perhaps, a little surprising. Hampshire has 22 villages mentioned and Kent 18, but Sussex, which lies between them, only five. The luscious West of England— Gloucestershire, Worcestershire, Devonshire, Somerset—is more generously recognized than ascetic East Anglia, and the Lake District is almost entirely ignored (Cumberland and Westmorland are allowed four villages between them) ; but complaint is ungrateful, for we already get plenty for our money, and hardly one of those he *has* selected could possibly be left out.

I have not, so far, mentioned the illustrations, though they form naturally a most important part of the book; and they are admirable. There are 131 photographs (besides some less impressive sketches), all excellently chosen and beautifully reproduced ; and they completely justify the book as a pictorial representation of the English village. The brief captions below the photographs unhappily contribute to the slightly superficial character observable in much of the letterpress. The obvious *cliché* too often replaces the apter observation the author is certainly capable of. " Polperro, Cornwall : built around its little harbour, gazing at its image for ever in the mirror of its enchanted lagoon," and " Blanchland, Northumberland : a haunt of civilization through many centuries," and " Mousehole, Cornwall : the boats lie about the shingle as though posing for some artist's brush," are typical of the style— harmless, perhaps, but a little reminiscent of a railway company's advertisement. Nevertheless the photographs are most pleasing and Mr. Pakington's

Staithes, Yorkshire. From "English Villages and Hamlets"

writing is full of knowledge and conveys much of the enjoyment he himself must have found in compiling his anthology. The book is unfortunate in being presented in one of those arty coloured covers in which the publishers have wrapped several of their recent books—in some ways suitable for a Christmas gift-book, but not altogether pleasing to look at, and not having any of the dignity this book's subject possesses.

A DOCTOR ON HEATING

The Principles of Heating and Ventilation. By H. M. Vernon, M.A., M.D. London: Edward Arnold & Co. Price, 14s. net.

DR. VERNON is one of the few men of the medical profession in this country who have made it their business to investigate the problems of heating and ventilating from a physiological aspect, and no one, probably, is more capable of discussing present-day theories and practice of this subject from this particular point of view with greater knowledge or facility. The author has correlated in a very useful manner a great mass of material presented in papers given before various societies, in current technical literature, and in reports of numerous research committees, of some of which he has been or is still a member.

To the student of heating or the practical heating engineer much of the data will not be new, though its presentation in such a concise and collected form will no doubt help to clear the minds of many who have been trying to sort out for themselves the many apparently conflicting theories which have been propounded of recent years. To the architect who has not made heating his study and to others of the non-technical mind, the book should prove valuable in showing the trend of present-day thought on these subjects, quite apart from the lessons which may be learnt from it as to the relative merits or demerits which one system may have as compared with others. This, coming from one outside the usual circle of engineers or advisers, should be particularly valuable to any in the throes of considering this all-important question.

The author mentions an important point which is often lost sight of when the open fire is being condemned as old-fashioned, viz., that it is a ventilating appliance as well as a heating one. He also points out that the electric fire does not possess this advantage, though the gas fire does to a certain extent. The latter he criticizes on account of its intense radiation and gives interesting figures to substantiate his statement. The importance of proper provision for ventilation is also stressed when low temperature radiant heating is discussed, particularly as with this system there is no convection air movement as with an ordinary radiator system.

It is to be regretted that the author mentions the panel system as suitable for producing cooling in summer without qualifying the statement, since with this method there is a danger of condensation forming on the ceilings if the plant is left in operation at periods of high humidity—periods, that is, when its cooling effect is perhaps most required. In the section on floor heating some useful comparative figures are given as to its effectiveness compared with the convection method, though reference to the usual system of floor warming by embedded pipes is not mentioned.

The chapter on electric heating is up to date in its information, which is essential for this branch of the subject, and comparative costs are given, derived from various sources. It would have been interesting to have had the author's comments on Mr. A. H. Barker's highly controversial paper on electric heating, and it is surprising that no reference to this can be found.

The ventilation and air conditioning chapters with which the book concludes attempt to deal with an immense field in a very small compass, and it must be admitted that the object has been achieved since there is not much of real importance which has been left out. In the discussion on refrigeration as applied to air conditioning, however, one would have liked a lead from the medical profession as to what is a safe drop of temperature on which to calculate between the incoming and supply air to a building. On the whole

the book is a valuable contribution to the literature on this subject and is worthy of the close study of all who wish to bring their thoughts on heating and its allied subjects into line with modern research and investigation.

J. R. K.

INFORMATION FROM B.R.S.

Building Science Abstracts: November, 1934. The Building Research Station, Watford. Price, 1s. 3d.

IN the November issue of *Building Science Abstracts*, which is published monthly by the Building Research Station, the information is grouped under the following headings :—(1) Stone and mineral earths. (2) Clay, clayware and glass. (3) Lime, plaster and chemical compositions in general. (4) Concrete and cement. (5) Metal. (6) Organic building materials. (7) Paint and varnish. (8) Materials in general, their properties and testing. (9) Theory and design of structures. (10) Building construction, industrial organisation and economics. (11) Housing and efficiency of buildings from the standpoint of the user. (12) Specialised construction.

In Section 1 of the November issue there are summaries of a manual on the stone industries of the United States of America by O. Bowles, of the Bureau of Mines ; a paper on the detection of certain types of basalt liable to "sunburn," an objectionable form of decay ; and a thesis on the frost resistance of concrete and natural stone, in which an experimental investigation of temperature fluctuations in the interior of a block of concrete are described.

Among the papers dealt with in Section 2 are a description of a test devised in Russia for determining the appropriate temperatures at which clays should be fired to produce ware of maximum strength and frost resistance, some discussions of methods of de-aerating clay during the manufacture of bricks, a report of an investigation which has led M. Fabbrini to conclude that methods of moulding and clay preparation have a greater influence on the strength of bricks than the firing temperature, a discussion of means of examining glaze fit on stoneware, a German draft standard specification for stoneware pipes, a study of the relation between the transverse strength of bricks and that of small specimens cut from them, and a number of patents covering apparatus and processes for the ceramic industries.

Section 3 includes an account of measurements made of the combined water in lime putties run from quicklime or prepared by soaking a dry hydrate.

Section 4, dealing with concrete and cement, is, as usual, one of the largest. Among the papers dealt with mention may be made of : "The conditions of stress in pore water of concrete during drying," by K. von Terzaghi ; "Uniformity in permeability testing of concrete," by R. Kraus ; a booklet about placing concrete by vibration issued by the Portland Cement Association of the United States of America ; a comparison of the Fuller and Bolomey grading curves with special reference to fine material, the report of some experiments on the effect of heating aggregates at high temperatures, a discussion of pozzolanic cements containing calcium sulphate in relatively high proportions, the new Czecho-Slovakian and Swiss standard specifications for cements, and the report of a detailed study of the influence of hydration and heat development on the hardending of cement carried out at the Kaiser-Wilhelm Institut für Silikatforschung, Berlin.

In Section 5, "Metal," abstracts deal with the hardness of metals, thermoelastic phenomena, corrosion, offerous metals in soils, protective oxide films on copper, accelerated tests of nickel and chromium plating and electric welding.

Section 6 contains summaries of two papers on bituminous materials. Section 7 refers to painting on plaster walls, atmospheric influences on paint and varnish films, exposure tests of white lead paint, fungus growths on painted surfaces and apparatus for testing the mechanical strength of paint films. Section 8 mentions various laboratory and testing appliances.

Section 9 contains summaries of a number of books and papers of interest to structural engineers ; among them may be mentioned : "Handbook of rigid frame analysis," by L. T. Evans ; "Theory of superstatic structures," by J. D. Gedo ; "An investigation of reinforced concrete columns," by F. E. Richart and R. L. Brown ; "Design of mushroom floors," by M. Steuermann ; "Eccentrically loaded well groups," by C. W. Hamann ; "Theory of vibration of building during earthquake," by M. Biot ; and "Wind stresses and the design of wind bracing in tall framed structures," by A. Deleuse.

In Section 10 the following are of special interest : two papers on the electrical heating of concrete. A discussion of expansion joints in concrete. A specification for coloured cement floor surfaces. Directions for sinking wells to supply small buildings. Several papers and a textbook on the resistance of buildings to aerial bombardment and the construction of bomb and gas-proof shelters for the protection of civilian population during air raids. A book on estimating for buildings.

Section 11 contains references to descriptions of various rehousing schemes in England, Sweden and Germany, papers on metallic wallpaper, the measurement of equivalent temperature, rays on the skin, modern methods of heat insulation, part IV of a report on an investigation of warm-air furnaces and heating systems in progress at the University of Illinois, and a report on the bed-bug issued by the Ministry of Health.

Section 12 is made up of references to various special structures, such as bridges, silos, hangars, aerial masts, etc. In all, the November issue of *Building Science Abstracts* places on record 173 contributions to the literature of building and building materials.

Publications Received

Practical Surveyor, Auctioneer and Estate Agent. New Era Publishing Co., Ltd. Price £3 13s. 6d. in instalments.

Junior Instruction Centres and their future. By VALENTINE A. BELL. Carnegie United Kingdom Trust.

London County Council Survey of London. Volume XV.—The Parish of All Hallows, Barking. Edited by G. H. GUTER and W. H. GODFREY, for London County Council by Country Life, Ltd. Price £2 2s.

Famous London Churches. Described by C. B. MORTLOCK, depicted by DONALD MAXWELL. Cambridge : Skeffington and Son, Ltd. Price 10s. 6d.

Winter's Youth. By JOHN GLOAG. London : George Allen and Unwin, Ltd. Price 7s. 6d.

The Testing of Bituminous Mixtures. By D. C. BROOME. London : Edward Arnold and Co. Price 15s.

Oxford Renowned. By L. RICE-OXLEY. London : Methuen. Price 7s. 6d.

Architecture Here and Now. By CLOUGH WILLIAMS-ELLIS and JOHN SUMMERSON. London : T. Nelson and Sons, Ltd. Price 7s. 6d.

Westminster Abbey. By A. L. N. RUSSELL London : Chatto and Windus. Price 6s.

The Science and Practice of Gas Supply. Vols. 1 and 2. By ARTHUR COE. Halifax : The Gas College. Price £2 2s.

American Country Houses of To-day. Edited by LEWIS COFFIN. New York : Architectural Book Publishing Co., Inc. Price $8.00.

A History of Everyday Things in England. Part 4, 1851-1934. By MARJORIE and C. H. B. QUENNELL. London : B. T. Batsford, Ltd. Price 7s. 6d.

Design of Residential Areas. Basic considerations, principles and methods. By THOMAS ADAMS. Cambridge : Harvard University Press. Price 15s.

AUSTRALIAN COLONIAL ARCHITECTURE

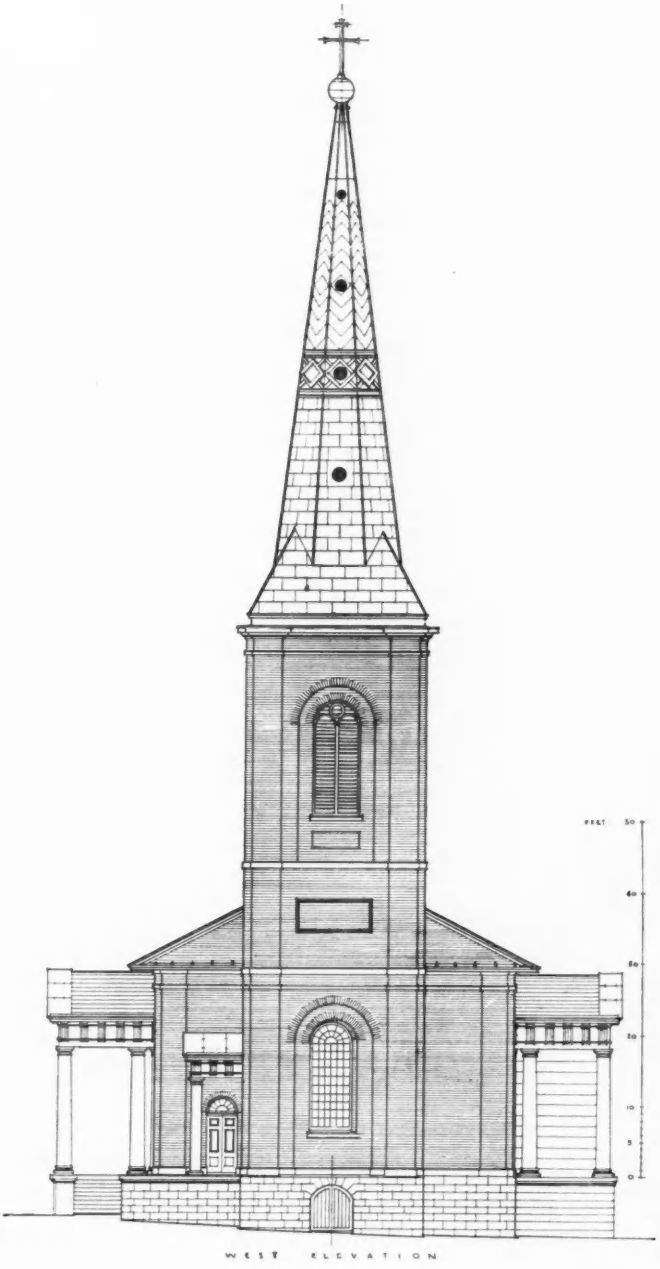
A SERIES OF MEASURED DRAWINGS

5: St. James' Church, Sydney, N.S.W.

ST. James' Church, Sydney, which is one of the most notable of Australian Colonial buildings, was erected in 1819 under the direction of Governor Macquarie. The architect was Francis Greenway, who was responsible for so many of the early buildings.

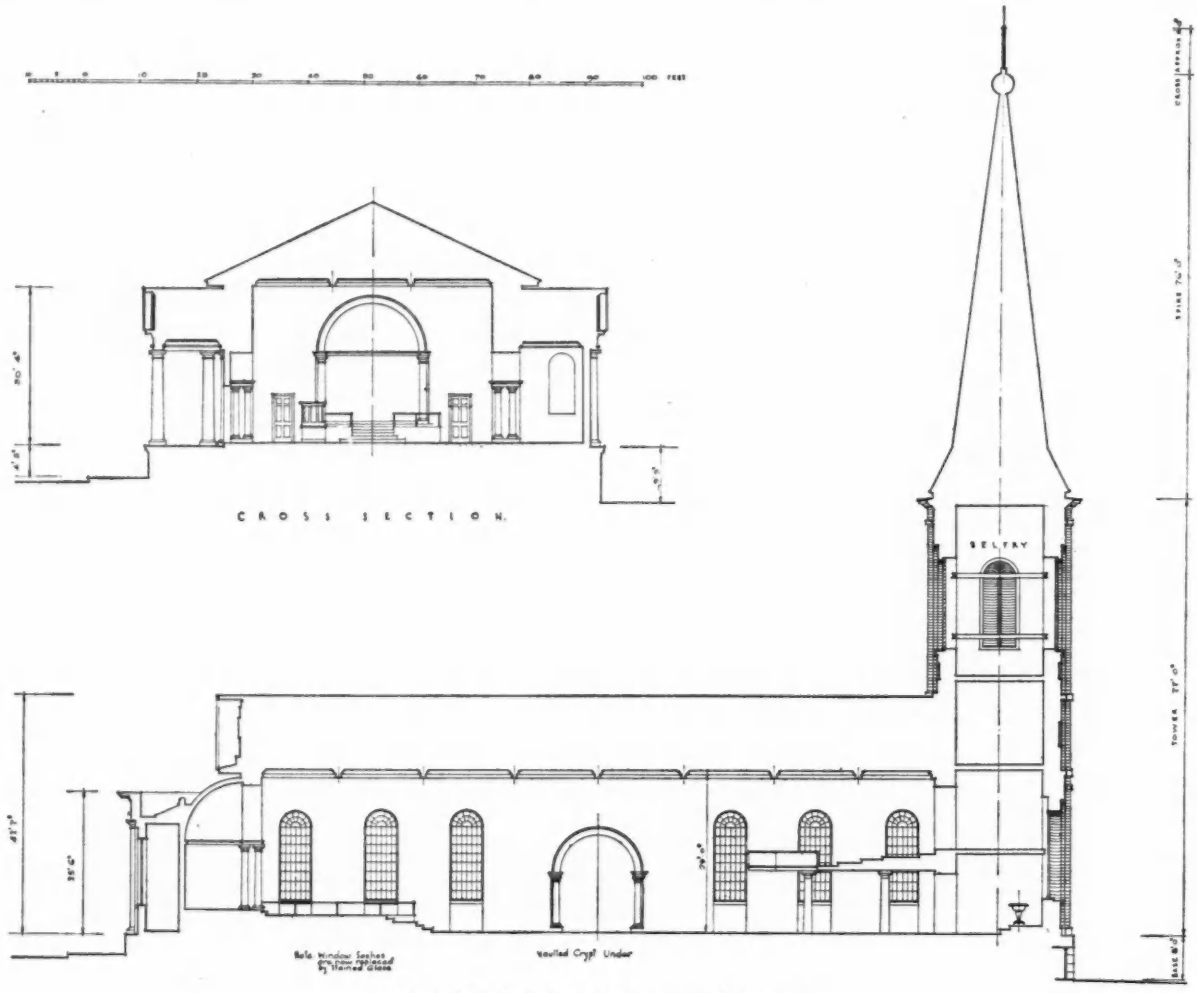
The nave is carried on the stone vaults of the crypt; the latter being a most unusual feature in Colonial work.

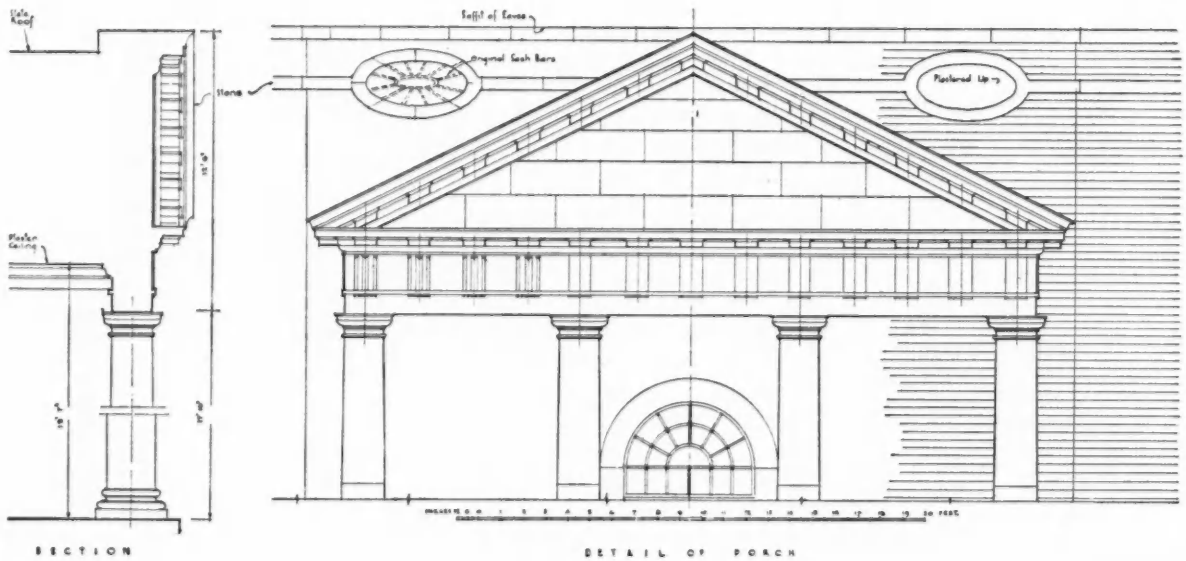
The materials of the walls are soft red brick and sandstone, whilst the roofs are covered with slates. The broaches were added, and the whole spire resheathed with copper, at the end of the nineteenth century.



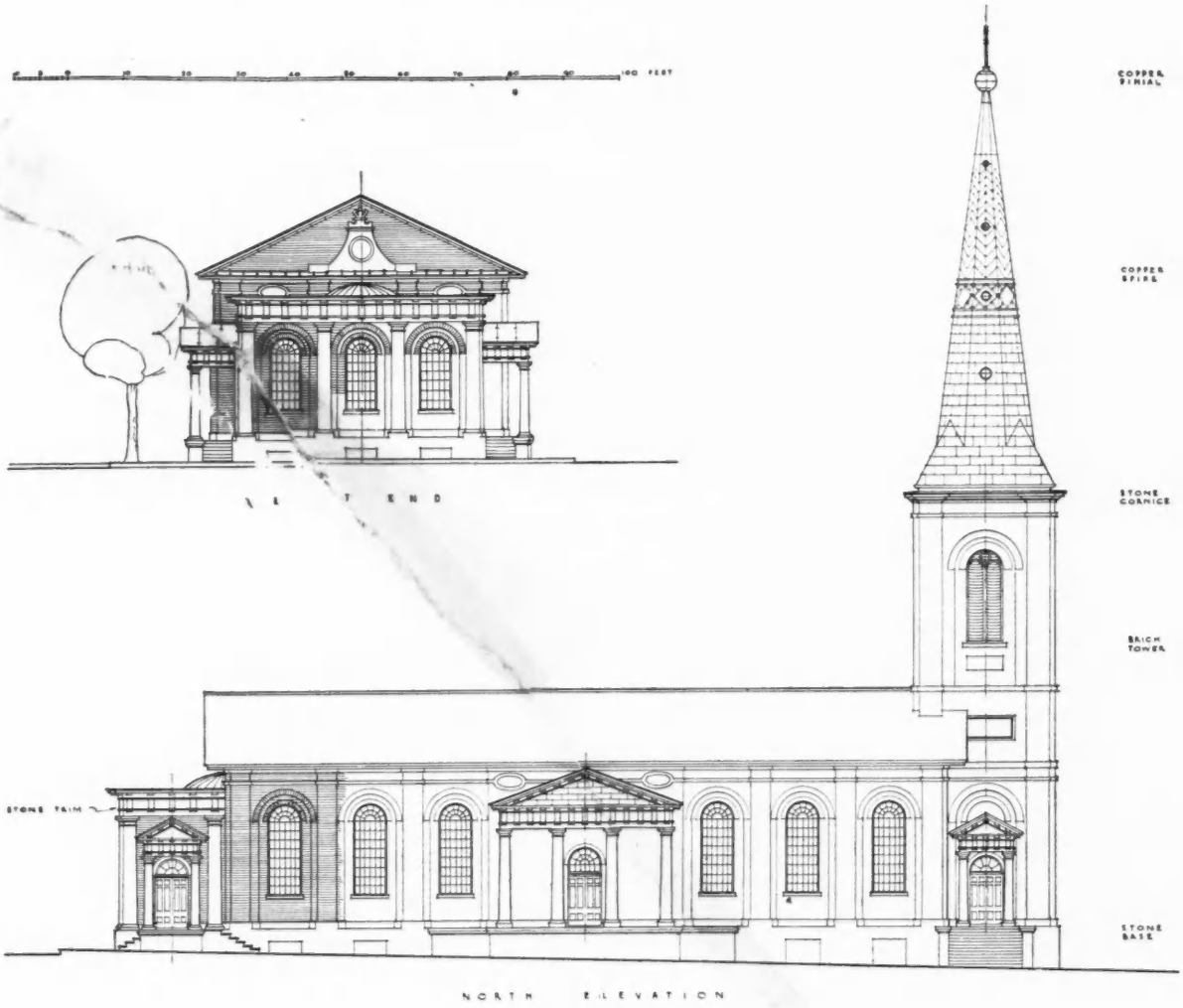
MEASURED AND DRAWN BY M. E. HERMAN

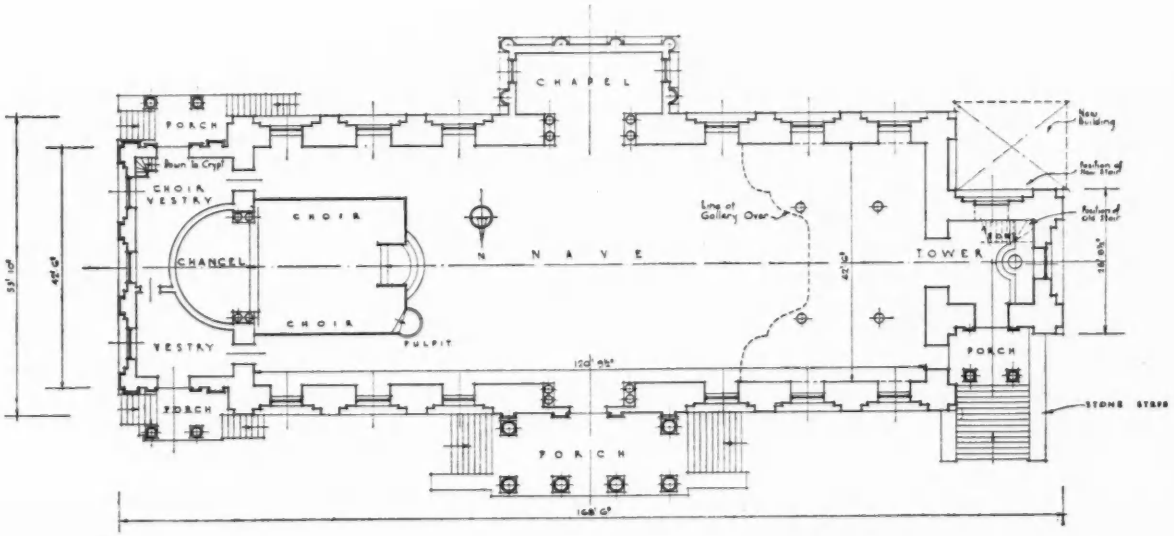
AUSTRALIAN COLONIAL ARCHITECTURE:





ST. JAMES' CHURCH, SYDNEY, N.S.W.





IN THAT CONTINGENCY

The following abstracts of inquiries represents a number of those recently submitted to the Building Research Station. The information given in the replies quoted is based on available knowledge. It has to be borne in mind that further scientific investigations may in the course of time indicate directions in which the replies might be supplemented or modified. Moreover, the replies relate to the specific subject of each inquiry, and are not necessarily suitable for application to all similar problems. [Crown Copyright Reserved.]

Covering for Timber Floor in Garage

¶ *A TECHNICAL journal enquired on behalf of a correspondent for information as to a material for application over a wooden, tongued and grooved floor to render it oil- and water-tight, at the same time giving a sufficiently hard wearing surface, so that it would be suitable in a motor-repair workshop.*

It is a little difficult to suggest a treatment for an existing tongued and grooved floor to render it oil- and water-tight. As such a floor will have a certain degree of flexibility, the application of any rigid covering such as cement mortar or concrete would not be likely to be satisfactory, unless indeed the thickness of the concrete used was sufficient virtually to furnish a new floor capable of withstanding the stresses to which it would be exposed. The conditions in a garage are unfavourable to many types of floor covering which can be applied in sheet or in a plastic condition to existing timber floors. One material which occurs to us as offering a possibility of success would be a bituminous covering specially compounded to withstand the action of oil and petrol. We understand that a preparation of this kind has recently been developed.

A magnesite floor of good quality would be worth considering as another alternative. A mixture suitably designed to meet the particular conditions involved should be used, and the laying should be done by the firm supplying the material, in order that it may be properly applied. The flooring should be reinforced by wire netting or expanded metal. There are a number of firms who carry out such work.

The floor would be stained by mineral oil to some extent, but not injured thereby. If well oiled in the normal way after laying, it would be fairly resistant to water, though it would not be expected to be uninjured if water were allowed to accumulate and remain indefinitely in pools.

Insulation of Floor Over Boiler House

¶ *A FIRM of building contractors asked for a method of improving the heat insulation of the floor over a boiler house in a block of flats. The floor was a hollow tile floor. The owners desired to avoid the cost of building a false ceiling to form an air space.*

If the cost of a separate ceiling cannot be met, it will be necessary to use some form of plaster insulation or a combination of plaster and bright reflective metallic surfaces.

To obtain the satisfactory adhesion of any plaster which has good thermal insulating properties, it will probably be essential to provide some form of mechanical key by using expanded metal or lathing. This, of course, would entail plugging the ceiling. Gypsum plaster compositions intended for the insulation of refrigerators are obtainable, but the question whether they would be suitable for the present purpose is one which should be referred to the makers.

The acoustic plasters usually possess good thermal insulating properties, and there are many types available. There is also the possibility of using sprayed asbestos.

It must be realized that acoustic materials are porous and might be objected to on account of the adhesion of dirt and the difficulty of cleaning. A further method, which might be applicable, would be to employ aluminium asbestos foil as a lining to expanded metal or lathing, and subsequently plastering.

A suspended ceiling is, however, more likely to give satisfaction, and the use of aluminium foil as a separate membrane in the interspace between some form of wall boarding and the main floor should give very good results.

A further suggestion, the value of which depends on the actual conditions appertaining to the job, would be to lay a cork lining on the main concrete floor of the flats above.

Sound Transmission in Hospital Wards

¶ *AN architect asked advice as to improving the conditions with respect to sound insulation in a wing of eight private hospital wards. Complaints had been received from patients of disturbance by the sound of conversation passing from one ward to another.*

The building in question consisted of two single-storey units each covered by a small slated roof, the corridor between being covered by a concrete flat. The walls between the wards were 9 in. brickwork; these supported the ceiling joists and were stopped at that level. The joists were laid end-to-end in continuous lines, but there was a space of ½ in. between their butted ends. The walls were rendered in lime mortar and the ceilings lathed and plastered. Wall and ceiling surfaces in wards and corridor were enamelled white.

Problems of sound insulation are frequently encountered, and the chief considerations affecting such questions are discussed in Building Research Bulletin No. 14, *The Reduction of Noise in Buildings* (H.M. Stationery Office, price 9d. net.)

It is not easy to express a definite opinion in a case of this kind without first-hand knowledge of the conditions, but so far as may be judged from the information given in the present instance, it seems likely that the passage of sound from one ward to another takes place chiefly by way of the air in the roof space. Some improvement may therefore be effected by continuing the existing partition walls up to the underside of the roof, and thus dividing the roof space into separate compartments.

Brickwork 4½ in. thick would probably be sufficient, but it is of importance to note that sound may pass through a wall by cracks or very small apertures, and that the greatest care should therefore be taken to build solidly round the ceiling joists and against the roof boarding. Access openings in the partitions should be as small as possible and should be closed with heavy close-fitting doors.

An alternative method, which might be preferable from the point of view of cost, is suggested in the sketch below (Figure 1), but it is realized that such construction might involve practical difficulties, depending upon the use to which the roof-space is to be put.

Properties of Decorative Aggregate

¶ *A FIRM specializing in decorative concrete products submitted for examination a sample of aggregate intended to be used in cement rendering, and desired to know its suitability for use with Portland and aluminous cements. The material consisted of a mixture of white and dark coloured coarse particles, and was the crushed debris from a barytes mine. The enquirers desired to know whether barytes would be harmful.*

The light coloured material consists of calcite, and this will be satisfactory for use in concrete work. The composition of the dark material was not determined, but it may be remarked that barytes itself will exert no deleterious effects on cement, and may be used in concrete with confidence. It is necessary to point out, however, that small proportions of metal compounds such as lead sulphide commonly occur in association with barytes and these may exert a harmful effect, markedly retarding the setting and hardening of Portland cement. It is therefore recommended that either the material should be analysed, to determine whether such compounds are present, or alternatively, that experimental panels of cement rendering should be made with the aggregate.

Rendering of Old Rubble Walls

¶ *ARCHITECTS asked for advice on the rendering of an old church. The walls were of flints, stones and chalk rubble set in lime and were very soft. The walls had been rendered originally in lime, but much of this was falling away. Repairs in cement rendering had not proved satisfactory. The enquirers had used a lime*

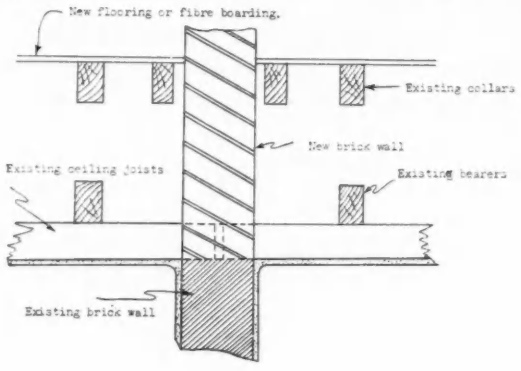


Figure 1

rendering composed of equal parts of greystone and blue lias lime and sand on a new house and thought this mix might be suitable for the church.

The problem of rendering a wall of the kind described is not an easy one, but a solution may be found along lines such as those suggested, namely, the use of a rendering essentially in lime.

The difficulty of treatment arises from :

1 : *General weakness of the work and softness of the surface.* The wall surface will not be strong enough to restrain the movement of a strong cement rendering, which will probably warp and pull away from the wall.

2 : *Excessive suction.* The suction of the chalk rubble in the wall will be very high, and will be difficult to kill by wetting down, without oversoaking adjacent portions having lower absorption. Under these circumstances a rendering mix having high water-retaining capacity is required. A mix containing a good proportion of high calcium or greystone lime would be preferable on these grounds.

3 : *Defective suction.* The flints which compose a part of the wall will have no suction, and the adhesion of a rendering to the flint rubble will depend on the suction at the joints and on mechanical keying at these points. It may be difficult to get a rendering to hang easily on these areas, or on the very powdery surfaces of chalk rubble. Some form of additional keying may therefore be required over certain areas of the work.

The mix mentioned by the enquirer would appear to be quite appropriate, combining good workability and water-retentive properties with a reasonable degree of strength slowly developed. The following precautions should be taken in work of this kind :—

1. Proper slaking of lime, appropriate to the particular material, or the use of dry hydrate of guaranteed soundness.

2. Use of suitably graded sand, that is, not excessively fine or loamy, though a small proportion of loam should not be objectionable.

3. The surface should preferably be finished with a wood float. The use of a steel trowel would tend to increase the liability to hair cracking.

As an alternative to hydraulic lime, a mixture of a non-hydraulic lime and Portland cement is often useful. A suitable mix would be :

1 part cement (by volume),
3 parts white hydrated lime,
8–10 parts sand,

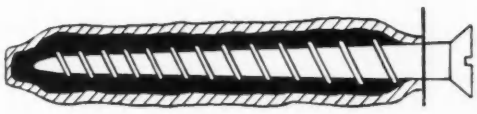
or this mix could be based on lime-sand coarse stuff, to which would be added Portland cement in the proportion (by volume)

1 cement,
10 lime and sand coarse stuff.

Mixes of this kind should be treated as cement mixes, that is to say they should not be knocked up or used more than an hour or two after mixing. Experiments with a number of such mixes have been made at the Building Research Station.

Owing to the comparatively mild hydraulic properties of the hydraulic lime or lime-cement mixes referred to above, a certain discretion should be employed in arranging for the work. Frost may injure a slightly hydraulic mix, while fresh and heavy rain would also cause damage. Hot weather, which may cause too rapid drying of the rendering and rob it of the water necessary for hydration of the cement, will be equally unfavourable. Preferably such work should be arranged for autumn or spring. Over areas where, for one of the reasons mentioned above, it will be difficult to apply the rendering, a useful method is to run strips of expanded metal across the face. These are fixed by nailing to wooden plugs set in the wall with hydraulic lime or cement-lime mortar.

The work should be carried out in two coats. The first coat should be worked thoroughly round the metal mesh in order to protect it from rusting.



TRADE NOTES

[*BY F. R. S. YORKE, A.R.I.B.A.*]

Wood Wool Insulation Slabs

I HAVE received from the London representative of Reis and Gensler information concerning the building and insulating slab Glorialith. Made from chemically treated wood wool, bound together with cement, the material is said to be sound and heat insulating, fireproof, rot and fungus proof, indestructible by water, and very little affected by changes of temperature. It has a rough surface, affording a good key for plaster, and it may be easily sawn, chiselled and nailed.

•

Standard sizes are :—
6 ft. 8 in. by 1 ft. 8 in. by $\frac{3}{4}$ in.
by 1 in.
by 2 in.
by 3 in.
by 4 in.

•

Applications include :—

fixing in wood—or above concrete slab roofs as insulator.

$\frac{3}{4}$ in. slabs on ceilings and walls in place of lathing as key for plaster.

Construction of sound-proof partitions by building up the thicker slabs with special metal clips and plastering : for partitions of normal size the slabs are self-supporting.

Construction of temporary buildings, bungalows, etc., by fixing slabs on both sides of timber framework and plastering. Such construction is rapid owing to large size and light weight of slabs, and completed building is well insulated against sound, heat and cold.

•

Copies of a report by Dr. Ing. Knoblauch on tests for heat retention, fire resistance, sound insulation, etc., carried out at the Laboratory for Technical Physics at the University of Munich can be obtained from the manufacturers.

Asbestos Cement

I have received from Trafford Park an Everite draining board made from $\frac{1}{2}$ in. thick asbestos cement. I understand these boards are produced in eighteen standard sizes, from 18 in. × 16 in. to 36 in. × 20 in., and cost from 3s. 6d. to 5s. each.

•

There are raised edges along both sides and at the head of the board. The lower end of the board is formed as a lip to fit inside the sink. The upper surface is grooved and is quite smooth, and takes a fine polish after a few days' use.

Wall Plugs

A new type of wall-plug, known as Exmet, is ingeniously contrived from a

Everite draining board. See note on this page.

fibrous core covered by a lead sleeve, an arrangement through which the plug is said to fulfil principal requirements, in that it is secure, indestructible and air-tight. The insertion of a nail or screw into the plug pushes the fibrous core a little distance along the metal sleeve, so that the innermost end of the plug is expanded and keyed into the wall. The metal is not affected by atmospheric conditions, and so does not expand or contract when the screw is driven home. The soft metal is forced into every crevice in the hole drilled in the wall, producing an air-tight contact with the wall, and so preventing decay and shrinkage sometimes found in a wood-plug. A special drill or punch is supplied with the plugs. A drawing of the wall-plug in a lead socket is reproduced as a headpiece to these notes.

Manufacturers' Items

Each progressive stage in the preparation of the cable, the assembly of the Isco, and the wiring of the fuse is fully described and illustrated in a booklet, entitled *How to Instal Ironclad Iscos*, which has just been issued by W. T. Henley's Telegraph Works Co., Ltd. It deals very thoroughly with the jointing of Ironclad Iscos, and will be found of great value to all who are engaged on the distribution as well as the mains side of electrical development. This is the eighth of a series of "How to Joint" booklets that Henley's have published.

*

Healthy Heating is a fully illustrated booklet (No. 247 of "A Thousand and One Uses for Gas"), issued by the British Commercial Gas Association, 28, Grosvenor Gardens, London, S.W.1, from whom it can be obtained free of charge on application.

*

The reinforced concrete designing section of Messrs. Reinforcements, Ltd., of Leeds, has recently been transferred to Messrs. Reinforcement Constructions (inc. John Liversedge and Co.), of London. Increased developments have necessitated centralizing the whole of the head office and works in London, and in future all reinforced concrete design and consulting work will be dealt with by Messrs. Reinforcement Constructions, The Field House, Breams Buildings, Chancery Lane, London, E.C.4.

*

The name of the Hathern Station Brick and Terra Cotta Co., Ltd., of Loughborough, has been changed to Hathernware, Ltd. We understand that the change has been made solely to shorten and simplify the title for the convenience of all concerned in transactions with the company. Telephone numbers, telegraphic address, etc., remain as before.

*

Messrs. Davidson & Co., Ltd., of Sirocco Engineering Works, Belfast, illustrate and describe their portable pneumatic conveyance unit in a leaflet which is obtainable on application to the firm at the address given above.

SOCIETIES AND INSTITUTIONS

SOCIETY OF CHEMICAL INDUSTRY

Two papers were read before a recent meeting of the Road and Building Materials Group of the Society of Chemical Industry in London. The first, by Mr. B. H. Wilsdon, M.A., B.SC., of the Building Research Station, dealt with "Problems of Porous Bodies and Their Behaviour as Building Materials;" the second, entitled "The Decay of Wood," was by Dr. E. A. Rudge, M.SC., F.I.C., of Cardiff.

Mr. Wilsdon pointed out that most building materials which it was economic to employ were porous, and it was their porosity which largely determined their liability to deterioration by weathering. Mechanical strength, he said, was not a criterion of resistance. The physical behaviour of porous materials was to be referred for the most part to the capillary actions which resulted from liquid held in the pores, and might be defined in terms of permeability, suction and the mechanical effects produced by wetting.

Explanations of such behaviour had been sought in relations between the geometry of the porous solid and the surface tensions and curvature of liquid films as a function of its moisture content. The Kelvin equation then enabled a relation to be deduced between suction and vapour pressures. Experiment showed such theories to be inadequate, and evidence from several directions tended to show the existence of anomalies necessitating the conclusion that thin films of liquid in porous solids did not obey the Kelvin equation.

Mechanical effects might be produced in porous solids, both by liquids and solids, which seriously affected their durability. The unrestrained movements which it had been customary to measure were of less significance than the available work involved, measurements of which were now possible; results had shown that the forces necessary to restrain completely the movements of several typical porous building materials were remarkably small.

The action of solids, as by frost action or by the crystallization of salts, said Mr. Wilsdon, appeared to be due mainly to rapid changes of state. Recent work showed that undercooling of frozen water, or delayed transition such as was involved in the hydration of sodium sulphate, were much accentuated in microporous structures.

It was suggested that this might prove to be the reason why many highly microporous materials displayed poor resistance to weathering while corresponding coarsely grained material was resistant. In conclusion, the lecturer urged that a deeper knowledge of the properties of liquids in finely pored materials must help to distinguish good material from poor and to secure intelligent use.

In the course of his paper, Dr. Rudge said that in the application of timber to building construction, the great importance of maintaining it out of contact with lime, plaster, and concrete was generally recognized. From the view point of the infiltration theory the reasons were obvious, but it should be borne in mind that the situation had also to provide sufficient moisture before decay could begin. It would be appreciated that the character of the concrete very considerably affected the life of the timber embedded in it, yet, notwithstanding the well-established and pernicious effect of damp concrete and the repeated recommendations of research departments, it still remained common practice to lay floor joists direct upon a concrete of high permeability.

In considering the facts of relative resistance to decay shown by various kinds and species of timber Dr. Rudge said that the more putrescent woods were usually readily penetrable by water, whereas the resistant timbers were close grained and exhibited merely superficial penetration unless immersed in water for lengthy periods. Further enquiry pointed to the general conclusion that timbers with a high silica content, such as teak and greenheart, were more resistant to decay than those low in silica.

"From consideration of the two factors, moisture and availability of mineral matter," said Dr. Rudge, "it may be considered within the bounds of possibility to forecast the behaviour of wood exposed to any given set of conditions, and conversely, to eliminate the tendency to decay by adjustment of the circumstances of usage."

WEST YORKSHIRE SOCIETY OF ARCHITECTS

"Towns of the Future" was the title of a paper read by Mr. A. Trystan Edwards, A.R.I.B.A., at a recent meeting of the above Society. He said that the housing need of the country was estimated at about 2,000,000 houses, and his plan for the creation of 100 new and compactly planned towns, each with its own air port, recreation areas, industrial, residential, and agricultural areas, shopping districts and spaces for public buildings and churches, would save the country 200 miles of ribbon development. The ideal population for each of these towns was 50,000 people. On that assumption, the scheme would mean an exodus from existing towns of about 5,000,000 people.

WELSH SCHOOL OF ARCHITECTURE

The annual exhibition of designs and measured drawings by members of the above School was held recently at the Technical College, Cardiff. The exhibition was arranged jointly by the South Wales Institute of Architects (Central Branch) and the Welsh School of Architecture.

Speaking at the opening ceremony, the Deputy Lord Mayor of Cardiff (Councillor James Griffiths) expressed the view that, with the growing tendency towards mass production for housing, the need for the architect was even greater than before, in order that the design of the buildings could be brought up to a higher standard and so that their disposition on the available sites could be arranged with care and skill.

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

Following are the names of the general and sub-contractors for Exeter House, Derby, illustrated on pages 954-955. General contractors, Gee Walker and Slater, Ltd., and E. Morley and Sons (Derby), Ltd. Sub-contractors: Stoneware (1928), Ltd., bricks; Williamson, Cliff, Ltd., roofing tiles; Grip Steel Bar Co., Ltd., reinforced concrete work in foundations and floors; London Brick Company and Forders, Ltd., partition blocks; Hilcrete, Ltd., reconstructed stone; Henry Hope and Sons, Ltd., windows.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILES RADIUS).

CATERHAM. *Houses.* Plans passed by the U.D.C.: Three houses, Farleigh Road, for Messrs. A. E. Guest, Ltd.; lay-out for 10 houses, Stafford Road, for Messrs. Batchelar and Son; 10 houses, Coulsdon Road, for Mr. H. Foster; three houses, Court Road and Eldon Road, for Mr. C. H. Harrington; six houses, Mead Avenue, Warlingham, for Mr. F. Simpson; lay-out, Blizewood Estate, Salmons Lane, for Messrs. Cronk and Veale, Ltd.; 20 houses, Oakdene Estate, Godstone Road, Warlingham, for Mr. N. C. Webber. Plans submitted: Two houses, The Heath, Chaldon, for Mr. C. Cooper; 24 houses, Shaw Gardens, Hamsey Green, for Mr. E. Hudson; lay-out for 201 houses, Hillbury Road, for Messrs. R. J. Clarke & Co.

CLAYBURY. *Villa.* The L.C.C. is to erect a combined admission and convalescent villa unit at the mental institution at a cost of £17,940.

DEPTFORD. *Clinic.* The B.C. has instructed the Borough Engineer to prepare revised plans for the erection of a proposed central maternity clinic at an estimated cost of £9,350.

GREENWICH. *School alterations.* The L.C.C. Education Committee is to carry out structural alterations and improvements at the Invicta Road School.

HACKNEY. *Nurses' Home.* The L.C.C. is to erect a new nurses' home at the hospital, at an estimated cost of £91,500.

KENNINGTON. *School.* The L.C.C. Education Committee recommends the approval of the preliminary plans for the erection of an elementary school on the Oval site at an estimated cost of £33,744.

MARYLEBONE. *Slum clearance and rehousing.* The L.C.C. is to clear the Eamont Street area and provide re-housing at a cost of £31,500.

WANDSWORTH. *Additions to Works.* The L.C.C. is to enlarge the motor repair and works department at Merton Road, at a cost of £18,825.

WANDSWORTH. *Technical Institute.* The L.C.C. Education Committee has approved preliminary plans as slightly amended by the Board of Education for the extension of the technical institute. The revised cost of the work is £56,880.

SOUTHERN COUNTIES

BRIGHTON. *School.* The Education Committee recommends the reservation of a site on the Bristol Estate for the erection of a junior mixed school.

BRIGHTON. *Mental Colony.* The Corporation Mental Deficiency Act Committee has approved in principle sketch plans and estimates prepared by Mr. E. Wallis Long, L.R.I.B.A., for the provision of a mental colony of 880 beds at Laughton Lodge Estate, at an estimated total cost of £276,215. Other authorities interested in the scheme are the County Councils of West and East Sussex and the Corporations of Eastbourne and Hastings.

BRIGHTON. *Flats.* The Corporation Health Committee proposes to erect further blocks of flats at Crescent Cottages.

BRIGHTON. *Rehousing.* The Corporation Health Committee, reporting on the five years' clearance and rehousing programme, states that 425 houses have been dealt with in the Nelson Row, Mount Pleasant Park, Oxford Court and other districts, and that to re-house the families from these 425 houses, the Committee is building 78 or 88 flats at Carlton Hill and is inviting tenders for the erection of 354 houses on the Manor Farm Estate. The Committee also has in view the building of a number of houses on sites to be compulsorily purchased.

EASTERN COUNTIES

COLCHESTER. *Library.* The Corporation has appointed a special sub-committee to consider the question of the accommodation required at the proposed new library at Culver Street and the method of obtaining designs for the building.

COLCHESTER. *Houses.* The Corporation is to erect 54 additional houses on the Old Heath site.

COLCHESTER. *School.* The Education Committee is to appropriate approximately 12 acres on the Sheepen Farm estate as a site for the erection of a school.

SLEAFORD. *Housing.* The U.D.C. Health Committee recommends that the scheme for the erection of 72 houses for rehousing purposes, and the construction of the requisite roads and sewers, be proceeded with immediately, and that tenders be obtained for the work.

MIDLAND COUNTIES

CHESTERFIELD. *Houses and Shops.* Plans passed by the Corporation: two houses, Brockwell Lane, for Mr. G. H. Rodgers; two houses, Stongravels, for Mr. J. A. B. Short; two houses, Lokoford Lane, for Mr. R. Broomhead; seven houses, Malvern Road, for Mr. A. Heath; house and shop, Brimington Road, for Messrs. Revill and Berresford; two houses, Langer Lane, for Messrs. F. Ervine & Co.; two bungalows, Walton Road, for Mr. Dove; two houses, Walton Road, for Mr. I. Wilcockson; shop, Langer Lane, for Messrs. Ervine & Co.; four houses, Foljambe Avenue, for Mr. W. Marsden; four houses, Newbold, for Mr. W. Bargh; two houses, Brockwell Lane, for Mrs. Hewitt; two bungalows, Smithfield Avenue, for Mr. A. Smith; two houses, Hoythorne Road, for Mr. A. E. Herring. Plans submitted: houses, Somersall Lane, for Messrs. C. Buckley and Sons.

CHESTERFIELD. *Houses.* The Corporation Housing Committee has acquired land at Brimingotn Road for the erection thereon of houses for aged persons.

DUDLEY. *Houses, Shops, Factories.* Plans passed by the Corporation: Two houses, Stourbridge Road, for Messrs. Lloyd Bros.; 12 houses, Forest Road, for Mr. W. Lindley; six houses, Mushroom Green, Dudley Wood, for Mr. S. Parkes; stores, Market Place, for Messrs. F. W. Woolworth & Co., Ltd.; shop, Wellington Road, for Mrs. M. Shakespeare; new hall, St. Francis' Church, for Messrs. Webb and Gray; two houses, Stourbridge Road, for Mr. C. P. Blewitt; two houses, Broadway, for Mr. W. Whittingham; six houses, Broadway, for Messrs. Brookes Bros.; five houses, Junction Street, for Messrs. W. A. Heathcock, Ltd.; eight houses, Chestnut Avenue and Somery Road, for Mr. S. Brookes; factory, West Street, for Dudley Co-operative Society, Ltd.; 12 houses, Priory estate, for Mr. W. Whittingham.

NORTHERN COUNTIES

BARROW-IN-FURNESS. *Houses.* Plans passed by Barrow-in-Furness Corporation: House and shop, Roose Road, for Mr. A. Ingham; two houses, Malton Crescent, for Messrs. Neal and Atkinson, Ltd.; houses, Beacon Hill estate, for Mr. J. Whittaker; nine houses, Queen Street, for Mr. C. Melville; 13 houses, Davy Street, for Mr. Simon Newman; estate lay-out, Furness Park, for Messrs. Lowden and Sons; 10 houses, Jarrow Street and Derby Street, for Messrs. Styles and Bates; 16 houses, Devon Street, for Mr. Simon Newman.

DEWSBURY. *Shops.* The Corporation has under consideration the question of the provision of shops on the Corporation's rehousing estate.

DEWSBURY. *Houses.* The Corporation has obtained sanction to borrow £23,388 for the erection of 64 houses on the Dawgreen sites Nos. 1 and 2.

DEWSBURY. *Town Planning Scheme.* The Corporation has appointed a sub-committee to consider and report upon the preparation of a draft town planning scheme for the borough.

LEEDS. *Extensions to Mental Colony.* The Corporation has authorised the preparation of plans for extensions at Meanwood Park mental colony.

YORK. *Art Gallery.* The Corporation is to adapt premises at the Castle for art gallery purposes at an estimated cost of £8,000.

SCOTLAND

GLASGOW. *Factories, Houses, etc.* Plans passed by the Corporation: Factory extensions, Murano Street, Ruchill, for Sandeman's Varnish, Ltd.; factory, Ruchill Street, for Messrs. T. F. Beckett & Co. (Fairistytch), Ltd.; houses, Muirfield Avenue, for Messrs. James Laidlaw and Sons, Ltd.; houses, Montrave Street, for Housing Committee; bungalows Gt. Western Road, for Messrs. John Lawrence (Glasgow), Ltd.; houses, Wester Road, Mount Vernon, for Messrs. A. A. Stuart and Sons, Ltd.; church, halls and offices, Helenvale Street, for Church of Scotland General Trustees.

GLASGOW. *Schools.* The Education Committee is in negotiation for a site at Elba Lane for the erection of an R.C. school. The Education Committee recommends a scheme for improvements and extensions to the south block of the Glasgow High School at an estimated cost of £4,010. The Education Committee has instructed the directors to prepare plans for the erection of a school at Hillington.

GLASGOW. *Slum Clearance.* The Corporation Housing Committee recommends the clearance of the Warp Lane area.

GLASGOW. *Swimming Pool.* The Corporation is to consider further proposals with regard to the suggested provision of a swimming pool in the Anniesland-Knightswood district.

WALES

CARDIFF. *Houses.* The Corporation is to obtain tenders for the erection of 100 houses for persons being displaced from slums.

CARDIFF. *School.* The Education Committee has obtained a site in Cowbridge Road for the erection of a high school.

A photograph taken at the Truscon Dance, held on December 15.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A	Aberdeen ..	Scotland	1 6	1 1½
A_1	Abergavenny ..	S. Wales & M.	1 5	1 0½
A	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie ..	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry ..	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath ..	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_1	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham ..	Mid Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth ..	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton ..	N.W. Counties	1 5½	1 1½
A_2	Boston ..	Mid. Counties	1 4	1 0
A	Bournemouth ..	S. Counties	1 4	1 0
B_1	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A	Brighton ..	S. Counties	1 4	1 0
A	Bristol ..	S.W. Counties	1 5½	1 1½
B	Brixham ..	S.W. Counties	1 2½	11
A	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
A	Burslem ..	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury ..	N.W. Counties	1 5½	1 1½
A	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE ..	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff ..	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A	Chelmsford ..	E. Counties	1 4	1 0
A	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester ..	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley ..	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A	Colchester ..	E. Counties	1 4	1 0
A	Colne ..	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe ..	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal ..	S. Counties	1 3	11½
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby ..	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorches ..	S.W. Counties	1 2½	11
A	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A_2	Dumfries ..	Scotland	1 5	1 0½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N E. Coast	1 5½	1 1½
A_2	FASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A	FELIXSTOWE	E. Counties	1 4	1 0
A	Filey ..	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome ..	S. W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A	Glasgow ..	Scotland	1 6	1 1½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole ..	Yorkshire	1 4½	1 0½
A_2	Gosport ..	S. Counties	1 4½	1 0½
A_3	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln ..	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12–15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_2	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middlesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid Counties	1 5½	1 1½
A	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth	Scotland	*1 5½	1 1½
A_2	Peterborough	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	Slough ..	S. Counties	1 4½	1 0½
A_1	Solihull ..	Mid. Counties	1 5	1 0½
A_2	Southampton	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stirling ..	Scotland	1 6	1 1½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud ..	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist. ..	N.E. Counties	1 5½	1 1½
A_2	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay ..	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall ..	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick ..	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby ..	Yorkshire	1 4½	1 0½
A	Widnes ..	N.W. Counties	1 5½	1 1½
A	Wigan ..	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor ..	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A	Wycombe ..	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil ..	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	s.	d.
Bricklayer . . . . . per hour	1	7
Carpenter . . . . . ,,	1	7
Joiner . . . . . ,,	1	7
Machinist . . . . . ,,	1	8
Mason (Banker) . . . . . ,,	1	7
,, (Fixer) . . . . . ,,	1	8
Plumber . . . . . ,,	1	7
Painter . . . . . ,,	1	6
Paperhanger . . . . . ,,	1	6
Glazier . . . . . ,,	1	7
Slater . . . . . ,,	1	7
Scaffolder . . . . . ,,	1	3
Timberman	1	3
Navvy . . . . . ,,	1	2½
General Labourer . . . . . ,,	1	2½
Lorryman . . . . . ,,	1	5
Crane Driver . . . . . ,,	1	6
Watchman . . . . . per week	2	10

MATERIALS

EXCAVATOR AND CONCRETOR

	£	s.	d.
Grey Stone Lime . . . . . per ton	2	2	0
Blue Lias Lime . . . . . ,,	1	16	6
Hydrated Lime . . . . . ,,	3	0	9
Portland Cement, in 4-ton lots (d/d site, including Paper Bags) . ,,	1	18	0
Rapid Hardening Cement, in 4-ton lots (d/d site, including Paper Bags) . ,,	2	4	0
White Portland Cement, in 1-ton lots ,,	8	15	0
Thames Ballast . . . . . per Y.C.		6	3
¾" Crushed Ballast . . . . . ,,		6	9
Building Sand . . . . . ,,		7	3
Washed Sand . . . . . ,,		8	3
2" Broken Brick . . . . . ,,		8	0
¾" ,, ,, ... ,,		10	3
Pan Breeze . . . . . ,,		6	6
Coke Breeze . . . . . ,,		8	9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4"			6"	
	s.	d.		s.	d.
Straight Pipes . . per F.R.	0	9		1	1
Bends . . . each	1	9		2	6
Taper Bends . . ,,	3	6		5	3
Rest Bends . . ,,	4	3		6	3
Single junctions . ,,	3	6		5	3
Double . . ,,	4	9		6	6
Straight channels . per F.R.	1	6		2	6
¼" Channel bends . each	2	9		4	0
Channel junctions . ,,	4	6		6	6
Channel tapers . ,,	2	9		4	0
Yard gullies . ,,	6	9		8	9
Interceptors . ,,	16	0		19	6
IRON DRAINS:					
Iron drain pipe . per F.R.	1	6		2	6
Bends . . each	5	0		10	6
Inspection bends . ,,	9	0		15	0
Single junctions . ,,	8	9		18	0
Double junctions . ,,	13	6		30	0
Lead wool . . lb.		6			—
Gaskin . . ,,		5			—

BRICKLAYER

	£	s.	d.
Flettons . . . . . Per M.	2	18	0
Grooved do. . . . . ,,	3	0	0
Phorpres bricks . . . . ,,	2	17	3
,, Cellular bricks . . ,,	2	17	3
Stocks, 1st quality . . . ,,	4	11	0
,, 2nd ,, . . . ,,	4	2	6
Blue Bricks, Pressed . . ,,	8	17	6
,, Wirecuts . . ,,	7	17	6
,, Brindles . . ,,	7	0	0
,, Bullnose . . ,,	9	0	0
Red Sand-faced Facings . ,,	6	18	6
Red Rubbers for Arches . ,,	12	0	0
Multicoloured Facings . ,,	7	10	0
Luton Facings . . . ,,	7	10	0
Phorpres White Facings . ,,	3	17	3
,, Rustic Facings . ,,	3	12	3
Midhurst White Facings . ,,	5	0	0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:			
Stretchers . . . . . ,,	21	0	0
Headers . . . . . ,,	20	10	0
Bullnose . . . . . ,,	27	10	0
Double Stretchers . . ,,	29	10	0
Double Headers . . . ,,	26	10	0
Glazed Second Quality, *Less* . ,,	1	0	0
,, Buffs and Creams, *Add* . ,,	2	0	0
,, Other Colours . . ,,	5	10	0
2" Breeze Partition Blocks . . per Y.S.		1	7
2½" ,, ,, ,, . . ,,		1	10
3" ,, ,, ,, . . ,,		2	1
4" ,, ,, ,, . . ,,		2	6

MASON

The following d/d F.O.R. at Nine Elms:	s.	d.
Portland stone, Whitbed . . F.C.	4	4½
,, ,, Basebed . . ,,	4	7½
Bath stone . . . . . ,,	2	10
York stone . . . . . ,,	6	6
,, ,, Sawn templates . .	7	6
,, ,, Paving, 2" . . . F.S.	1	8
,, ,, ,, 3" . . . ,,	2	6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£	s.	d.
24" × 12" Duchesses . . . per M.	28	17	6
22" × 12" Marchionesses . . ,,	24	10	0
20" × 10" Countesses . . ,,	19	5	0
18" × 10" Viscountesses . . ,,	15	10	0
18" × 9" Ladies . . . ,,	13	17	6
Westmorland green (random sizes) . per ton	8	10	0
Old Delabole slates d/d in full truck loads to Nine Elms Station:			
20" × 10" medium grey per 1,000 (actual)	21	11	6
,, ,, green ,, ,,	24	7	4
Best machine roofing tiles . ,,	4	10	0
Best hand-made do. . . ,,	5	0	0
Hips and valleys . . . each			9½
,, hand-made . . . ,,			10
Nails, compo . . . . lb.		1	4
,, copper . . . ,,		1	6

CARPENTER AND JOINER

	s.	d.
Good carcassing timber . . F.C.	2	2
Birch . . . . . as 1" F.S.		9
Deal, Joiner's . . . ,, ,,		5
,, ,, 2nds . . ,, ,,		4
Mahogany, Honduras . . ,, ,,	1	3
,, African . . ,, ,,	1	1
,, Cuban . . ,, ,,	2	6
Oak plain American . . ,, ,,	1	0
,, Figured ,, . . ,, ,,	1	3
,, Plain Japanese . . ,, ,,	1	2
,, Figured ,, . . ,, ,,	1	5
,, Austrian wainscot . ,, ,,	1	6
,, English . . . ,, ,,	1	11
Pine, Yellow . . . ,, ,,	1	0
,, Oregon . . . ,, ,,		4
,, British Columbian . ,, ,,		4
Teak, Moulmein . . . ,, ,,	1	3
,, Burma . . . ,, ,,	1	2
Walnut, American . . ,, ,,	2	3
,, French . . . ,, ,,	2	3
Whitewood, American . ,, ,,	1	1
Deal floorings, ¾" . . Sq.	18	6
,, 1" . . ,,	1	1	6
,, 1¼" . . ,,	1	2	0
,, 1½" . . ,,	1	5	0
,, 1¾" . . ,,	1	10	0
Deal matchings ¾" . . ,,	14	0	
,, 1" . . ,,	15	6	
Rough boarding ¾" . . ,,	1	4	0
,, 1" . . ,,	16	4	0
,, 1¼" . . ,,	18	0	
Plywood, per ft. sup. ¾"	1	6	0

—Thickness ¼" ⅜" ½" ¾"

Qualities	AA.	A.	B.	AA.	A.	B.	AA.	A.	B.	AA.	A.	B.
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
Birch .	4	3	2	5	4	3	7½	6	4½	8½	7	6
Alder .	3½	3	2	5	4	3	6½	5½	4½	8	7	6
Gaboon Mahogany	4	3	3	6½	5½	4½	9½	7½	–	1/0½	10	–
Figured Oak 1 side	8½	7	–	10	8	–	11½	–	–	1/6	–	–
Plain Oak . 1 side	6½	6	–	7½	7	–	9½	–	–	1/-	–	–
Oregon Pine	5	4	–	5½	5	–	6	–	–	–	–	–

	d.
Scotch glue . . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:
(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	¼"	⅜"	1"	1¼"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
,, 3"-11½" long ,,	7	9	1/3	1/8	3/-
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3
,, ,, 3"M-½" long ,,	8	10	1/5	1/11	3/6
Bends . . . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . . ,,	2/-	3/-	5/6	6/9	10/-
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . . . ,,	1/-	1/3	1/10	2/6	5/1
Crosses . . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/-	2/-
Flanges . . . ,,	9	1/-	1/4	1/9	2/9
Caps . . . . ,,	3½	5	8	1/-	2/-
Backnuts . . . ,,	2	3	5	6	1/1
Iron main cocks . ,,	1/6	2/3	4/2	5/4	11/6
,, ,, with brass plugs ,,	—	4/-	7/6	10/-	21/-

Discounts:

TUBES.

Per cent.		Per cent.	
Gas . . . 65	Galvanized gas .	52½	
Water . . . 61½	,, water	47½	
Steam . . . 57½	,, steam	42½	

FITTINGS.

Gas . . .	57½	Galvanized gas	47½
Water . . .	52½	,, water	42½
Steam . . .	47½	steam	37½

SMITH AND FOUNDER—*continued*

	s.	d.
Rolled steel joists cut to length . . cwt.	10	9
Mild steel reinforcing rods, ⅜" . . ,,	8	8
,, ,, ½" . . ,,	8	3
,, ,, ⅝" . . ,,	8	0
,, ,, ¾" . . ,,	7	6
,, ,, ⅞" . . ,,	7	6
,, ,, 1" . . ,,	7	6
,, ,, 1¼" . . ,,	7	6
,, ,, 1½" . . ,,	7	6

Cast-iron rain-water pipes of ordinary thickness metal .	3" s. d.	4" F.R. s. d.
Shoes . . . . each	2 0	8 10
Anti-splash shoes . . ,,	4 6	3 0
Boots . . . . ,,	3 0	4 0
Bends . . . . ,,	2 7	3 9
,, with access door . . ,,	—	6 3
Heads . . . . ,,	4 0	5 0
Swan-necks up to 9" offsets . ,,	3 9	6 0
Plinth bends, 4½" to 6" . ,,	3 9	5 3
Half-round rain-water gutters of ordinary thickness metal . F.R.	5	6
Stop ends . . . . each	6	6
Angles . . . . ,,	1 7	1 11
Obtuse angles . . . ,,	2 0	2 6
Outlets . . . . ,,	1 9	2 3

PLUMBER

	£	s.	d.
Lead, milled sheets . . . cwt.	18	6	
,, drawn pipes . . . ,,	17	0	
,, soil pipe . . . ,,	18	6	
,, scrap . . . ,,	10	6	
Solder, plumbers' . . . lb.			9½
,, fine do. . . . ,,	1	0	
Copper, sheet . . . ,,			8½
,, tubes . . . ,,			11

L.C.C. soil and waste pipes:	3"	4"	6"
Plain cast . . F.R.	1 0	1 2	2 6
Coated . . ,,	1 1	1 3	2 8
Galvanized . . ,,	2 0	2 6	4 6
Holderbats . . each	3 10	4 0	4 9
Bends . . ,,	3 9	5 3	10 3
Shoes . . ,,	2 10	4 4	9 6
Heads . . ,,	4 8	8 5	12 9

PLASTERER

	£	s.	d.
Lime, chalk . . . per ton	2	5	0
Plaster, coarse . . ,,	2	10	0
,, fine . . ,,	4	15	0
Hydrated lime . . ,,	3	0	9
Sirapite . . ,,	3	6	0
Keene's cement . . ,,	5	0	0
Gothite Plaster . . ,,	3	6	0
Pioneer Plaster . . ,,	3	3	0
Thistle Plaster . . ,,	3	6	0
Sand, washed . . Y.C.		11	6
Hair . . . lb.			6
Laths, sawn . . bundle		2	4
,, rent . . ,,		3	9
Lath nails . . lb.			3½

GLAZIER

	s.	d.	s.	d.
Sheet glass, 21 oz., squares n/e 2 ft. s. F.S.			2	4
,, ,, 26 oz. ,, ,, ,, ,,				3
Flemish, Arctic, Figured (white)* ,,				7
Blazoned glasses . . . ,,			2	6
Reeded; Cross Reeded ,,				11
Cathedral glass, white, double-rolled, plain, hammered, rimpled, waterwite				6½
Crown sheet glass (n/e 12 in. x 10 in.) ,,			2	0
Flashed opals (white and coloured) ,,	1	0 and	2	0
¼" rough cast; rolled plate . . ,,				5½
¼" wired cast; wired rolled . . ,,				9½
¼" Georgian wired cast . . ,,				11
¼" Polished plate, n/e 1 ft. . . ,,	† 10	to	‡1	1
,, ,, 2 . . ,,	†1	2 ,,	‡1	4
,, ,, 4 . . ,,	†2	3 ,,	‡2	6
,, ,, 8 . . ,,	†2	9 ,,	‡3	2
,, ,, 20 . . ,,	†3	7 ,,	‡4	2
,, ,, 45 . . ,,	†3	11 ,,	‡4	7
,, ,, 100 . . ,,	†5	0 ,,	‡5	7
Vita glass, sheet, n/e 1 ft. . . ,,			1	0
,, ,, 2 ft. . . ,,			1	3
,, ,, over 2 ft. . . ,,			1	9
,, ,, plate, n/e 1 ft. . . ,,			1	6
,, ,, 2 ft. . . ,,			3	0
,, ,, 5 ft. . . ,,			4	0
,, ,, 7 . . ,,			5	0
,, ,, 15 . . ,,			6	0
,, ,, over 15 . . ,,			7	6
"Calorex" sheet 21 oz., and 32 oz. ,,	2	6 and	3	6
,, rough cast ¼" and ½" ,,		8½ ,,	1	0
Putty, linseed oil . . lb.				3

* *Colours*, 1d. *F.S. extra.*
†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£	s.	d.
White lead in 1 cwt. casks . . cwt.	2	6	0
Linseed oil . . . . gall.		2	2½
Boiled oil . . . . ,,		2	4½
Turpentine . . . . ,,		4	1½
Patent knotting . . . ,,		14	0
Distemper, washable . . cwt.	2	6	0
,, ordinary . . ,,	2	0	0
Whitening . . . . ,,		4	0
Size, double . . . firkin		3	0
Copal varnish . . . gall.		13	0
Flat varnish . . . ,,		14	0
Outside varnish . . ,,		16	0
White enamel . . . ,,	1	15	0
Ready mixed paint . . ,,		13	6
Brunswick black . . ,,		7	6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR	£ s. d.
Digging over surface n/e 12" deep and cart away . . . Y.S.	2 9
,, to reduce levels n/e 5' 0" deep and cart away . . Y.C.	8 6
,, to form basement n/e 5' 0" deep and cart away . . ,,	9 0
,, ,, 10' 0" deep and cart away . . ,,	9 6
,, ,, 15' 0" deep and cart away . . ,,	10 0
If in stiff clay . . . . . add ,,	6
If in underpinning . . . . . ,,	4 0
Planking and strutting to sides of excavation . . . . F.S.	1 0
,, ,, to pier holes . . . . . ,,	5
,, ,, to trenches . . . . . ,,	5
,, ,, extra, only if left in . . . . . ,,	3
Hardcore, filled in and rammed . . . . . Y.C.	10 0
Portland cement concrete in foundations (6-1) . . . . ,,	1 6 0
,, ,, (4-2-1) . . . ,,	1 12 6
,, ,, underpinning . . . ,,	1 16 0
Finishing surface of concrete, spade face . . . . Y.S.	7

DRAINLAYER		4" s. d.	6" s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
,, junctions . . . . . ,,		3 9	4 6
Gullies and gratings . . . . . ,,		16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER	£ s. d.
Brickwork, Flettons n lime mortar . . . . . Per Rod	27 10 0
,, ,, in cement . . . . . ,,	28 15 0
,, Stocks in cement . . . . . ,,	35 0 0
,, Blues in cement . . . . . ,,	52 0 0
Extra only for circular on plan . . . . . ,,	2 0 0
,, backing to masonry . . . . . ,,	1 10 0
,, raising on old walls . . . . . ,,	2 0 0
,, underpinning . . . . . ,,	5 10 0½
Fair Face and pointing internally . . . . . F.S.	1½
Extra over fletton brickwork for picked stock facings and pointing . . . . ,,	8
,, ,, ,, red brick facings and pointing . . ,,	11
,, ,, ,, blue brick facing and pointing . . ,,	1 4
,, ,, ,, glazed brick facings and pointing . ,,	3 6
Tuck pointing . . . . . ,,	7½
Weather pointing in cement . . . . . ,,	3
Slate dampcourse . . . . . ,,	10
Vertical dampcourse . . . . . ,,	1 1

ASPHALTER	s. d.
½" Horizontal dampcourse . . . . . Y.S.	4 6
½" Vertical dampcourse . . . . . ,,	6 9
½" paving or flat . . . . . ,,	4 0
1" paving or flat . . . . . ,,	5 6
1" × 6" skirting . . . . . F.R.	1 0
Angle fillet . . . . . ,,	2
Rounded angle . . . . . ,,	2
Cesspools . . . . . Each	5 0

MASON	s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete . . . . . F.C.	17 9
Bath stone and do., all as last . . . . . ,,	13 6
Artificial stone and do. . . . . ,,	13 0
York stone templates, fixed complete . . . . . ,,	10 6
,, thresholds . . . . . ,,	13 6
,, sills . . . . . ,,	1 0 6

SLATER AND TILER	£ s. d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10" . . . . . Sqr.	3 10 0
Do., 18" × 9" . . . . . ,,	3 7 0
Do., 24" × 12" . . . . . ,,	3 17 0
Westmoriand slating, laid with diminished courses . . . . ,,	6 0 0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course . . . . . ,,	3 0 0
Do., all as last, but of machine-made tiles. . . . . ,,	2 16 0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey) . ,,	4 6 0
,, ,, ,, ,, ,, ,, (green) . ,,	4 15 0

CARPENTER AND JOINER	£ s. d.
Flat boarded centering to concrete floors, including all strutting . Sqr.	2 5 0
Shuttering to sides and soffits of beams . . . . . F.S.	8
,, to stanchions . . . . . ,,	8
,, to staircases . . . . . ,,	1 8
Fir and fixing in wall plates, lintols, etc. . . . . F.C.	3 9
Fir framed in floors . . . . . ,,	4 6
,, ,, roofs. . . . . ,,	6 6
,, ,, trusses . . . . . ,,	7 6
,, ,, partitions . . . . . ,,	8 6
⅝" deal sawn boarding and fixing to joists . . . . Sqr.	1 14 6
1" ,, ,, ,, ,, ,, ... ,,	1 17 6
1¼" ,, ,, ,, ,, ,, ... ,,	2 3 0
3" × 2" fir battening for Countess slating . . . . ,,	9 6
Do. for 4" gauge tiling . . . . . ,,	12 0
Stout feather-edged tilting fillet . . . . . F.R.	4½
Patent inodorous felt, 1 ply . . . . . Y.S.	2 3
,, ,, ,, 2 ,, ... ,,	2 9
,, ,, ,, 3 ,, ... ,,	3 3
Stout herringbone strutting to 9" joists . . . . F.R.	10½
1" deal gutter boards and bearers . . . . . F.S.	1 2
1¼" ,, ,, ,, ,, ... ,,	1 6
2" deal wrought rounded roll . . . . . F.R.	8
1" deal grooved and tongued flooring, laid complete, including cleaning off . . . . . Sqr.	2 1 0
1¼" do. . . . . ,,	2 10 0
1½" do. . . . . ,,	2 17 0
1" deal moulded skirting, fixed on, and including grounds plugged to wall . . . . . F.S.	1 6
1¼" do. . . . . ,,	1 9

CARPENTER AND JOINER—*continued*	s. d.
1½" deal moulded sashes of average size . . . . . F.S.	1 9½
2" ,, ,, ,, ,, ,, ... ,,	1 11½
1½" deal cased frames double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ⅝" parting beads, and with brass faced axle pulleys, etc., fixed complete . . ,,	3 7
2" ,, ,, ,, ,, ,, . . ,,	3 10
Extra only for moulded horns . . . . . Each	6
1½" deal four-panel square, both sides, door . . . . . F.S.	2 0
2" ,, ,, ,, ,, ,, . . . ,,	2 8
1½" ,, but moulded both sides . . . . . ,,	2 4
2" ,, ,, ,, ,, ,, . . . ,,	3 0
4" × 3" deal, rebated and moulded frames . . . . F.R.	1 0
4½" × 3½" ,, ,, ,, ,, . . . ,,	1 4
1¼" deal tongued and moulded window board, on and including deal bearers . . . . . F.S.	1 9
1¼" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages . . . ,,	2 6
1¼" deal moulded wall strings . . . . . ,,	2 1
1½" ,, outer strings . . . . . ,,	2 4
Ends of treads and risers housed to string . . . . Each	1 9
3" × 2" deal moulded handrail . . . . . F.R.	1 3
1" × 1" deal balusters and housing each end . . . . Each	2 0
1½" × 1½" ,, ,, ,, ,, . . . ,,	2 9
3" × 3" deal wrought framed newels . . . . . F.R.	1 3
Extra only for newel caps . . . . . Each	6 0
Do., pendants . . . . . ,,	6 0

SMITH AND FOUNDER	£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position . . . . . Per cwt.	15 6
Riveted plate or compound girders, and hoisting and fixing in position . . . . . ,,	19 6
Do. stanchions with riveted caps and bases and do. . . . . ,,	19 0
Mild steel bar reinforcement, ½" and up, bent and fixed complete ,,	17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g. . . . . F.S.	11
Wrot-iron caulked and cambered chimney bars . . . . Per cwt.	1 10 0

PLUMBER	£ s. d.
Milled lead and labour in flats . . . . . cwt.	1 12 0
Do. in flashings . . . . . ,,	1 15 6
Do. in covering to turrets . . . . . ,,	2 3 0
Do. in soakers . . . . . ,,	1 7 6
Labour to welted edge . . . . . F.R.	3½
Open copper nailing . . . . . ,,	3
Close ,, ,, ... ,,	4

Lead service pipe and fixing with pipe hooks	½" s. d.	¾" s. d.	1" s. d.	1½" s. d.	2" s. d.	4" s. d.
F.R.	10	1 0	1 3	2 0	2 10	—
Do. soil pipe and fixing with cast lead tacks . . .	—	—	—	—	—	5 6
Extra, only to bends Each	—	—	—	—	2 0	6 9
Do. to stop ends . ,,	6½	8	9	11	1 0	—
Boiler screws and unions . . . ,,	3 3	3 9	5 0	8 0	—	—
Lead traps . . . ,,	—	—	—	6 3	8 9	—
Screw down bib valves . . . ,,	6 9	9 6	11 0	—	—	—
Do. stop cocks . . ,,	7 0	9 6	12 6	—	—	—

4" cast-iron ½-rd. gutter and fixing . . . . . F.R.	1 0
Extra, only stop ends . . . . . Each	1 0
Do. angles . . . . . ,,	1 6
Do. outlets . . . . . ,,	2 9
4" dia. cast-iron rain-water pipe and fixing with ears cast on . F.R.	1 2
Extra, only for shoes . . . . . Each	1 3
Do. for plain heads . . . . . ,,	5 6

PLASTERER AND TILING	s. d.
Expanded metal lathing, small mesh . . . . . Y.S	2 0
Do. in n/w to beams, stanchions, etc. . . . . ,,	2 9
Lathing with sawn laths to ceilings . . . . . ,,	1 3
½" screeding in Portland cement and sand or tiling, wood block floor, etc. . . . . ,,	1 5
Do. vertical . . . . . ,,	1 7
Rough render on walls . . . . . ,,	1 2½
Render, float and set in lime and hair . . . . . ,,	1 9
Render and set in Sirapite . . . . . ,,	1 11
Render, backing in cement and sand, and set in Keene's cement . ,,	2 9
Extra, only if on lathing . . . . . ,,	4
Keene's cement, angle and arris . . . . . F.R.	6
Arris . . . . . ,,	1½
Rounded angle, small . . . . . ,,	3
Plain cornices in plaster, including dubbing out, per 1" girth . ,,	1½
1" granolithic pavings . . . . . Y.S.	3 6
1½" ,, ,, ,, ,, ,, . . . ,,	4 6
6" × 6" white glazed wall tiling and fixing on prepared screed . ,,	17 6
9" × 3" ,, ,, ,, ,, . . ,,	1 2 6
Extra, only for small quadrant angle . . . . . F.R.	8

GLAZIER	s. d.
21 oz. sheet glass and glazing with putty . . . . . F.S.	7½
26 oz. do and do. . . . . ,,	8½
Flemish, Arctic Figured (white) and glazing with putty . . ,,	1 1
Cathedral glass and do. . . . . ,,	1 2
Glazing only, British polished plate . . . . . ,,	7
Extra, only if in beads . . . . . ,,	2
Washleather . . . . . F.R.	4

PAINTER	s. d.
Clearcolle and whiten ceilings . . . . . Y.S.	6
Do. and distemper walls . . . . . ,,	9
Do. with washable distemper . . . . . ,,	1 1
Knot, stop, prime and paint four coats of oil colour on plain surfaces ,,	3 3
Do. on woodwork . . . . . ,,	3 6
Do. on steelwork . . . . . ,,	3 0
Do. and brush grain and twice varnish . . . . . ,,	5 6
Stain and twice varnish woodwork . . . . . ,,	1 11
Stain and wax-polish woodwork . . . . . ,,	4 6
French polishing . . . . . F.S.	1 2
Stripping off old paper . . . . . Piece	2 0
Hanging ordinary paper . . . . . from ,,	2 9

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ARCHITECTURAL SERVICES

(a). NEW WORKS : Instructions, sketches, estimate, drawings & specifications, tenders, contract, details & supervision, certificates & accounts :

(i.) If contract exceeds £2000, architect's fee is 6% on total cost.

(ii.) If contract does not exceed £2000, fee is 10% for works costing £100 graduated to 6% for works costing up to £2000.

(iii.) If works are extensive and of a simple character involving a continuous repetition of units, the fee may be reduced to 5%.

(b). ALTERATIONS AND ADDITIONS : The fee shall not exceed twice the amounts due under the clause New Works stated above.

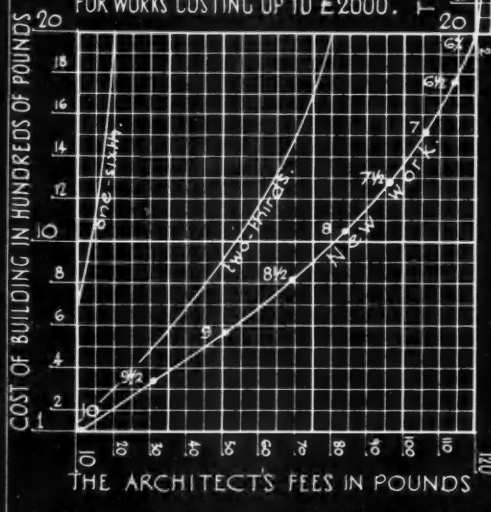
(c). PARTIAL SERVICES :

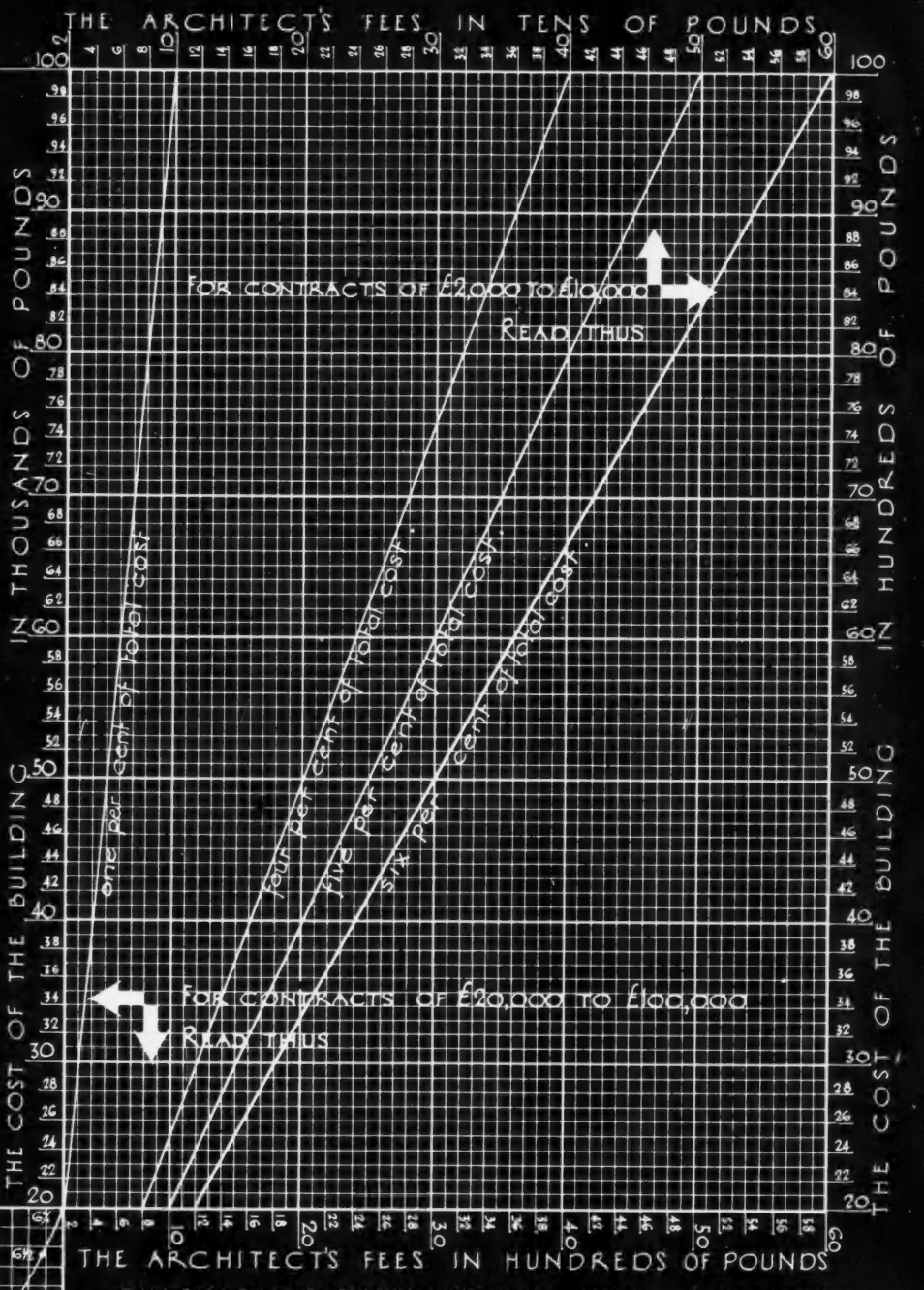
(i.) Instructions & preliminary sketches only, the fee charged is on quantum meruit.

(ii.) Instructions, sketches (not adequate for quantities) and estimate, fee should not exceed 1/6 of amounts due for new works, on estimated cost.

(iii.) Instructions, sketches, estimate, drawings and particulars sufficient for quantities or tender, fee is 2/3 of the amounts specified under new works, on the estimated cost.

(d) OMITTED WORKS : On works included in the tender (provisional & contingent sums excepted) & omitted subsequently, the fee is 2/3 of the charge due upon them had they been executed.





CHARGEABLE SERVICES NOT INCLUDED IN PERCENTAGE

Advice, negotiation, surveys or levels of sites, on new or existing buildings. Material alterations to sketch designs, working drawings or specifications. Additional drawings for landlords, adjoining owners, public or licensing authorities. Party walls : rights of light, easements, reservations or restrictions. Litigation, arbitration or valuation. Delays in building operations, etc.

NOTE : (i). For fees in connection with Fittings Decorations, etc., Payment by Instalments, Work executed with old materials, Surveys, Litigation and Arbitration, Delapidations, Travelling time, Time charges, Expenses, and Approving lessees plans with inspection, see reverse side hereof.

(ii). For fees in connection with Local authority and Public utility societies' housing work, and fees chargeable for Speculative Builders' work for a minimum of ten houses, see detailed clauses on the reverse side of this sheet.

INFORMATION SHEET : CHART OF PROFESSIONAL CHARGES.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1

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INFORMATION SHEET

• 175 •

PROFESSIONAL CHARGES

THIS Sheet gives the R.I.B.A. scale of fees payable to architects on buildings costing from £100 to £100,000. Supplementary charges as scheduled below may also be made.

FITTINGS, DECORATIONS, etc., or complex detail or construction, fees to be charged "adequate to the circumstances."

PAYMENT BY INSTALMENTS. Two-thirds of the total amount of fees on the signing of the contract or on a tender being received, no part of this sum to be reclaimable in the event of the abandonment of the works. Balance of fees by instalments as the work proceeds.

WORK EXECUTED WITH OLD MATERIALS or with material, labour or carriage provided by the client : To be charged as if the work had been carried out by a contractor with new materials.

SURVEYS. For making inspection, preparing report or giving advice on the structural or sanitary condition of premises, the charge is by time, the minimum fee being 3 guineas in addition to the cost of assistance.

LITIGATION AND ARBITRATION. For qualifying to give evidence, settling proofs, conferences with Solicitors and Counsel, attendance in Court or before Arbitration or other tribunals, and for services in connection with litigation, the charge is based upon the time occupied, but is in no case to be less than 5 guineas per day.

DILAPIDATIONS. For estimating dilapidations and furnishing or checking a schedule of the same, the charge is 5 guineas per cent. on the sum agreed, the minimum fee being £5 5s. For negotiating settlement of claim and for other services, the charge is by time.

TRAVELLING TIME. An additional charge may be made if the work should be at such a distance as to lead to an exceptional expenditure of time in travelling.

TIME CHARGES. In cases in which charges are based upon time occupied the minimum fee is five guineas per day exclusive of charges for Assistant's time.

EXPENSES. The foregoing Scale is, in all cases, exclusive of the cost of appliances, copies of documents, lithography, travelling and hotel expenses and all other reasonable disbursements.

FOR APPROVING PLANS SUBMITTED BY LESSEES AND INSPECTING BUILDINGS DURING PROGRESS. One guinea per cent. up to £20,000 on the estimated cost of each building. Half a guinea per cent. on the residue. (Minimum fee, 3 guineas.)

Reduced fees were, in 1933, approved by the R.I.B.A. Council for :—

LOCAL AUTHORITIES' AND PUBLIC UTILITY SOCIETIES' HOUSING WORK.

The scale is exclusive of reasonable travelling and out-of-pocket expenses, and printers' charges for additional copies of drawings and documents.

A. Fees for Services in connection with Houses or Two-Storey Flats for a minimum of 10 Houses or Two-Storey Flats (Two Flats=One House) to include one distinct type in 10 Houses. If more than one type in 10 Houses is required an additional charge may be made.

Services.

1. Preparing ⅛" scale sketch plans.
2. Submitting to Committee—making variations to suit requirements and re-submitting.
3. Preparing ⅛" scale working drawings.
4. Submitting plans to the Local Authority as required by building regulations.
5. Obtaining quotations for P.C. Sums.
6. Preparing specification.
7. Preparing necessary ½" and full size details.
8. Obtaining tenders from Contractors—submitting to the Committee and arranging the Contract.
9. General supervision of the work, but not constant superintendence.
10. Reporting to the Committee on the progress of the work.
11. Instructing Clerk of Works.
12. Supplying drawings and instructions to the Contractors as provided for in the Conditions of Contract.
13. Issuing Certificates.
14. Making out report under the maintenance clause of the Contract.
15. Settling Final Accounts.

Fees.

£7 per house or two-storey flat up to 50.
£6 per house or two-storey flat from 51 up to 100.
£5 per house or two-storey flat from 101 and onwards.
If the Architect is employed for Services 1-8 only, then the above fees shall be reduced by £2 per house or two-storey flat.

B. *Lay-out.*

Services.

1. Conferences with Local Authorities and other officials.
2. Lay-out to 1/2500 scale.
3. Detailed lay-out to 1/500 scale.

Fees.

When the Architect is employed to do this work in conjunction with house-planning the fees are to be :—
£1 per house or two-storey flat up to 25.
15/- per house or two-storey flat from 26 up to 50.
10/- per house or two-storey flat from 51 up to 100.
7/6 per house or two-storey flat from 101 onwards.
Where a fully contoured plan of the site is not provided, an extra charge will be made for taking levels based on the time expended.

C. *Roads and Sewers.*

Services.

Preparing working drawings and specifications for roads and sewers in accordance with the lay-out plans prepared under Section B, advising on the same and on the preparation of contract, furnishing to the contractor one copy of the drawings and specifications, general supervision, issuing certificates, passing and certifying the accounts.

Fees.

When the Architect is employed to do this work in conjunction with house-planning the fees are to be :—
£1 10s. for each house served from a new road.

D. *Flats and Tenements for the Working Classes exceeding Two-Storeys in Height.*

Services.

The Architect's services shall be the same as those laid down for Section A of this Scale.

Fees.

Five per cent. on the cost up to £10,000.
Four-and-a-half per cent. on the cost exceeding £10,000, with a minimum fee of £500.
Where a block of flats, the subject of one contract, is repeated on an adjacent site, the above fees may be reduced.

E. *Additional Services.*

The following services for which the Architect may be employed will be charged on a *quantum meruit* basis :—
Negotiations relating to the site.
Making surveys, measurements and plans of the site or existing buildings and taking levels.
Making drawings for and negotiations with Ground Landlords and Public Authorities not referred to in Section A, para. 4.
Making arrangements in respect of party walls, rights of light and other easements.
Making extra drawings for the client or contractor or Clerk of Works' use.

F. *Abandoned Works.*

Where any of the Architect's services have been rendered under Sections A-D of this Scale and the whole or part of the proposed scheme is subsequently abandoned, reduced fees shall be payable in accordance with the amount of work done.

SPECULATIVE BUILDERS' WORK FOR A MINIMUM OF TEN HOUSES.

Services in connection with legal documents and valuations for mortgage are not included in this scale.

I. *Plans for Houses of £400 up to £850 (Selling price or capitalized letting value).*

For the first of each distinct type	£10	0	0
Repetitions up to—			
10 houses	2	0	0
11 up to 50 houses	1	10	0
51 up to 100 houses ...	1	5	0
101 and over	1	0	0
	Per house		

The above fees will be subject to a reduction of 10 per cent. for houses of a value of less than £400 and an addition of 10 per cent. for houses of a value of more than £850 up to a maximum of £1,100, above which the ordinary R.I.B.A. Scale will apply.

Services.

The above fees cover the following services :—
Preparing ¼" scale drawings or ⅛" scale drawings with ½" details as the Architect prefers upon which the materials are to be indicated as far as practicable.
Preparation of plans for Local Authorities including block plan.
Supplying two copies of drawings to the builder.
Minor variations to suit circumstances.
Personal interest and reasonable advice to enable the design to be carried out.

II. *Lay-out, Roads and Sewers.*

Where the Architect is employed to do this work in conjunction with house-planning an additional charge of 25 per cent. on the above fees is to be made. If it is found necessary to take levels an extra charge is to be made for this work, based on the time expended.

Services.

Preparation of lay-out plan to 1/500 scale.
Working drawings of roads and sewers.
Preparation of plans for Local Authorities.
Supplying two copies of drawings to builder.

NOTE.—This part of the Scale does not apply where the Architect is only employed to lay out the estate and roads and sewers, and there is no contract to employ him for the design of the houses.

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BEAMS UNDER VARIOUS LOADING CONDITIONS.

BENDING MOMENTS AND DEFLECTIONS.

5. BEAMS SUPPORTED AT ENDS : Concentrated load at centre.

R. (max. shear) = R1. = $\frac{W}{2}$

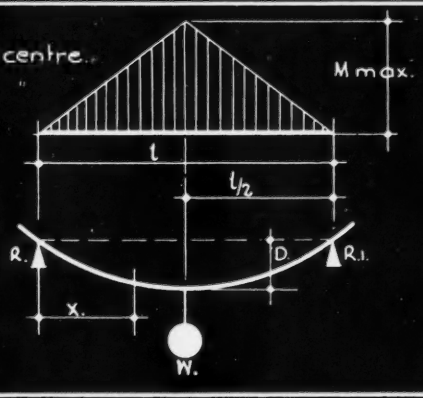
M, distance X. = $\frac{Wx}{2}$

M max., at point of load = $\frac{Wl}{4}$

W. max. = $\frac{4Sf}{l}$

D. max. = $\frac{Wl^3}{48EI}$

BENDING MOMENT & LOADING DIAGRAMS :



6. BEAMS SUPPORTED AT ENDS : Two unsymmetrical concentrated loads.

R. (max. shear if a < b.) = $\frac{W}{2l}(l-a+b.)$

R1. = $\frac{W}{2l}(l+a-b.)$

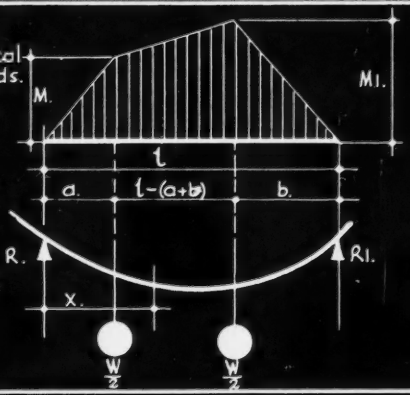
M, distance a — Ra = $\frac{Wa}{2l}(l-a+b.)$

M1., max. distance b (b > a) = R1.b = $\frac{Wb}{2l}(l+a-b.)$

M2 distance X = $Rx-\frac{W}{2}(x-a)$

W. max. (b > a). = $\frac{2lfS}{b(l+a-b.)}$

BENDING MOMENT & LOADING DIAGRAMS.



7. BEAMS SUPPORTED AT ENDS : Two symmetrical concentrated loads

R. (max. shear) = R1. = $\frac{W}{2}$

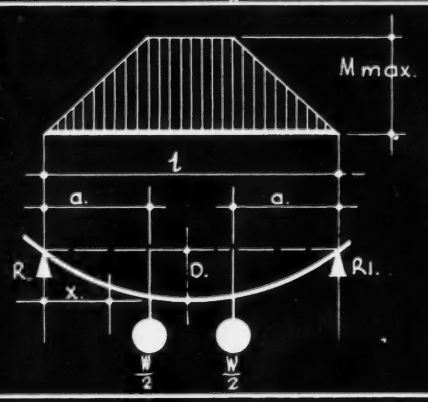
M, distance X. = $\frac{Wx}{2}$

M max. at & between loads = $\frac{Wa}{2}$

W. max. = $\frac{2fS}{a}$

D max. = $\frac{Wa}{12EI}(3/4(l^2-a^2)$

BENDING MOMENT & LOADING DIAGRAMS.



8. BEAMS SUPPORTED AT ENDS : Three concentrated loads.

R. = $\frac{Wb + W1.b1. + W2.b2.}{l}$

R1. = $\frac{Wa + W1.a1. + W2.a2.}{l}$

M at W = Ra

M max. if W = or > R.

M at W1. = $Ra1.-W(a1-a)$

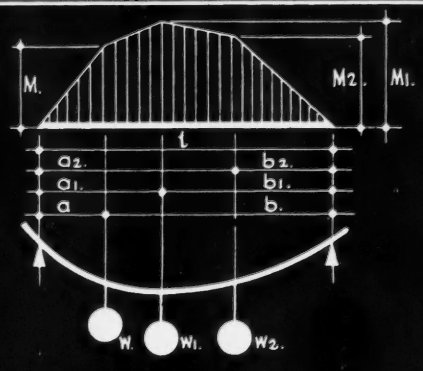
M max. if W1. + W = R. or > R.

M max. if W1. + W2. = R1. or > R1.

M at W2. = $Ra2.-W(a2-a)-W1.(a2-a1).$

M max. if W2 = R1. or > R1.

BENDING MOMENT & LOADING DIAGRAMS.



INFORMATION SHEET : CALCULATIONS FOR BEAMS : 2.

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BEAM CALCULATIONS

(ii)

THIS Sheet gives various formulæ for safe load, shear stress, bending moments and deflections. The notation used is as follows:—

$W_{max.}$ = Maximum safe load in tons.

W = Total load in tons.

l = Span in inches.

E = Modulus of elasticity (assumed at 12,000 lbs. per sq. in. for steel).

I = Moment of Inertia in inch units, assumed constant throughout the length of the beam.

Z = Section modulus in inch units = $\frac{I}{y}$

y = Half the depth of section in inches.

f = Safe stress (tons per sq. in.) in extreme fibres of beam.

x = Distance in inches.

a = Distance in inches.

b = Distance in inches.

Deflection. In the case of beams intended to carry plastered ceilings, experience shows that, to avoid cracking of plaster, the vertical deflection should be limited to not more than $\frac{1}{360}$ of the total span. For steel beams this span limit (in feet) is approximately twice the depth in inches.